Julia Descoteaux

From: Julia Descoteaux
Sent: Thursday, May 14, 2020 12:01 PM
To: Julia Descoteaux

Julia Descoteaux
Associate Planner
Community Development
City of Moreno Valley
p: 951.413.3209 | e: juliad@moval.org w: www.moval.org
14177 Frederick St., Moreno Valley, CA 92553

-----Original Message-----
From: Susan Lansang <susan_lansang@yahoo.com>
Sent: Tuesday, May 12, 2020 10:17 PM
To: City Clerk <cityclerk@moval.org>
Subject: Recertification for the WLC

Warning: External Email – Watch for Email Red Flags!

"Dear Planning Commission and City Council,

We want to encourage our planning commissioners and council members to re-certify the improved and revised EIR (environmental impact report) for the World Logistic center.

They should work quickly to re-certify the EIR so the WLC can be the revival of our cities economy, by bringing thousand of jobs and millions in revenue.
Your speedy action for the above will be highly appreciated for the cause of our community.

Sincerely,
Susan and Conrado Lansang

Sent from my iPhone

Julia Descoteaux

From: Julia Descoteaux
Sent: Thursday, May 14, 2020 12:02 PM
To: Julia Descoteaux

Julia Descoteaux
Associate Planner
Community Development
City of Moreno Valley
p: 951.413.3209 | e: juliad@moval.org w: www.moval.org
14177 Frederick St., Moreno Valley, CA 92553

-----Original Message-----
From: Walter Guinea <walantgui@yahoo.com>
Sent: Tuesday, May 12, 2020 8:48 PM
To: City Clerk <cityclerk@moval.org>
Subject: WLC care for all people progress and city of Moreno Valley doing right for our future.

Warning: External Email – Watch for Email Red Flags!

Dear members of the planning comission city council the recertification of the WLC will secure the project for our city of Moreno Valley,the revenue that this project will bring will help our city to be better and our community will have more jobs locally I stand for it, this is for the best of MVC. I'm a business owner, and I own a house here too, so I see Riverside growing in business, we has to do same growth for the future of our kids for them not to has to travel far away to go to work and so.I have lots of friends big rig truck drivers living here in Moreno Valley and we has to travel down to LA,Fontana,San Bernardino and so and to go to work,I have clean air in my truck law compliance, we need to make our city the best so please decertify, the best project of WLC.thanks for doing your best to the best of our city and residents of here like me. I brought my business and pay taxes us a Moreno Valley resident and happy to be here. Thanks again go Moreno Valley get biG.

Sent from my iPhone

Julia Descoteaux

From: Julia Descoteaux
Sent: Thursday, May 14, 2020 12:04 PM
To: Julia Descoteaux

From: tony pc <anreza@hotmail.com>
Sent: Tuesday, May 12, 2020 6:27 PM
To: City Clerk <cityclerk@moval.org>
Subject: Recertificacion for the WLC

Dear Planning Commission and city council

Blessings my name is Tony Reza, I have been living in the city for more than 28 years.
These are scary and challenging time. Many people fear what the future holds. But with the construction of the World Logistic Center will revive Moreno Valley's economy. It will create thousands of jobs here in our city Plus the taxes and fees paid by the developer to can be used to prevent layoffs of teachers, deputy sheriffs and fire fighters. That's why the city's EIR must be recertified without further delay.

Thank you!!

Tony Reza,
951 5051913

Julia Descoteaux

From: Julia Descoteaux
Sent: Thursday, May 14, 2020 12:06 PM
To: Julia Descoteaux

From: Silvia Stella <silviager1.ss@gmail.com>
Sent: Wednesday, May 13, 2020 4:16 PM
To: City Clerk <cityclerk@moval.org>
Subject: Recertification for the WLC

Dear planning commission and city council My name is Silvia Abrego. I'm a resident of Moreno Valley
The city of Moreno Valley will get more than $ 5 million in taxes each year from the World Logistics Center. With upcoming budget cuts caused by the pandemic, the money can be used to keep our city's brave first responders on the job.
My address is 13325 Heacock St, Moreno Valley, CA 92553
Phone number
(562) 372-1019

Sincerely,
Silvia Abrego

Julia Descoteaux

From: Julia Descoteaux
Sent: Thursday, May 14, 2020 12:07 PM
To: Julia Descoteaux

From: Denise Creer <denisecreer@gmail.com>
Sent: Wednesday, May 13, 2020 4:50 PM
To: City Clerk <cityclerk@moval.org>
Subject: Recertification for the WLC

Warning: External Email – Watch for Email Red Flags!

Dear Planning Commission and City Council:
I support the WLC project. I think it is a fantastic opportunity to bring more jobs to our local community so we will not have to commute extremely long distances for employment. Please encourage you to truly consider granting their recertification.

Thank you,
Denise Creer-Utterbach
26518 Bay Avenue,
Moreno Valley, CA 92555
323-791-4010 mobile.

Julia Descoteaux

From: Julia Descoteaux
Sent: Thursday, May 14, 2020 12:07 PM
To: Julia Descoteaux

From: Beatriz Mendoza <beamendoza5@gmail.com>
Sent: Wednesday, May 13, 2020 10:46 AM
To: City Clerk <cityclerk@moval.org>
Subject: Re-certification for the WLC

Warning: External Email – Watch for Email Red Flags!

Dear Planning Commission and City Council:

My family and I know of the five points that were certified for the World Logistics Center and it has recently come to my attention that the World Logistics Center Environmental Impact Report needs to be re-certified. As a resident of Moreno Valley, I have come to know the struggles this city has had. The World Logistics Center is the opportunity our community needs to flourish in an ever changing world. While other cities have become known for their great economic merits, Moreno Valley remains unknown by most. A project such as this will allow 15,000 construction job opportunities; if not more. As a result, many people in our communities will be able to financially support their families. Currently, our city is undergoing budget cuts due to the pandemic. This project will provide our local schools with over $25 million to prevent the layoff of many teachers and the ensure the continued support of low-income families. The city will also be receiving money each year to help our brave first responders. Moreno Valley can and will become the epitome of financial excellence as well as diversity; everyone coming together and working for a common goal. Moreno Valley can become a partner and asset for other businesses and cities alike. Denying this change will negatively impact any chance this city and its people have to prosper. I kindly urge you to re-certify and thus accelerate the process of the Environmental Impact Report.

--
Best Regards,

Beatriz Mendoza
Cell:(951) 269-1601

Julia Descoteaux

From: Lindsay Robinson <lr92555@gmail.com>
Sent: Thursday, May 14, 2020 6:32 AM
To: Julia Descoteaux
Cc: City Clerk
Subject: For the record- opposition to wlc EIR approval
Attachments: Oppose approval of wlc revised eir.pdf

Ms. Descoteaux,

Please find my submission opposing the approval of the "revised" final EIR for the wlc. I would appreciate this being part of the public record and as we cannot attend meetings it needs to be considered by all city parties involved in the decision making process.

This meeting along with the general plan update and Theodore interchange project all need to be postponed until the public can fully participate at an open public meeting.

Thank you,
Lindsay Robinson

To whom it may concern,

For the public record, I am writing to oppose the approval by the planning commission of the "revised" final wlc EIR as it still does not adequately address nor fix all the issues described by the courts. This is another non-essential project at this time along with the general plan update and Theodore interchange project that all need to be postponed during this lockdown until the residents can fully participate in person. The Riverside Board of Supervisors and the Riverside City Council have both acknowledged the importance of the democratic process and postponed these types of decisions until the public can fully participate. Our lives, health and quality of life will be greatly negatively impacted if Mr. Benzeevi is allowed full participation while residents are denied full the same right.

Of great concern is the fact that the mayor recently fired the city manager, assistant city manager, city attorney, the head of the Planning Dept. and the head of Human Resources among others. The message to city staff is quite clear- do what the mayor (HF) tells you to do or you will be fired. Ethics and integrity don't matter in Moreno Valley. This is another reason to postpone these actions until the public can fully attend and participate.

The wlc revised EIR is far too large of a document to adequately read, study, comprehend and compare to the former EIR, the judge's writ and AG Becerra's suit to be sure it has been changed and improved adequately. Three of the planning commissioners are also tasked with the general plan update at the same time, making it impossible for them to perform their due diligence on both items. Additionally this EIR should not move forward as the majority of the planning commissioners need to recuse themselves for conflict of interest due to their relationships with Iddo Benzeevi and Highland Fairview.

As the general plan update is in progress at the same time, the land use of this property needs to be re-examined and rezoned to more appropriate uses that better benefits the city and protects the residents. The 2006 general plan recognized the value of land use and this area should be rezoned for the high end homes and businesses for which it was intended. This EIR offers no consideration for development alternatives of mixed land uses. To not touch this land during the process and allow Benzeevi to control the city is again opening the city up for more litigation. Please do not approve this EIR and recommend that this land be rezoned to more appropriate land use that provides more jobs, diverse jobs and state required housing.

Time has shown that these warehouses provide little to no jobs/acre especially as automation takes over which is another reason this land use needs to be re-evaluated. The lies of high paying jobs/exaggerated numbers of jobs need to stop now. We have far too many warehouses in our city already and calling this project "logistics" doesn't change the reality that they will be warehouses. Our residents deserve better and now that the state is calling for more housing of different types, this property needs to be reverted to 2006 plan which offered housing, and a greater diversity of businesses and jobs. Please take this into consideration and reject this EIR.

Major concerns and many environmental impacts are still not mitigated or reduced in this "new" revised EIR. In fact little has changed, therefore it needs to be denied. A few items are mentioned below:

The massive wlc will impact a large region of the Inland Empire and people from throughout this area should have been told of this meeting, because the project will likely negatively impact their quality of life and the health of their family. Please find out whether all neighboring regions were notified and supplied with information of this hastily called meeting for approval. As we're all in lockdown you should have supplied additional time for review and notification to allow surrounding regions adequate time to respond.

There has been no change to the project setback, land uses, or design adjacent to all existing residential neighborhoods for traffic, air quality or noise impacts. As this project is entirely without known tenants it is impossible to mitigate all the negative impacts adequately. **Prior to approval- The city needs to enact a noise ordinance for warehouses before any more are approved/built to protect the residents from 24hr/day noise. Warehouses need to follow the same noise ordinances as residents/construction/yard workers and shut down from 10 pm-7 am. Solaris Paper Company is a prime example of unreasonable noise all night long. The wlc should not be allowed to build across the street from occupied homes as is their current plan and setbacks need to be increased to protect the existing residents.**

The Newkirk home on Dracea was always left out of the maps during the wlc hearing in spite of their efforts to inform the city staff and attendees. They requested many times that it be shown so that everyone would know what was being done to their property. They have been threatened with warehouses only several hundred feet from their front door. This travesty needs to be rectified and their property protected. Residents should have priority over out of town people "paying to play".

There has been no change to the project along the 2-mile border with San Jacinto Wildlife Area. **The judge specifically called him out on his buffer where he was using land that wasn't his to be the buffer. wlc land needs to be added to the buffer zone. Again lights/noise need to end at night to protect our resident's health and quality of life, protect the wildlife and protect our highly valued night skies.**

The master planned trail system connecting the north side of the city to Lake Perris is missing again. Please ensure that the safe multiuse trail is included in any and all approvals. Our original overcrossing at Sinclair was moved to Theodore to accommodate Mr. Benzeevi for skechers. This change needs to be honored and the trail system needs to show on these maps.

There is no extra mitigation to the diesel exhaust from trucks. The offer to buy greenhouse gas credits in other counties which do nothing for us here. The 2010 or newer diesel trucks are cleaner, but not clean. They will bring health impacts to us as they further degrade our air quality with particulate pollution, but especially for the young and elderly. The COVID-19 pandemic has demonstrated how bad air quality has compounded the deadliness of respiratory diseases and unfairly affects those who live in areas of irresponsible planning. This project does not mitigate their compounded unhealthful air quality effects and thus this EIR needs to be rejected. Our residents and those in the surrounding areas deserve much better.

The wlc's greenhouse gas (GHG) impacts are huge and are not mitigated locally or even within California. GHG is causing the Earth's atmosphere to warm, resulting in changes to the climate we are already starting to see today.

The wlc doesn't have any system in place to turn away diesel trucks which are not 2010 compliant. As HF and followers have little to no regard for the law, self-policing is a joke especially when the land is sold to others who do not have to follow the development agreement.

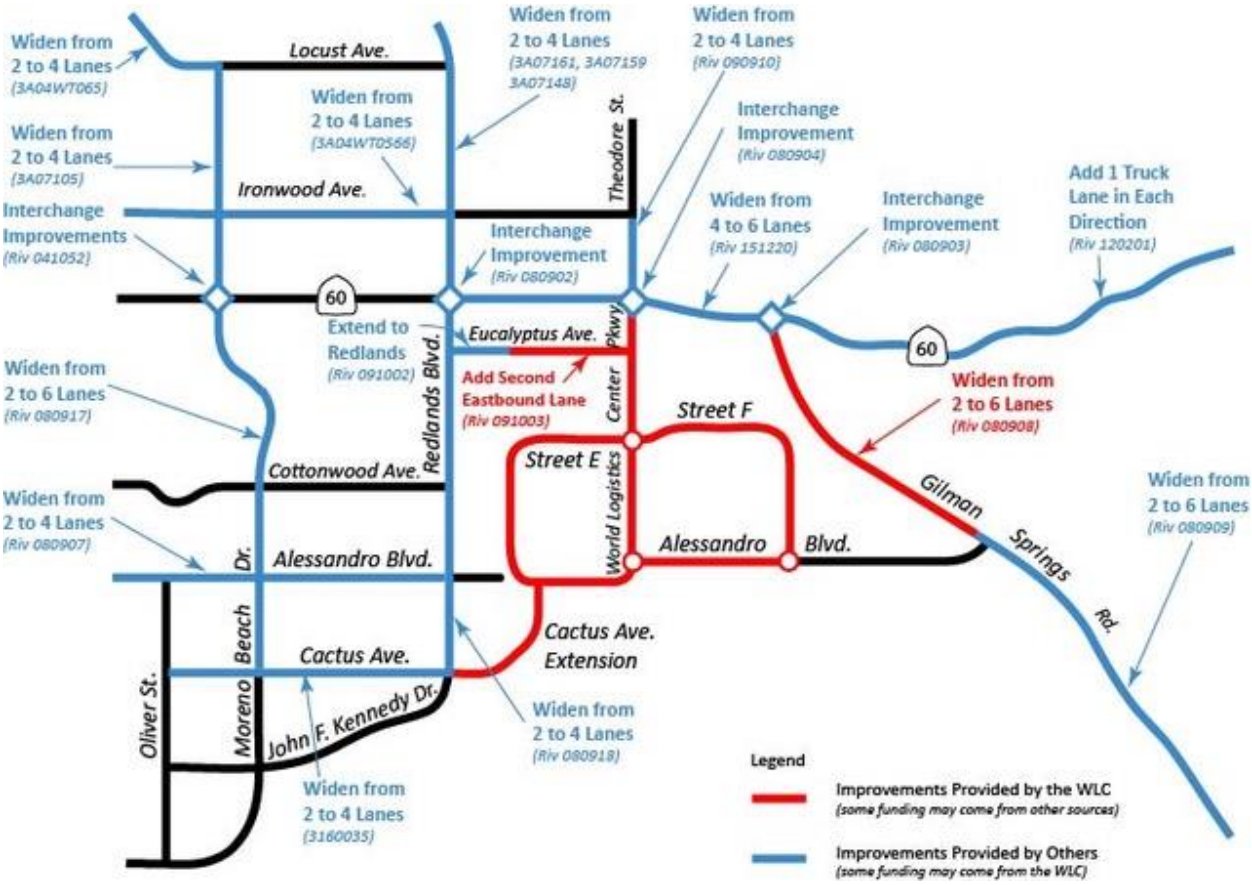
There is no remedy to the traffic impacts on the already congested SR-60. Even with three or four lanes SR-60 will not be able to accommodate the addition of more than 12,000 daily diesel truck trips and 45,000 more daily car trips generated by the WLC. It will become many times worse than what we currently suffer. Caltrans has no plans to widen the 60 freeway thru Moreno Valley and even if they were to do so, it would require eminent domain on existing developments. It appears his plan is to widen our neighborhood streets so those roads and residents will suffer more traffic, noise, pollution, and danger. The roads will then need more frequent repairs which the city can't afford, and his development agreement absolves him from paying for damages/improvements. This is not of benefit to the city nor the residents. Please reject this EIR.

There is no further addressing of city street impacts other than to exempt him from paying. Diesel Trucks should only be allowed to enter and exit the WLC by using SR-60 and not using any streets that pass peoples' homes. The new development agreement exempts him from paying for street improvements therefore entrance needs to be directly from freeway. Sec. 4.8 ..." HF shall not pay the fees imposed by Moreno Valley Municipal Code Sections 3.42.030 (arterial streets), 3.42.040 (traffic signals) and 3.42.050 (interchange improvements). "…**HF SHOULD pay the fees required by MV Municipal codes as noted in section 4.8. The excessive traffic this project will subject our roads to requires HF to pay these fees. Do not accept this provision.**

It is horrifying to see this new map of road widenings in our neighborhoods that is buried in this file. All residents in the affected areas should have received individual notices of the road proposals that Benzeevi is hiding in the EIR. Four lanes are NOT needed in these neighborhoods and destroying Gilman Springs with 6 lanes is reprehensible. There are homes along Redlands Blvd. yet no mention on what will happen to these residents. Also, he is forcing us to pay for these widenings that will harm our neighborhoods and our pocketbooks. Clearly this is his sneaky way to turn non-truck routes into truck routes further destroying our quality of life and health. Please do not approve this street widening map and remove it from this EIR.

Mr. Benzeevi has failed to honor his commitment to improve Eucalyptus by skechers although he has had plenty of time to do so. Now it appears the taxpayers will be paying for his responsibility.

Please deny this proposed street widening plan in its entirety until all affected residents are properly notified and able to voice their concerns.



This revised EIR also neglects to adequately provide a location for truck servicing and parking. A project of this magnitude needs to provide those amenities and not force them to go to outlying areas. NE Moreno Valley is NOT where truck stops/fueling stations belong. They belong on the wlc property.

There was little to no consideration from comment letters addressing the resident's concerns. Please reject this EIR until all concerns are addressed.

Now on to the conflict of interest that should stop this from moving forward at all-

Under common law conflicts, there is no need of financial benefits just the connection in which benefits one of those in the connection (Highland Fairview).

Even the Appearance of a Conflict of Interest Should Be Avoided for Government Employees. This includes those who are appointed and especially because they receive payment and promise to behave ethically and in a fair and impartial manner. Because of their connections and undue influence exerted over them by HF the following Planning Commissioners need to recuse themselves resulting in no quorum. I contend that Robert Harris, Raphael Brugueres, Joann Stephens, Alvin Dejohnette and Ray Baker all need to recuse themselves from hearing, voting or advocating for in their official capacity any item which involves Highland Fairview directly and

in some cases, indirectly if Highland Fairview would disproportionately benefit based on the ground of standing conflicts of interest as follows.

Mr. Robert Harris has been directly connected with Highland Fairview/Iddo Benzeevi (HF) serving as an officer on his Political Action Committees (PAC) and was the person of standing who signed the paperwork for HF initiatives later deemed illegal in their efforts to circumvent the CEQA laws. He was one of the least qualified applicants but his relationship with HF and friendship with Mayor Gutierrez gave him the seat. He needs to recuse himself with anything remotely connected to HF due to conflict of interest thru association and bias.

Mr. Raphael Brugueres has been directly connected with Highland Fairview/Iddo Benzeevi (HF) serving as an officer on his Political Action Committees (PAC), collected signatures for the illegal initiatives used to circumvent CEQA laws, illegally harassed and blocked residents from signing legal referendum petitions and bragged about it on video at city council meetings, and at a city council meeting (1/15/2019) verbally threatened action against residents who opposed HF. Additionally he needs to recuse himself as he stated at several planning commission meetings prior to his appointment that all projects need to be approved and settled later in court. I am concerned that he is unable to read and comprehend the extensive data presented in anything related to planning and development and he was the **least** qualified applicant but his relationship with HF and friendship with Mayor Gutierrez gave him the seat. He needs to recuse himself with anything remotely connected to HF and should be removed from the planning commission.

Ms. Joann Stephens also has a long standing relationship with HF serving as an officer on his Political Action Committees (PAC) formed to promote the wlc. In a video dated 10/7/2013 she speaks in favor of wlc and that "we should all embrace Iddo". At the June 11, 2015 she states …" I've lived in the city 30-plus years and this is the best thing that I've ever seen that wants to come in here"… "I hope the City Council members are looking because I don't know how anybody can vote no on this"… Additionally she currently serves on the mayor's general plan update committee and is under the undue influence of Iddo Benzeevi who has taken major control of the committee now that the public is not able to be present. The fact that his wlc and aquabella properties are not being touched as they consider rezoning many other properties indicates his control while he is also pushing for warehouses/commercial rezoning north of the freeway in an inappropriate area. Again she was one of the least qualified applicants to the planning commission, but her association with HF, Ms. Baca and Mayor Gutierrez gave her a seat at both tables. There is a clear conflict of interest and bias that requires Ms. Stephens recuse herself.

Mr. Baker currently serves on the mayor's general plan update committee and is under the undue influence of Iddo Benzeevi who has taken major control of the committee now that the public is not able to be present. The fact that his wlc and aquabella properties are not being touched as they consider rezoning many other properties indicates his control while he is also pushing for warehouses/commercial rezoning north of the freeway in an inappropriate area. Mr. Baker needs to recuse himself from this vote because of the undue influence he's under while working with Iddo Benzeevi. A clear conflict of interest by association so therefore Mr. Baker must recuse himself.

Mr. Dejohnette needs to recuse himself as he is also serving on the mayor's general plan update committee and is under the undue influence of Iddo Benzeevi who has taken major control of the committee now that the public is not able to be present. The fact that his wlc and aquabella properties are not being touched as they consider rezoning many other properties indicates his control while he is also pushing for warehouses/commercial rezoning north of the freeway in an inappropriate area. Additionally he didn't apply for the planning commission, but the mayor appointed him as they were co-workers at March Middle School. Along with undue influence from Iddo Benzeevi, he is also under the influence of the mayor who is funded by HF. A clear conflict of interest by association so therefore Mr. Baker must recuse himself.

The mayor did a disservice to the city and the residents by forming a planning commission of some of the least qualified applicants who were already supporters of HF and similarly with the general plan update advisory committee. His actions open the city to even more unnecessary litigation and were unethical to say the least.

With the necessary recusals there is no quorum for the planning commission to consider this EIR or anything related to HF, thus this EIR and the project cannot move forward.

Should these recusals be refused, then the EIR needs to be rejected for the reasons given as well as many more that were not addressed.

Thank you,

Lindsay Robinson, resident

Proof of the PAC association included. Copies of ALL planning commissioner applications are available from the city clerk and they will clearly demonstrate lack of qualifications in comparison to other applicants. It will also show that Mr. Dejohnette did not apply for Planning Commission, but it was written in by someone else.

The following pages from the 410 noted above show proof of the PAC officers for HF Moreno Valley Coalition…

Statement of Organization
Recipient Committee

CITY CLERK
MORENO VALLEY
RECEIVED
2016 MAY 12 PM 12:33

CALIFORNIA FORM **410**
For Official Use Only

Statement Type ☐ Initial — Not yet qualified ☐ or ☐ Amendment — List I.D. number: # ____ ☒ Termination – See Part 3 — List I.D. number: # 1379766

Date qualified as committee: ____/____/____

Date qualified as committee (if applicable): ____/____/____

Date of Termination: 04 / 30 / 2016

1. Committee Information

NAME OF COMMITTEE: MORENO VALLEY JOBS COALITION, SUPPORTING JOBS CREATION AND WORKFORCE TRAINING INITIATIVES AND THE WORLD LOGISTICS CENTER DEVELOPMENT, MAJOR FUNDING BY HIGHLAND FAIRVIEW

STREET ADDRESS (NO P.O. BOX): [redacted]

CITY	STATE	ZIP CODE	AREA CODE/PHONE
SAN RAFAEL	CA	94901	[redacted]

MAILING ADDRESS (IF DIFFERENT)

FAX / E-MAIL ADDRESS: [redacted]

COUNTY OF DOMICILE	JURISDICTION WHERE COMMITTEE IS ACTIVE
MARIN	MORENO VALLEY

Attach additional information on appropriately labeled continuation sheets.

2. Treasurer and Other Principal Officers

NAME OF TREASURER: JASON D. KAUNE

STREET ADDRESS (NO P.O. BOX): [redacted]

CITY	STATE	ZIP CODE	AREA CODE/PHONE
SAN RAFAEL	CA	94901	[redacted]

NAME OF ASSISTANT TREASURER, IF ANY: JAMES W. CARSON

STREET ADDRESS (NO P.O. BOX): [redacted]

CITY	STATE	ZIP CODE	AREA CODE/PHONE
SAN RAFAEL	CA	94901	[redacted]

NAME OF PRINCIPAL OFFICER(S): LEONARDO DANIEL GONZALEZ

STREET ADDRESS (NO P.O. BOX): [redacted]

CITY	STATE	ZIP CODE	AREA CODE/PHONE
MORENO VALLEY	CA	92557	[redacted]

3. Verification

I have used all reasonable diligence in preparing this statement and to the best of my knowledge the information contained herein is true and complete. I certify under penalty of perjury under the laws of the State of [redacted] and correct.

Executed on 5/6/2016 (DATE) By [redacted] (SIGNATURE OF TREASURER OR ASSISTANT TREASURER)

Executed on ____ (DATE) By ____ (SIGNATURE OF CONTROLLING OFFICEHOLDER, CANDIDATE, OR STATE MEASURE PROPONENT)

Executed on ____ (DATE) By ____ (SIGNATURE OF CONTROLLING OFFICEHOLDER, CANDIDATE, OR STATE MEASURE PROPONENT)

Executed on ____ (DATE) By ____ (SIGNATURE OF CONTROLLING OFFICEHOLDER, CANDIDATE, OR STATE MEASURE PROPONENT)

Statement of Organization
Recipient Committee

INSTRUCTIONS ON REVERSE

CALIFORNIA FORM **410**

COMMITTEE NAME
MORENO VALLEY JOBS COALITION, SUPPORTING JOBS CREATION AND WORKFORCE TRAINING INITIATIVES AND THE WORLD LOGISTICS CENTER DEVELOPMENT, MAJOR FUNDING BY HIGHLAND FAIRVIEW

I.D. NUMBER
1379766

2a. Additional Officers

NAME OF OTHER PRINCIPAL OFFICER(S)
MARSHALL SCOTT
MAILING ADDRESS
[redacted]
CITY: MORENO VALLEY | STATE: CA | ZIP CODE: 92557 | AREA CODE/PHONE: [redacted]

NAME OF OTHER PRINCIPAL OFFICER(S)
JOANN STEPHAN
MAILING ADDRESS
[redacted]
CITY: MORENO VALLEY | STATE: CA | ZIP CODE: 92557 | AREA CODE/PHONE: [redacted]

NAME OF OTHER PRINCIPAL OFFICER(S)
GABRIEL COLANGELO
MAILING ADDRESS
[redacted]
CITY: MORENO VALLEY | STATE: CA | ZIP CODE: 92557 | AREA CODE/PHONE: [redacted]

NAME OF OTHER PRINCIPAL OFFICER(S)
DANNY SCHWIER
MAILING ADDRESS
[redacted]
CITY: MORENO VALLEY | STATE: CA | ZIP CODE: 92557 | AREA CODE/PHONE: [redacted]

NAME OF OTHER PRINCIPAL OFFICER(S)
ROBERT HARRIS
MAILING ADDRESS
[redacted]
CITY: MORENO VALLEY | STATE: CA | ZIP CODE: 92557 | AREA CODE/PHONE: [redacted]

NAME OF OTHER PRINCIPAL OFFICER(S)
PEDRO HURTADO
MAILING ADDRESS
[redacted]
CITY: MORENO VALLEY | STATE: CA | ZIP CODE: 92555 | AREA CODE/PHONE: [redacted]

NAME OF OTHER PRINCIPAL OFFICER(S)
LANCE MARTIN
MAILING ADDRESS
[redacted]
CITY: MORENO VALLEY | STATE: CA | ZIP CODE: 92553 | AREA CODE/PHONE: [redacted]

NAME OF OTHER PRINCIPAL OFFICER(S)
JOE CHACKO
MAILING ADDRESS
[redacted]
CITY: MORENO VALLEY | STATE: CA | ZIP CODE: 92555 | AREA CODE/PHONE: [redacted]

Statement of Organization
Recipient Committee

INSTRUCTIONS ON REVERSE

CALIFORNIA FORM **410**

COMMITTEE NAME
MORENO VALLEY JOBS COALITION, SUPPORTING JOBS CREATION AND WORKFORCE TRAINING INITIATIVES AND THE WORLD LOGISTICS CENTER DEVELOPMENT, MAJOR FUNDING BY HIGHLAND FAIRVIEW

I.D. NUMBER
1379766

2a. Additional Officers

NAME OF OTHER PRINCIPAL OFFICER(S)
DAVID LARA-TELLEZ
MAILING ADDRESS
[redacted]
CITY: MORENO VALLEY | STATE: CA | ZIP CODE: 92555 | AREA CODE/PHONE: [redacted]

NAME OF OTHER PRINCIPAL OFFICER(S)
TOM R. GERELE, SR.
MAILING ADDRESS
[redacted]
CITY: MORENO VALLEY | STATE: CA | ZIP CODE: 92557 | AREA CODE/PHONE: [redacted]

NAME OF OTHER PRINCIPAL OFFICER(S)
ANTONIO REZA
MAILING ADDRESS
[redacted]
CITY: MORENO VALLEY | STATE: CA | ZIP CODE: 92553 | AREA CODE/PHONE: [redacted]

NAME OF OTHER PRINCIPAL OFFICER(S)
TED BOECKER
MAILING ADDRESS
[redacted]
CITY: MORENO VALLEY | STATE: CA | ZIP CODE: 92553 | AREA CODE/PHONE: [redacted]

NAME OF OTHER PRINCIPAL OFFICER(S)
IDDO BENZEEVI
MAILING ADDRESS
[redacted]
CITY: MORENO VALLEY | STATE: CA | ZIP CODE: 92553 | AREA CODE/PHONE: [redacted]

NAME OF OTHER PRINCIPAL OFFICER(S)
MAILING ADDRESS
CITY | STATE | ZIP CODE | AREA CODE/PHONE

NAME OF OTHER PRINCIPAL OFFICER(S)
RAFAEL BRUGUERAS
MAILING ADDRESS
[redacted]
CITY: MORENO VALLEY | STATE: CA | ZIP CODE: 92555 | AREA CODE/PHONE: [redacted]

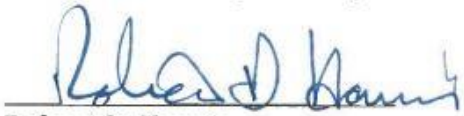
NAME OF OTHER PRINCIPAL OFFICER(S)
MAILING ADDRESS
CITY | STATE | ZIP CODE | AREA CODE/PHONE

Mr. Harris signature as person of standing for HF illegal initiatives used to circumvent CEQA,

NOTICE OF INTENT TO CIRCULATE PETITION

Notice is hereby given by persons whose names appear hereon of their intention to circulate a petition within the territory of the City of Moreno Valley Community Services District for the purpose of repealing Resolution No. 2015-29, enacted by the Board of Directors of the City of Moreno Valley Community Services District on August 19, 2015. A statement of the reasons of the proposed action as contemplated in the petition is as follows:

This measure will help to facilitate the City's ability to obtain the many benefits which the World Logistics Center Project will bring to the City and its residents and as an affirmation of the City Council approval of the Project which is being challenged through lawsuits filed by those who would like to stop the Project for their own interests.



Robert D. Harris

Mr. Dejohnette's application shows planning commission was not his choice and that someone else wrote it in.

CITY CLERK
MORENO VALLEY
RECEIVED
18 FEB -9 PM 4:33
For City Clerk's Use
Stamp Date and Time Received

City of Moreno Valley

Boards and Commissions

Membership Application Form

Name: Alvin DeJohnette
Home Address: [redacted]
Moreno Valley CA 92555
How long have you resided in Moreno Valley? 50 + YEARS

CONFIDENTIAL INFORMATION

Home Phone No.:
Work Phone No.:
Cell Phone No.: [redacted]
Driver's License No.: [redacted]
Email Address: [redacted]
Date of Birth: [redacted]

Employer Name: Moreno Valley Unified Position: Teacher
Address: 25634 Alessandro Blvd
Moreno Valley CA 92553

Board or Commission applying for*: 1st Choice Traffic Safety
2nd Choice Utilities Commision, Planning Commision

*If applying for the Accessibility Appeals Board, please indicate which position you are applying for:
☐ Physically Challenged Person ☐ Person Experienced in Construction ☐ Public Member

*If applying for the Utilities Commission, please indicate which position you are applying for:
☑ Public Member ☐ Customer of Moreno Valley Utility ☐ Business Customer of Moreno Valley Utility

Why do you wish to serve on this Board and/or Commission?
I want to be involved with the City that I grew up in.

List any education, training, or special skills, you have which may be relevant or of particular benefit to this Board and/or Commission:
Masters in Educations, School Administration experiance

Explain briefly your understanding of what this Board and/or Commission does, including its powers and limitations.
I understand that this position considers issues surrounding traffic safety in the City such as signage, painting potential Hazards for public safety

What do you hope to accomplish by your participation?
I want to be a positive active member on this Commission to assist with Maintaining and possibly improving safety in the city of Moreno Valley

Mr. Brugueres' application that concerned me with his literacy and ability to read and comprehend complex documents. He also lists his involvement with the PAC and lists Robert Harris as his reference.

A.1.g

Attachment: Rafael Brugueras-Planning Comm Application (2541 : CITY COUNCIL INTERVIEWS OF

Packet Pg. 18

CITY CLERK
MORENO VALLEY
RECEIVED
17 FEB -3 PM 3:16

City of Moreno Valley

Boards and Commissions

Membership Application Form

Name: Rafael Brugueras

Home Address: 13763 Peyton Dr.
Moreno Valley, CA. 92555

How long have you resided in Moreno Valley? 24 yrs.

CONFIDENTIAL INFORMATION

Home Phone No. [redacted] Driver's License No.: [redacted]

Work Phone No.: N/A Cell Phone No.: [redacted]

E-mail Address [redacted]

Employer Name: N/A Position: Retired

Address:

Board or Commission applying for*: 1st Choice PLANNING Commission

2nd Choice

*If applying for the Accessibility Appeals Board, please indicate which position you are applying for:

☐ Physically Challenged Person ☐ Person Experienced in Construction ☐ Public Member

*If applying for the Utilities Commission, please indicate which position you are applying for:

☐ Public Member ☐ Customer of Moreno Valley Utility ☐ Business Customer of Moreno Valley Utility

Why do you wish to serve on this Board and/or Commission?

I Believe that I CAN help being development to our City Moreno Valley. By understanding what's come in to be development To Sort it out between good or bad development

List any education, training, or special skills, you have which may be relevant or of particular benefit to this Board and/or Commission:

I have Skills in Helping homeowners in saving energy.

Explain briefly your understanding of what this Board and/or Commission does, including its powers and limitations.

I believe that A PLANNING Commission duties are to sort out what's best for the City of Moreno Valley in all Fairness. To know when to say yes or no to Development.

What do you hope to accomplish by your participation?

HAVING the opportunity to Serve my City Moreno Valley. To see development stay in Moreno Valley and have the City to grow.

List any employment, volunteer work, or membership in a service/community organization that you have served on, or are now a member of. Please provide the name(s) of the agency(ies), contact person, and dates served:

1) Volunteer - I'm a city activist for Development and Jobs.
2) Organization - I'm part of The JOBS Coalition.
Name - Mr. Robert Harris - phone # 951-259-9465

What other areas of interest do you have in our City government?

I to City Council meeting and I also go PLANNING Commission meeting.

Would you be available for meetings during the day ☐ or evening? ☒

Attendance of at least one (1) meeting is required prior to the appointment.
Date(s) of the meeting(s) attended: JAN. 26, 2017 and many more.

Pursuant to Resolution 2016-43 all board and commission members must be registered voters of the City of Moreno Valley.

I authorize the City of Moreno Valley to obtain and review, on a confidential basis, such information regarding me as may be contained in the California State Summary Criminal History and in records of the California Department of Motor Vehicles. Yes ☐ No ☐ (The application shall not be considered if the NO box is checked.)

I hereby agree to attend all board or commission meetings, unless excused, and understand that I may be removed for lack of attendance, pursuant to Municipal Code, Subsection 2.06.010(C) which states, "If a member is absent without advance permission of the board or commission or of the appointing authority, from three consecutive regular meetings or from 25% of the duly scheduled meetings of the board or commission within any fiscal year, the membership shall thereupon become vacant and shall be filled as any other vacancy."

CERTIFICATE OF APPLICANT: I certify that all statements in this application are true and complete to the best of my knowledge. I understand that any false statements of material fact will subject me to disqualification or dismissal if appointed. I release the City of Moreno Valley from any liability for the use of the aforesaid information.

[redacted]
Signature

Feb 03, 2017
Date

Please Note: Applications will be kept on file for potential future vacancies for one year after the application submittal date. Applications are accepted year-round.

Mr. Robert Harris' application.

CITY CLERK
MORENO VALLEY
RECEIVED
17 FEB -3 PM 4:10

City of Moreno Valley

Boards and Commissions

Membership Application Form

Name: Robert Harris

Home Address: 12470 Canyon Vista Rd
Moreno Valley, Ca 92557

How long have you resided in Moreno Valley? 34 years

CONFIDENTIAL INFORMATION

Home Phone No.: [redacted] Driver's License No.: [redacted]

Work Phone No.: Cell Phone No.: [redacted]

E-mail Address: [redacted]

Employer Name: Retired Position: RN

Address:

Board or Commission applying for*: 1st Choice Planning Commission

2nd Choice

*If applying for the Accessibility Appeals Board, please indicate which position you are applying for:

☐ Physically Challenged Person ☐ Person Experienced in Construction ☐ Public Member

*If applying for the Utilities Commission, please indicate which position you are applying for:

☐ Public Member ☐ Customer of Moreno Valley Utility ☐ Business Customer of Moreno Valley Utility

Why do you wish to serve on this Board and/or Commission?

I am a progressive activist. I would like to bring balance to our City: Homes, Jobs, Recreation and Medical facilities to serve all of our Community including our aging population.

List any education, training, or special skills, you have which may be relevant or of particular benefit to this Board and/or Commission:

Residential Real Estate, Emergency RN, Flight Nurse, General Aviation Pilot, Director of Hospital Paramedic Program

Explain briefly your understanding of what this Board and/or Commission does, including its powers and limitations.

Planning related to the Balanced and growing needs of the City.

What do you hope to accomplish by your participation?

Help make Moreno Valley a City that the Residence can be proud of. This can be accomplished by listening to the residents Developers and Staff recommendations.

List any employment, volunteer work, or membership in a service/community organization that you have served on, or are now a member of. Please provide the name(s) of the agency(ies), contact person, and dates served:

Member of Moreno Valley Jobs Coalition
Leo Gonzales 951-833-3447
Elected Member Riverside County Democratic Central Committee

What other areas of interest do you have in our City government?

City activities
only interested in planning Commission at this time

Would you be available for meetings during the day ☐ or evening? ☑

Attendance of at least one (1) meeting is required prior to the appointment.
Date(s) of the meeting(s) attended: all WRC planning Commission hearings

Pursuant to Resolution 2016-43 all board and commission members must be registered voters of the City of Moreno Valley.

I authorize the City of Moreno Valley to obtain and review, on a confidential basis, such information regarding me as may be contained in the California State Summary Criminal History and in records of the California Department of Motor Vehicles. Yes ☑ No ☐ (The application shall not be considered if the NO box is checked.)

I hereby agree to attend all board or commission meetings, unless excused, and understand that I may be removed for lack of attendance, pursuant to Municipal Code, Subsection 2.06.010(C) which states, "If a member is absent without advance permission of the board or commission or of the appointing authority, from three consecutive regular meetings or from 25% of the duly scheduled meetings of the board or commission within any fiscal year, the membership shall thereupon become vacant and shall be filled as any other vacancy."

CERTIFICATE OF APPLICANT: I certify that all statements in this application are true and complete to the best of my knowledge. I understand that any false statements of material fact will subject me to disqualification or dismissal if appointed. I release the City of Moreno Valley from any liability for the use of the aforesaid information.

[redacted]
Signature

02/03/2017
Date

Please Note: Applications will be kept on file for potential future vacancies for one year after the application submittal date. Applications are accepted year-round.

Revised12/27/16

Joann Stephens application.

CITY CLERK
MORENO VALLEY
RECEIVED
18 FEB 15 PM 1:11

City of Moreno Valley

Boards and Commissions

Membership Application Form

Name: Jo Ann Stephens

Home Address: [redacted]
Moreno Valley, CA. 92557

How long have you resided in Moreno Valley? 34 yrs

CONFIDENTIAL INFORMATION

Home Phone No.: [redacted]
Work Phone No.:
Cell Phone No.: [redacted]
Driver's License No.: [redacted]
Email Address: [redacted]
Date of Birth: [redacted]

Employer Name: Retired Position:
Address:

Board or Commission applying for*: 1st Choice Planning
2nd Choice

*If applying for the Accessibility Appeals Board, please indicate which position you are applying for:
☐ Physically Challenged Person ☐ Person Experienced in Construction ☐ Public Member

*If applying for the Utilities Commission, please indicate which position you are applying for:
☐ Public Member ☐ Customer of Moreno Valley Utility ☐ Business Customer of Moreno Valley Utility

Why do you wish to serve on this Board and/or Commission?
Get involved with what is being built OR proposed and make sure guidelines our followed. Especially at the planning stages which are the first step to buildout.

List any education, training, or special skills, you have which may be relevant or of particular benefit to this Board and/or Commission:

Explain briefly your understanding of what this Board and/or Commission does, including its powers and limitations. Considers matters that have to do with development & zoning in the city. Thats are within California Codes.

What do you hope to accomplish by your participation?
Get involved with development with our city.

List any employment, volunteer work, or membership in a service/community organization that you have served on, or are now a member of. Please provide the name(s) of the agency (ies), contact person, and dates served:

What other areas of interest do you have in our City government?

I have always played an active roll in what has gone on in Moreno Valley, where it be development or Council elections & City affa

Would you be available for meetings during the day ☑ or evening? ☐

Attendance of at least one (1) meeting is required prior to the appointment.
Date(s) of the meeting(s) attended: _____

Pursuant to Resolution 2016-42 all board and commission members must be registered voters of the City of Moreno Valley.

I authorize the City of Moreno Valley to obtain and review, on a confidential basis, such information regarding me as may be contained in the California State Summary Criminal History and in records of the California Department of Motor Vehicles. Yes ☑ No ☐ (The application shall not be considered if the NO box is checked.)

I hereby agree to attend all board or commission meetings, unless excused, and understand that I may be removed for lack of attendance, pursuant to Municipal Code, Subsection 2.06.010(C) which states, "If a member is absent without advance permission of the board or commission or of the appointing authority, from three consecutive regular meetings or from 25% of the duly scheduled meetings of the board or commission within any fiscal year, the membership shall thereupon become vacant and shall be filled as any other vacancy."

CERTIFICATE OF APPLICANT: I certify that all statements in this application are true and complete to the best of my knowledge. I understand that any false statements of material fact will subject me to disqualification or dismissal if appointed. I release the City of Moreno Valley from any liability for the use of the aforesaid information.

[redacted]
Signature

2/15/2018
Date

Please Note: Applications will be kept on file for potential future vacancies for one year after the application submittal date. Applications are accepted year-round. All applications are public record; personal information may be redacted to protect applicants' privacy.

From: Raul Sanchez
Sent: Thursday, May 14, 2020 9:58 AM
To: City Clerk
Subject: WLC Hearing

+Hello
I'm writing this email in hopes it reaches the planning commission before today's hearing. I want them to see another resident is in support of the City Planning Commission recertification of the
WLC's Environmental Report.

This project is so important on so many levels. Too many to list. One primary reason I am in favor is the positive impact the project will have on our city's economy. In my humble opinion, this should be a cut and dry decision considering this project and the E.I.R. report was approved years ago and this is just a formality due to Highland Fairview revising the E.I.R. to what was asked of them.

Thank you,

Raul Sanchez
So Cal Culture Group
951.295.4261

Julia Descoteaux

From: Richard Olvera
Sent: Thursday, May 14, 2020 10:05 AM
To: City Clerk
Subject: WLC project

These are scary and challenging time. Many people fear what the future holds. But with the construction of the World Logistics Center will revive Moreno Valley's economy. It will create thousands of jobs here in our city. Plus, the taxes and fees paid by the developer to can be used to preven layoffs of teachers, deputy sheriffs and fire fighters. That's why the city's EIR must be recertified without further dela y

These are scary and challenging time. Many people fear what the future holds. But with the construction of the World Logistics Center will revive Moreno Valley's economy. It will create thousands of jobs here in our city. Plus, the taxes and fees paid by the developer to can be used to preven layoffs of teachers, deputy sheriffs and fire fighters. That's why the city's EIR must be recertified without further dela

Feb. 15, 2020

Moreno Valley Planning Commission
Jeffery D. Sims
Chairman

Dear Mr. Sims,

My name is Alicia Wright and married to Frank Wright, retires Navy veteran and residing here in M.V. for over 20 years.

I have seen through the passing times the very need of the people of this city and the political and cultural efforts in change of imimprovements in all values and forms of life, and living conditions.

In prospective view, it is imperative that the Planning Commission pertains all efforts in the proceedure in initiating the proper need of accepting and certifying the revised change of the environmental Impact Report.

Your personal care is essential to the vital care for all the Moreno Valley people.

Thank you.

Most cordial,

Alicia Wright CNA,ATSocial Worker
14656 Rio Hondo Dr
Moreno Valley, CA 92553

Planning Commission of M.V.
c/o City Hall / Clerk's office
14177 Frederick Street.
Moreno Valley, CA 92553

Dear Planning Commissioners,

My name is Ana Cabrera and Ive been a resident of Moreno Valley for about 15 years. Iam all in support of the World Logistics Center Project. I Hope and encourage you all to approve the revised EIR for the community of Moreno Valley.
Thank You.

- Ana A. Cabrera

Ana Cabrera
22523 Adrienne Ave. #D
moreno Valley CA, 92553
ana.cabrera13@yahoo.com

The Planing Commission of Moreno Valley
of Moreno Valley
c/o city Hall/clerk's office
14177 frederick street.
Moreno Valley, California 92553

Dear Planning Commissioners.
My name is Angelica Hinojosa and I live in Moreno Valley for many years. I fully Support the World Longistic center project and I ask you to please and the most attentive way to vote in favor of the changes that were made regarding the environmental repor, Since the conclusion of the final repor that judge waters asked came out that would not harm us and that in term of truffic there would be little to what in these currencies there are Since many people leave daily outside our city to work for that reason I ask them to vote as soon as possible so that the project can be built soon thanks for your attention

Atte
Angelica Hinojosa

14151 Galvin ct
Moreno Valley CA
92553

City council of Moreno Valley c/o
City Hall / Clerk's office
14177 Frederick street
Moreno Valley 92553

Dear Planning Commissioners.

My name is Blanca, I live in Moreno Valley and I want to tell you through this letter I support the WORLD LOGISTICS CENTER, and I ask you to please vote for the new changes of the EIR in the project it would benefit thousands of people in the city and the economy would grow and with that there will be many benefits to all the community of Moreno Valley Thanks to tour arttencion.

Sincerely

Blanca Calderon

15214 Perris Blvd # 102
Moreno Valley C.A. 92551

Planning Comission of M.V
c/o city hall / Clerk's office
14177 Frederick Street
Moreno Valley CA 92553

Dear Planning Commissioners My name is Cassandra Gonzalez I've lived in Moreno Valley for more than 15 years. I am a strong supporter of the World logistic Center And I believe that EIR should pass it has been long enough on hold and I strongly believe it is great for our community. Thank you

Cassandra Gonzalez
22523 Adrienne Ave #D
Moreno Valley CA 92553
Cassandrareyes01@gmail.com
(951) 379-8153

The Planning Commission of Moreno Valley
Moreno Valley
C/o city Hall) Clerk's Office
14177 Frederick Stret.
Moreno Valley, CA. 92553

My name is Cecilia Amarillas I live in Moreno Valley and I want to tell you though this letter, I strongly support the World Logistic center and I ask you to please vote for the new Changes of the EIR in the project It would benefic thousands of Jobs to our city and all the Inland Empire region also the economy would grow. Please don't delay the vote process in the city Council and vote as soon as all the paper work of the EIR is in the city so they can start building the project is been 5 years waiting for this big moment in our city

Thanks to your attencion
Sincerely
Cecilia Amarillas
24306 Postal Av. Apt. 6
92553 Moreno Valley CA.

Planning Commission of Moreno Valley
c/o City Hall / Clerk's office
14177 Frederick Street
Moreno Valley Cal. 92553

Dear members of the Planning Commission my name is Cira Delgado, I've been a resident of Moreno Valley for over 10 years the reason for my letter is to express my support for the World Logistics Center because its will bring more job opportunities to our community. My kids, and other family have needed to commute outside the city in order to work. I encourage you to approve the revised E.I.R in order for this project to more forward. Thank you fore your consideration.

Sincerely,
Cira Delgado
25434 Lovely Ct.

Planning Commission of Moreno Valley
c/o City Hall / Clerk's Office
14177 Frederick St.
Moreno Valley CA 92553

Dear Commissioners,

My name is Dolores Rojas. I have been in the city for over 10 years. I'm a mother of two children. I work night shift for me is difficult to work and been a mother. Moreno Valley lacks of working women programs and jobs that can help us pay our bills and more.
I'm so glad for the project WVLC that will change Moreno Valley. We need well paid jobs. Please make this happen approve the revise EIR

Sincerely,

Dolores Rojas Robles 13078 Sunlit St
Moreno Valley, CA 92553

Feb. 15, 2020

Moreno Valley Planning Commission
Jeffery D. Sims
Chairman

Dear Mr. Sims,

This letter is in pertaining to the need of adoption in revision of the present Environmental Impact Report neddessary to be certifyied for the advancement of the future construction of the World Logistic Center Project.

As a resident citizen since 1985, and retired Korean Campaign, also member of the VFW Local Chapter 8547, it has been seen that the City of M.V. has the developable of extensive potential in future growth, already founded.

Therefore, the people of this city are encouraging for your support of approval and pertinent care being essential for the City needs by certifying the change of the Environmental Impact Report.

Thank you.

Most sincerely and respectfully,

Frank Wright MMC USNRR
14656 Rio Hondo Dr
Moreno Valley, CA 92553

Planning Commission
c/o City Hall/ Clerk's Office
14177 Frederick St,
Moreno Valley, CA 92553

To the members of the Planning Commission,

I'm so honored to write this letter to you. Thank you for taking care the business of our city. My name is Gemma Arrate. I come from Florida to Moreno Valley twenty five years ago and I'm so please to live here. This is a beautiful city, but I have seen gangs in our city, transportation problems. and some business had been closed out, this worried me too much.

I ask you to please take close attention to the World Logistic Center project. We can not lose this opportunity to bring jobs and better economic opportunities for the city.

We want busines to come to the city. Moreno Valley its beautiful but we need the money, investments and progress.

Please make it happen, do not make more obstacles. The World Logistic Center is a great project to come to our city.

Sincerely,
Gemma Arrate, District 1
24169 Eucalyptus Ave. # 232, Moreno Valley 92553

Gemma Arrate

Planning Commission
c/o City Hall/Clerk's Office
14177 Fredrick St
Moreno Valley, CA 92553

Dear Planning Commission
It is a great blessing to write to you, my name is Guadalupe Marquez, I am a retired resident of Moreno Valley, I've lived here for the last 7 years. I like my city and I can see the potential for this city to be the best in California if your department allows better businesses in our city, as of right now I see great need for improvement in our streets and residential areas.

I truley believe that the World Logistic Center will definitely bring the progress, jobs and tax revenue so much needed in our city.

I kindly ask you to please allow this great project to start now. At the end we will all gain much.

Respectfully yours
Guadalupe Marquez
24169 Eucalyptus Ave. Apt 140
Moreno Valley, CA 92553

Planning Commission
c/o City Hall/Clerk's Office
14177 Frederick Street,
Moreno Valley, Calif. 92553

Dear Members of the Planning Commission,

I am writing in regards of the World Logistic Center project, I fully support the project because it would be great for our city. My name is Guillermo Reza, I had been living in the city of Moreno Valley for about 15 years; our city is growing and all kinds of needs too as jobs, better roads, and schools etc.
The World Logistic Center project was approved on the year 2015 and up to this year has not been built, I would like to ask you to help open the avenues to bring this project in our city.
Don't delayed any longer, we want our city to progress! Do not hold us back!

Thank you for your attention to this letter,

Guillermo Reza
25251 Turquoise Lane
Moreno Valley, California 92557

Guillermo Reza

Planning Commission
14177 Frederick Street.
Moreno Valley California 92553

Dear Mayor, and, Council, and Planning

I am Isabel Baldenegro, I have 11 years living in Moreno Valley, and I'm a mother of three children. I would like to express my opinion regarding the WLC project. We want this Project to be built to have more Job opportunities in our city. It would be great if my husband could get a local job and a blessing for my family to have more time to spend with him.
Some times my husband had been out for months for work.

Bringing the WLC project to Moreno Valley will help families a better quality of life.
Thank you!

Isabel Baldenegro
24807 Fir Ave.
Moreno Valley CA. 92553

Planning Commission
City Council of Moreno Valley

c/o City Hall / Clerk's office

14177 Frederick Street,
Moreno Valley, CA 92553

Dear members of the Planning Commission,

My name is Isabel Bojorquez, I am a resident of Moreno Valley. The reason for my letter is to express my support for the World Logistics Center. This project that was approved a few years ago in the city of Moreno Valley, and it has been highly anticipated by the community, as it would bring many opportunities for our city to progress and succeed. Over the last few years, the City of Moreno Valley, along with Highland Fairview have endured many lawsuits that have delayed the project from breaking ground, and I am asking you to do the right thing and approve any necessary items for this project to move forward. Thank you for your consideration.

Sincerely,

Isabel Bojorquez

Resident of Moreno Valley

23920 Doe Court.

Moreno Valley, CA 92553

Isabel Bojorquez
Jose Bojorquez

Jose Bojorquez.

The Planning Commission de Moreno Valley
C/O City Hall / Clerk's Office
14177 Frederik Street
Moreno Valley Ca. 92553

Nosotros somos un matrimonio nuestro nombre - Jose g Lope y Soledad Lope que vivimos en Moreno Valley por 32 años Mi familia y yo apollamos a World Longistics Center y lo hemos apolleado durante 5 años y por medio de esta carta le pedimos que aprueben lo mas pronto posible. Los cambios que hubo para el medio ambiente ya los resultados fueron insignificante en cuanto al impacto ambiental le pedimos que voten a favor para que pronto comiencen a construir el proyecto y podamos tener los beneficios economicos para la ciudad que tanto necesitamos

Attentamente

Jose G. Lope

25051 S Cate Creek Dr.
Moreno Valley Ca. 92551

Soledad Lope

To the Planning Commission of Moreno Valley,

We are a couple, our names are Jose G Lope, and Soledad Lope. We have lived in Moreno Valley for 32 years. My family and I support the World Logistics Center, and we have supported it for the last 5 years. Through this letter we ask that you can as soon as possible, approve the changes that were made for the environmental impact report. The results were insignificant in terms of the impact on the environment. We ask that you please vote in favor, so that soon they can start building the project, and we can have the economic benefits that our city needs so much. Sincerely, Jose and Soledad Lope

Planning commission
c/o city Hall Clerk's office
14177 frederick Street.
Moreno Valley California 92553

Dear members of the Planning Commission

MY name is Luis Baldenegro I moved to moreno Valley eleven years ago. I love moreno Valley because is a quite city. the only Problem I have is that I Spend 4 to 5 hours on the freeway with traffic on my way to work I'm writing to Show my support for the WLC this Project is different to the others warehouses. this Project will reduce traffic and less than Significant on Pollution. I really wish that this Project will be built Do not delayed it. we are losing opportunities for residents to work close to home

thank you for your time on reading my letter

Luis Baldenegro
24807 fir ave
Moreno Valley CA 92553

The Planning Commission of Moreno Valley
City Hall / Clerk's office
14177 Frederick St.
Moreno Valley Ca. 92553

Dear Members of the Planning Commission
Our name is Manuel & Carolina Rodriguez
we live in Moreno Valley for 25 years and We support the World Logistic Center 100%. Our city has a good project where many families would benefit from the jobs and even the city and all the residents that we live in Moreno Valley will benefit.
I ask you to please vote YES on the new updates of the projectso they can start to build as soon as possible

Sincerely

Manuel Rodriguez Carolina Rodriguez

Manuel Rodriguez

Carolina Rodriguez

13931 Elsworth St. apt. 6
Moreno Valley Ca. 92553

The Planning Commission of Moreno Valley

c/o City Hall / clerk's office
14177 Frederick Street
Moreno Valley, California 92553

My name is Manuela Patino and my
Lenel Guillermo Patino We Live in Moreno
Valley CA and I want to tell you
through this letter I Support the
World Logistic Cent and I ask yer
Please Vote of the new chages of the
EIR in project. It will be a good
benfit for many People that work out
of the Community of Moreno Valley
grow and with that there will be
many benefits the Community of
Moreno Valley.
Thanks to your arttencion

Sincerely
Manuela Patino - Guillermo Patiño

24791 Fir Ave
Moreno Valley CA 92553

Planning Commission
c/o City Hall/Clerk's Office
14177 Frederick Street
Moreno Valley, California 92553

Dear Planning Commissioners,

Thank you for all you do in our city. I'm Margarita Espanza. I'm a resident of Moreno Valley for over 25 years. I'm very concerned for our city, criminal acts has been raised. Our city need more programs for the homeless, more educational programs for the youth. Also our city needs more job opportunities.
I fully support the World Logistic Center project because it will help our economy and tax revenue to bring all the necessary programs in our city and also jobs that are need it.

Sincerely

Margarita Espanza, resident District 1
24169 Eucalyptus Ave. #114
Moreno Valley, CA 92553

Margarita

the planing Commission of Moreno Valley
C/O city Hall / Clerks office
14177 Frederick street
Moreno Valley CA 92553

Mi nombre es Maria C Esparza
Vivo en la Ciudad de Moreno valley por 9 años
mi familia y yo, apollamos el Proyecto
centro lojisto mondial con este proceto
nos beneficiaria a la Comonida de moreno
valley, por que tendriamos mas trabajos, y
mas esuelas, por fabor Podrian botar lo
mas pronto posible, en los nuevos
Cambios del medio ambiente, que Pidio la
Jueza watars, y asi Proder pronto
beneficiarnos los recidentes de moreno valley

muchas gracias por su atencion
Esperemos que pronto lo tengan el la
reunion del Consilio y lo puedan votar lo
mas pronto posible

Maria C Esparza Maria C Esparza

23373 C Hallis Ct Moreno Valley CA 92553

My name is Maria C Esparza,

I have lived in the city of Moreno Valley for 9 years. My family and I support the World Logistics Center project. With this project, the Moreno Valley community would benefit greatly because we would have more jobs and more schools. Please vote as soon as possible on the changes that were made for the environmental report, which Judge Waters asked to do so, that way Moreno Valley residents may soon reap the benefits of the project.

Thank you very much for your attention. Hopefully it will be brought up soon at the council meeting so a vote can take place as soon as possible.

Maria C Esparza.

Planning Commission
14177 Frederick stree.
Moreno Valley CA 92553.

Hello, my name is Mónica Esparza, I am am a house wife; I have been living in Moreno Valley for the past 17 years. I have four young children that have grew up in this city. I strongly support the World Logistic Center for the job opportunities that il will be bringing to my children and commuity. I would really like the projecto to come to our city because it is going to bring great opportunities to all the region. I have strong faith that this project will greatly benefil my city and the economy Iam very excited for what is to come! I hope council members approve this project and make it happen. Thank you for your time of day.

Sincerely, Mónica Esparza Mónica Esp.
24748 Myers Ave.
Moreno Valley CA 92553

THE PLANNING COMMISSION OF MORENO VALLEY

DEAR MEMBERS OF THE PLANNING COMMISSION, MY NAME IS NAZLY BADILLO, RESIDENT OF THIS CITY SINCE 2003. (17 YEARS). I FULLY SUPPORT THE WORLD LOGISTICS CENTER PROJECT AND ITS CONSTRUCTION SINCE IT WILL BE SOMETHING POSITIVE FOR THE CITY OF MORENO VALLEY, BRINGING MORE JOBS FOR THE CITY AND THUS BRINGING ENORMOUS ECONOMIC PROGRESS TO THE CITY. WE LOOK FORWARD TO YOUR FAVORABLE DECISION SO THAT THIS PROJECT CAN SOON BE BUILT, SEEING HOW IT WILL NOT HAVE ANY NEGATIVE EFFECTS ON THE CITY'S ENVIRONMENT.

I APPRECIATE YOUR ATTENTION TO THIS LETTER.

SINCERELY, NAZLY BADILLO

THE PLANNING COMMISION
OF MORENO VALLEY. CA.

C/O CITY HALL CLERK'S OFFICE
MORENO VALLEY. CA. 92553

ESTIMADOS MIEMBROS DE PLANNING COMMISION, MI NOMBRE ES VALLY BADILLO, CIUDADANA DE ESTA CIUDAD DESDE EL 2003 (17 AÑOS) YO APOYO EN SU TOTALIDAD EL PROYECTO WORLD LOGISTIC CENTER PARA SU CONSTRUCCION, YA QUE SERIA POSITIVO PARA LA CIUDAD DE MORENO VALLEY, TRAYENDO MAS EMPLEOS PARA LA CIUDAD. TRAYENDO ASI UN ENORME PROGRESO ECONOMICO PARA LA CIUDAD.

ESPERAMOS SU DECICION FAVORABLE PARA QUE PRONTO SE PUEDA CONSTRUIR ESTE PROYECTO QUE NO TENDRIA NINGUN EFECTO NEGATIVO PARA EL MEDIO AMBIENTE DE LA CIUDAD.
AGRADECIENDO LA ATENCION A ESTA CARTA DE USTED ATENTAMENTE,

VALLY BADILLO. 22527 Hawthorne Blvd
MORENO VALLEY. CA. 92557

RECEIVED
MAY 11 2020
CITY OF MORENO VALLEY
Planning Division

Moreno Valley
c/o city Hall/clerk's office
14177 Frederick street
Moreno Valley, california 92553

Dear planning commissioners
the city of Moreno Valley is a great place to live, but we need more Job's, it's so hard for me because I'm a single mom and I have to commute every single day 120 miles back and forth from los Angeles to my work, I think this proget te wool logict Center is going to change thu city for good bringing more Job's. my name is

Petra olazabal
10890 Breezy Meadow DR
Moreno Valley, CA, 92557

Petra Olazabal

RECEIVED
MAY 11 2020
CITY OF MORENO VALLEY
Planning Division

THE PLANING COMMISSION OF MORENO VALLEY

C/o city Hall /Clerk's office

14177 Frederick Street,
Moreno Valley, California 92553

Dear Planing Commissioners

My name is SYLVIA CALLENTE
and I Live in Moreno Valley for many years. I support the world Logistic Center Project and I ask You in the most attentive way to VOte in favor of the changes that were made regarding the environmental report. Where the reflect of the report Said IS less the insignificant, I ask You VOte as Soon as Possible So the Project can start to built Soon.

thanks for your attention.

Sylvia Callente
Atte Sylvia Callente

14170 Galvin Ct
Moreno Valley CA 92553

THE PLANNING COMMISSION OF MORENO VALLEY
C/O CITY HALL / CLERK'S OFFICE
14177 FREDERICK STREET
MORENO VALLEY CA 92553

TO THE MEMBERS OF THE PLANNING COMMISSION
MY NAME IS TERESA SALAS I'M A LONG TIME
MORENO VALLEY RESIDENT.
I STRONGLY SUPPORT THE WORLD LOGISTICS CENTER
PROJECT AND TROUGH THIS LETTER I WANT TO
ASK YOU TO PLEASE VOTE YES ON THE CHANGES
OF THE EIR IN THE PROJECT.
SO MANY PEOPLE WILL BENEFIT OF THE THOUSANDS
OF JOBS IN THIS PROJECT WILL HAVE.
SO MANY PEOPLE WILL STAY IN THE CITY WORKING
INSTEAD COMMUTING TO OTHER CITY'S OF THE SOUTHERN
CALIFORNIA SPENDIG AS MUCH AS TWO HOURS OF THE
FREEWAY.
THANKS OF YOUR ATTENCION
SINCERELY
Teresa Salas

TERESA SALAS
25855 KARISA CIRCLE
MORENO VALLEY CA 92551

Planning commision
c/o city Hall / clerks office
14177 Frederick street,
moreno valley, calipornia 92553

Dear planning Commissioners

Iam a long time residente of our town and I am writting to express my sapport to the World Logistic Center.

My name is yuliana loper. Iam a mother of three children. my oldest son is looking for job but I saw many young people move to other cities to work and continue their studies. But I don't want that road for my son. I prefer he could stay home and continue his studies and work that is why I support 100% the WLC project to come

thank you for your attention to this letter.

YULIANA Loper
24201 WEBSTER AVE
MORENO VALLEY CAL. 92553

EARTHJUSTICE

May 8, 2020

Ms. Julia Descoteaux
Associate Planner
City of Moreno Valley
juliad@moval.org

Re: NOTICE OF COMPLETION - Revised Final Environmental Impact Report (Revised Final EIR) (2012021045)

Dear Ms. Descoteaux:

I received an email with the Notice of Completion for the Revised Final Environmental Impact Report (EIR) on Friday of last week in the late afternoon. The email notice mentioned the item will be heard at the Planning Commission on Thursday, May 14, 2020. In reviewing the volumes of materials, there is significant new information, including new mitigation strategies, which the public is only now seeing for the first time. The major impacts of this massive development merit more time for public review of the Revised Final EIR.

Thus, I write to request an extension of time for commenting on the Revised Final EIR, including a delay in the Planning Commission hearing on the Revised Final EIR and related approvals, to allow for sufficient time to evaluate the volumes of materials, including all the new materials released for the first time last week. I respectfully request at least a 30 day window to comment on the Revised FEIR. Please let me know whether the City will accept or reject this request for an extension of the comment period.

Please do not hesitate to contact me if you have questions about this request. I appreciate your consideration of this request.

Sincerely,

Adriano L. Martinez
Staff Attorney

Julia Descoteaux

From: Julia Descoteaux
Sent: Thursday, May 14, 2020 9:47 AM
To: Julia Descoteaux

From: Tom
Sent: Tuesday, May 12, 2020 6:37 PM
To: Patty Nevins ; Planning Email_DG
Cc: Nash, Susan
Subject: Public Comment Moreno Valley Planning Commission Meeting May, 14, 2020 - Agenda Item No. 2

FRIENDS OF THE NORTHERN SAN JACINTO VALLEY
1610 SAMS CANYON
BEAUMONT, CALIFORNIA 92223

May 12, 2020

Planning Commission
City of Moreno Valley
C/O Pattyn@moval.org
PlanningEmail@moval.org
14177 Frederick Street
PO Box 88005
Moreno Valley CA 92552

Re: Planning Commission May 14, 2020, Public Hearing Agenda Item No. 2
World Logistics Center Project Development Agreement, Tentative Parcel Map for Finance and Conveyance Purposes only with Certification of the Recirculated Revised Final Environmental Impact Report.

We would point out to the Moreno Valley Planning Commission members that the City of Moreno Valley has yet to comply with the June 7, 2018 Superior Court Writ of Mandate. The City of Moreno Valley has yet to perform the Court's direction for **re-analysis** of the World Logistic Center (WLC) impacts on Biological Resources.

In performing the mandated/required **re-analysis** of the WLC impacts on Biological Resources, the City of Moreno Valley cannot continue to disregard/ignore the law as it relates to **CEQA Mandatory Findings of Significance** (CEQA Guidelines § 15065(a)(1) *[*The WLC project clearly has the potential to: *"substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; substantially reduce the number or restrict the range of an endangered, rare or threatened species..]* The failure of the City of Moreno Valley to identify the "take" of MSHCP/NCCP Covered species as a **Mandatory Significant Impact** in the initial FEIR for the WLC and the City's current efforts to comply with Judge Waters Writ of Mandate has and continues to corrupt the CEQA review of Biological Resources for the WLC project. It allows the City of Moreno Valley to avoid/circumvent the required examination/analysis of alternatives and mitigation measures for the "take" of MSHCP/NCCP covered species.

The consideration of cumulative impacts on Biological Resources in the 2015 FEIR and the Draft Recirculated RSFEIR fails to consider the cumulative impacts of the "take" of MSHCP Covered species. This is contrary to Judge Waters Ruling on the Peremptory Writ of Mandate indicating: *"…any new cumulative impact analysis should also consider and discuss whether any environmental insignificant impacts may be cumulatively significant, taking into account all relevant past, present, probable future projects."* The SKRHCP and the MSHCP authorizes the incidental "take" of endangered and special status plants and animals throughout western Riverside County [including the City of Moreno Valley] thereby eliminating habitats and population of already declining species in exchange for the establishment in perpetuity of designated wildlife Conservation Area/Reserves such as the San Jacinto Wildlife Area(SJWA) adjoining the WLC project site. Absent an adequate CEQA cumulative analysis it is impossible for the public and the state and federal Wildlife Agencies to know whether the plant and animal populations are dropping below self-sustaining levels [in jeopardy of extinction] both in the area of "take" and on the designated Conservation Reserves such as the SJWA. **(CEQA Guideline § 15065 (a)(3) - Mandatory Finding of Significance)**

We are requesting the City of Moreno Valley **NOT** certify the proposed Draft Recirculated RSFEIR as being in compliance with CEQA. We are also requesting the City of Moreno Valley comply with the June 14, 2018 Peremptory Writ of Mandate voiding the 2015 World Logistic Center EIR in whole.

Thank you for your courtesy.

Albert Paulek, CWB
FNSJV, Conservation Chair

Julia Descoteaux
Associate Planner
Community Development
City of Moreno Valley
p: 951.413.3209 | e: juliad@moval.org w: www.moval.org
14177 Frederick St., Moreno Valley, CA 92553

Julia Descoteaux

From: Rull, Paul <PRull@RIVCO.ORG>
Sent: Sunday, May 10, 2020 8:53 AM
To: Julia Descoteaux
Subject: World Logistics Center EIR

Hi Julia,

Thank you for transmitting the above reference project to ALUC for review. Please note that the project is located outside the AIA and therefore ALUC has no comments at this time.

If you have any questions, please feel free to contact me.

Paul Rull
ALUC Principal Planner

Riverside County Airport Land Use Commission
4080 Lemon Street, 14th Floor
Riverside, Ca 92501
(951) 955-6893
(951) 955-5177 (fax)
PRULL@RIVCO.ORG
www.rcaluc.org

From: Amado Hernandez <reoempire@live.com>
Sent: Friday, May 8, 2020 4:03 PM
To: City Clerk <cityclerk@moval.org>
Subject: Recertification for the WLC

Dear Planning Commission,

I politely ask and urge you as a family man, business owner and resident for over 30 years, to please move the revision to the Environmental Impact Report (EIR) forward and to certify it, to be presented to The Judge again. Thanking you in advance for your promptness and for allowing opportunities and jobs. Best regards.

P.S. let's work together towards: PANDEMIC ECONOMIC RECOVERY

Respectfully,

Amado Hernandez,
DRE Cal. Broker#00990373
Excellence Empire Real Estate
Regional Director of The Inland Empire & OC
California Association of Realtors (BOD) Director & Government Affairs
NAHREP (BOD) Director & Government Affairs
12220 Pigeon Pass Road Ste. O
Moreno Valley, CA 92557
Direct Line. 951.323.1477
P.951.488.8644
F.951.488.8640
reoempire@live.com

"If you can see the invisible you can do the impossible"
-Debbie Cobrae

Julia Descoteaux

From: Gibson, Joanna@Wildlife <Joanna.Gibson@wildlife.ca.gov>
Sent: Wednesday, May 13, 2020 12:10 PM
To: Julia Descoteaux
Cc: Pert, Heather@Wildlife; Kim, Richard@Wildlife; Sewell, Scott@Wildlife
Subject: CDFW comments on Revised Final EIR for the World Logistics Center, SCH No. 2020121045
Attachments: 2012021045_FEIR_CityofMorenoValley_WorldLogisticsCenter.pdf

Importance: High

Hi Julia,

Please find attached the California Department of Fish and Wildlife's (CDFW) comments on the City of Moreno Valley's World Logistics Center Revised Final Environmental Impact Report (Revised FEIR).

CDFW has identified significant concerns with the Revised FEIR. CDFW requests that the Planning Commission not approve the Revised FEIR until the issues identified by CDFW in the attached letter are addressed. To help address our concerns CDFW has provided specific language for the revision of mitigation measures. CDFW requests that a copy of our letter and this email, which includes a brief summary of our concerns, be provided to the Planning Commission in advance of tomorrow's meeting.

A brief summary of some of CDFW's concerns:

- The Project, as proposed, will directly impact the public's use of the San Jacinto Wildlife Area (Wildlife Area; SJWA). The Project proposes to construct buildings and associated infrastructure within 450 feet of the SJWA's northern perimeter. SJWA is an active hunting area, and hunts are regularly conducted along the SJWA's northern boundary. Fish and Game Code section 3004 prohibits the discharging of firearms within 150 yards (450 feet) of any building without express permission of the owner. Because the City is proposing the construction of buildings and associated infrastructure within 450 feet of the northern property boundary of the SJWA, the City's actions will directly constrain the public's use of the SJWA. Unless the City increases the buffer distance between the SJWA and constructed elements of the Project to a minimum of 450 feet, the City will directly impact public use and enjoyment within the Wildlife Area.

  CDFW has previously provided the City with information related to Fish and Game Code section 3004, however per the CEQA, the City still intends to construct Project elements within 450 feet of the SJWA's northern perimeter. As such, the City will directly impact public use and enjoyment on the SJWA. Unless the environmental document is revised, it continues to be deficient in its analysis of impacts on public access and recreational pursuits within the SJWA.

  CDFW recommends that the buffer distance between the northern boundary of the SJWA and the Project be increased to a minimum of 450 feet.

- The Project will significantly increase traffic along Gilman Springs. It is critical to maintain connectivity for wildlife movement between the badlands and the SJWA. The CEQA does not include mitigation measures that require fencing to facilitate continued wildlife movement during and after Project construction. CDFW recommends that the City include the requirement for fencing before issuance of discretionary permits issued by the City. To ensure that fencing is constructed and that it is constructed appropriately, CDFW has proposed specific language for two new mitigation measures conditioned on the issuance of grading permits by the City. The two new measures require:
  - Fencing along the project's eastern and southern boundary.
  - Wildlife fencing along Gilman Springs Road and State Route 60 to ensure that wildlife are directed to existing undercrossings.

- Due to increased traffic associated with the Project improved wildlife crossings will be needed to maintain wildlife movement from the SJWA to the badlands. The CEQA identifies that the Project should contribute a fair share of improvements to Gilman Springs Road, but it does not include any specific measures that make this measure enforceable. CDFW is concerned that the CEQA currently lacks specific, enforceable measures conditioned on the City's discretionary actions. To ensure enforceability, CDFW has submitted specific language to the City for a new mitigation measure to improve wildlife crossings. The new measure is conditioned on the issuance of grading permits by the City.

- The City has proposed the review and approval of translocation plans for sensitive plant and wildlife species. CDFW should review and approve these proposals. CDFW has submitted specific language for the City to revise the mitigation measures to include review and approval by CDFW, and the USFWS and RCA, where relevant.

- The mitigation measures for translocation of sensitive plant and wildlife species also do not include specific or enforceable language identifying the entity responsible to fund all costs associated with the translocation, and the short-and long-term management costs of the receiver site. CDFW has submitted specific language to the City to revise the mitigation measures to identify that the Project Applicant will be responsible for these costs.

- The CEQA includes a mitigation measure for the development of a Biological Resource Management Plan for the Project's proposed 250-foot setback area, to be located immediately north of the SJWA's northern perimeter. The measure discusses that the plan will be reviewed by the City's "Planning Official in consultation with the San Jacinto Wildlife Area Manager." The SJWA's Land Manager has not been contacted by the City regarding the preparation of this Plan. CDFW appreciates that the City is requesting review of the proposed Biological Resource Management Plan, but we request that the City contact CDFW to discuss this proposal.

- The CEQA discusses the preparation of a Fuel Management Plan for areas adjacent to MSHCP lands. The CEQA makes no reference to whether this plan would adequately protect the SJWA. CDFW has submitted specific language to the City to revise the mitigation measure to also protect CDFW's SJWA.

CDFW appreciates the opportunity to provide comments on the City of Moreno Valley's World Logistics Center Project. We request that the Planning Commission be provided with copies of this email which summarizes CDFW concerns, along with copies of CDFW's comment letter in advance of the City's meeting scheduled for tomorrow, May 14, 2020.

If you have any questions, please feel free to contact me.

Joanna Gibson
Senior Environmental Scientist (Specialist)

CA Department of Fish and Wildlife
Inland Deserts Region
3602 Inland Empire Blvd., Suite C-220
Ontario, CA 91764
(909) 563-0346 (mobile)
Joanna.Gibson@wildlife.ca.gov

Every Californian should conserve water. Find out how at:

SaveOurWater.com · Drought.CA.gov

State of California - Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Inland Deserts Region
3602 Inland Empire Blvd., Suite C-220
Ontario, CA 91764
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

May 13, 2020
Sent via email

Ms. Julia Descoteaux
Associate Planner
City of Moreno Valley
14177 Frederick Street
PO Box 88005
Moreno Valley, CA 92552-0805
juliad@moval.org

Subject: Revised Final Environmental Impact Report
City of Moreno Valley, World Logistics Center Project
State Clearinghouse No. 2012021045

Dear Ms. Descoteaux:

The California Department of Fish and Wildlife (CDFW) received the Revised Final Environmental Impact Report (RFEIR) on May 5, 2020 from the City of Moreno Valley (City) for the World Logistics Center Project (Project) pursuant the California Environmental Quality Act (CEQA) and CEQA Guidelines.[1]

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code. CDFW is concerned with the adequacy of the City's assessment of impacts to the San Jacinto Wildlife Area (Wildlife Area; SJWA), and with the adequacy and enforceability of mitigation measures for biological resources. CDFW's concerns related to the SJWA and recommended edits to the City's mitigation measures to improve specificity and enforceability are identified and discussed below.

CDFW ROLE

CDFW is California's Trustee Agency for fish and wildlife resources, and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA

1 CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

Guidelines § 15386, subd. (a).) CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (*Id.*, § 1802.) Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting comments as a Responsible Agency under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), the Project proponent may seek related take authorization as provided by the Fish and Game Code.

CDFW previously provided comments on the Draft EIR on April 8, 2013, on the Final EIR June 11, 2015, and on the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Determination of Biologically Equivalent or Superior Preservation (DBESP) on December 19, 2014.

CDFW Comments and Recommendations

CDFW's comments and recommendations on the Project are summarized below.

<u>Impacts to rare, listed, and sensitive species</u>

Mitigation Measures (MM) 4.4.6.2A, 4.4.6.4D, and 4.4.6.4E identify the preparation of translocation plans for rare and listed plant species (MM 4.4.6.2A), burrowing owl (MM4.4.6.4D), and Los Angeles pocket mouse (MM 4.4.6.4E).

Sensitive Plant Species

MM 4.4.6.2A provides mitigation measures for impacts to sensitive plant species:

> *Each Plot Plan application shall include a focused plant survey of the proposed development site prepared by a qualified biologist to identify if any of the following sensitive plants (i.e., Coulter's goldfields, smooth tarplant, Plummer's' mariposa lily, or thread-leaved brodiaea) are present. If any of the listed plants are found, they may be relocated to the 250-foot setback area outlined in the Specific Plan and discussed in Mitigation Measure 4.4.6.1A. Alternatively, at the applicant's discretion, an impact*

> *fee may be paid to the Western Riverside County Regional Conservation Authority (RCA) or other appropriate conservation organizations to offset for the loss of these species. This measure shall be implemented to the satisfaction of the Planning Official.*

CDFW is concerned that City's "Planning Official" is not sufficiently qualified to review and approve a translocation plan for rare plant species. Further, thread-leaved brodiaea is a state endangered and federally threatened species and CDFW should review this proposal. To ensure that this proposal is implemented in compliance of rules and regulations related to state and/or federally listed plant species CDFW recommends that the City revise mitigation measure (MM) 4.4.6.2A and condition the measure to include the following (edits are in **bold** and ~~strikethrough~~):

MM 4.4.6.2A Each Plot Plan application shall include a focused plant survey of the proposed development site prepared by a qualified biologist to identify if any of the following sensitive plants (i.e., Coulter's goldfields, smooth tarplant, Plummer's' mariposa lily, or thread-leaved brodiaea) are present. If any of the listed plants are found, **the City will consult with the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS). If translocation of the species is deemed appropriate by CDFW and/or USFWS a translocation plan shall be developed and submitted to CDFW and USFWS for review and approval** ~~they may be relocated to the 250-foot setback area outlined in the Specific Plan and discussed in Mitigation Measure 4.4.6.1A~~. Alternatively, at the applicant's discretion, an impact fee may be paid to the Western Riverside County Regional Conservation Authority (RCA) or other appropriate conservation organizations to offset for the loss of these species. This measure shall be implemented to the satisfaction of the Planning Official.

Burrowing Owl

MM 4.4.6.4D provides mitigation measures for impacts to burrowing owl:

> *If active burrowing owl burrows are detected outside the breeding season (September through January), or within the breeding season but owls are not nesting or in the process of nesting, active and/or passive relocation may be conducted following consultation with the California Department of Fish and Wildlife. A relocation plan may be required by California Department of Fish and Wildlife if active and/or passive relocation is necessary. The relocation plan will outline the basic process and provides options for avoidance and mitigation. Artificial burrows - may be constructed within the buffer area south of the World Logistics Center*

> *Specific Plan. Construction activity may occur within 500 feet of the burrows at the discretion of the biological monitor in consultation with CDFW.*
>
> *A relocation plan may be required by California Department of Fish and Wildlife if active or passive relocation is necessary. Artificial burrows may be constructed within appropriate burrowing owl habitat within the proposed open space/conservation area (Planning Area 30), a 74.3-acre area in the southwest portion of the Specific Plan. This area abuts the Lake Perris State Recreation Area (LPSRA) which is already in conservation. If suitable habitat is not present in Planning Area 30, owls may be relocated to the SJWA, the 250-foot buffer area or other suitable on-site or off-site areas. Construction activity may occur within 500 feet of the burrows at the discretion of the biological monitor.*

CDFW previously provided comments on the City's proposal to translocate burrowing owl to the "250-foot buffer area" in a joint CDFW – US Fish and Wildlife Service (USFWS) comment letter written in response to the City's DBESP submitted for review as required by the Western Riverside MSHCP. In the joint letter (dated December 19, 2014) CDFW and the USFWS articulated to the City that the 250-foot buffer area is not appropriate as a receptor site for burrowing owl because it is insufficient in terms of area, spatial configuration, and conflicting planned use (the City has proposed the construction of detention basins, etc., within the buffer area). Burrowing owl require large open expanses of sparsely vegetated habitat to forage and nest, and the 250-foot buffer area would not provide these ecological needs. Further, because the buffer area is proposed to be planted with trees, CDFW and the USFWS also stated that the City's proposal to plant trees within the buffer area would provide perch sites for bird-eating raptors, such as red-tailed hawks, which eat burrowing owls, further reducing the appropriateness of the City's proposed mitigation approach.

MM 4.4.6.4D also includes reference to Planning Area 30. CDFW maintains similar concerns regarding the suitability of this area for burrowing owl: Planning Area 30 is insufficient in terms of area and spatial configuration. Further, based on CDFW's review of aerial photography the topography of much of Planning Area 30 is unlikely to be suitable for burrowing owl.

CDFW appreciates that the City has included an additional relocation option: CDFW's San Jacinto Wildlife Area. However, CDFW is concerned that MM 4.4.6.4D does not include specific and enforceable language to ensure that the financial burden of any proposed translocation of burrowing owl (including the translocation itself, short-term habitat management needs, as well as long-term management needs) is provided by the Project Applicant. CDFW is unable to assume this financial burden, and it is the responsibility of the Project Applicant to mitigate Project impacts.

MM 4.4.6.4D identifies that CDFW would review any active and/or passive relocation plan for burrowing owl. Please note that these plans will also need to be reviewed and approved by the USFWS and the Western Riverside County Regional Conservation Authority (RCA).

To improve the specificity and enforceability of MM 4.4.6.4D and to ensure consistency with the MSHCP, CDFW recommends that the City revise mitigation measure MM 4.4.6.4D and condition the measure as following (edits are in **bold** and ~~strikethrough~~):

MM 4.4.6.4D If active burrowing owl burrows are detected outside the breeding season (September through January), or within the breeding season but owls are not nesting or in the process of nesting, active and/or passive relocation may be conducted following consultation with the California Department of Fish and Wildlife **(CDFW), U.S. Fish and Wildlife Service (USFWS), and the Western Riverside County Regional Conservation Authority (RCA)**. A relocation plan ~~may~~ **will** be required by ~~California Department of Fish and Wildlife~~ **CDFW, the USFWS, and the RCA** if active and/or passive relocation is necessary. The relocation plan will outline the basic process**,** ~~and~~ provide~~s~~ options for avoidance and mitigation**, identify short- and long-term habitat management needs of the receiver site, and identify the entity responsible for all financial costs associated with the relocation plan and long-term management of the receiver site**. Artificial burrows - may be constructed within the buffer area south of the World Logistics Center Specific Plan. Construction activity may occur within 500 feet of the burrows at the discretion of the biological monitor in consultation with CDFW**, the USFWS, and RCA**.

A relocation plan ~~may~~ **will** be required by ~~California Department of Fish and Wildlife~~ **CDFW, the USFWS, and RCA** if active or passive relocation is necessary. Artificial burrows may be constructed within appropriate burrowing owl habitat within the proposed open space/conservation area (Planning Area 30), a 74.3-acre area in the southwest portion of the Specific Plan. This area abuts the Lake Perris State Recreation Area (LPSRA) which is already in conservation. If suitable habitat is not present in Planning Area 30, owls may be relocated **following written approval by CDFW, the USFWS, and RCA,** to **habitat deemed suitable by CDFW, the USFWS, and RCA (which may include** the SJWA, the 250-foot buffer area or other suitable on-site or off-site areas**)**. Construction activity may occur within 500 feet of the burrows at the discretion of

> the biological monitor**, following consultation with CDFW, the USFWS, and RCA**.

Los Angeles Pocket Mouse

MM 4.4.6.4E provides mitigation measures for impacts to Los Angeles pocket mouse (LAPM):

> *Prior to the approval of any Plot Plans proposing the development of land including or adjacent to Drainage 9, a protocol survey for the Los Angeles Pocket Mouse (LAPM), including 100 feet upstream and downstream of the affected reach shall be prepared by a qualified biologist and submitted to the City. If the affected drainage is not occupied, the area is considered not to be occupied and development can continue without further action. If the species is found within the specific survey area, no development shall occur until an appropriate mitigation fee is paid or appropriate amount of land set aside on the project site or off site to compensate for any loss of occupied Los Angeles Pocket Mouse habitat. Alternatively, individuals may be relocated to the 250-foot setback zone along the southern boundary of the property identified in Mitigation Measure 4.4.6.1A, or other appropriate areas as determined by the United States Fish and Wildlife Service. If necessary, this measure shall also be coordinated with Mitigation Measure 4.4.6.2B regarding preparation and processing of a Determination of a Biological Equivalent or Superior Preservation report. This measure shall be implemented to the satisfaction of the City Planning Division.*

MM 4.4.6.4E identifies that the City will review LAPM "protocol surveys," and the USFWS will review any relocation plan for LAPM. CDFW is concerned that City staff are not appropriately qualified to determine if appropriate survey methodology has been employed by the Project Applicant, or review trapping results. CDFW recommends that proposed survey methodology and trapping results be reviewed and/or approved by CDFW and the USFWS. Further, any relocation plan prepared for LAPM will also need to be reviewed and approved by CDFW (in addition to the USFWS).

CDFW appreciates that MM 4.4.6.4E identifies that LAPM translocation, if deemed necessary, may occur to a site other than the 250-foot buffer area. CDFW and the USFWS previously commented that the 250-foot buffer area may not be appropriate as a receiver site because of size and configuration (it will be a narrow, relatively restricted area), and because of potential disruptions to existing small mammal populations, and predator-prey relationships. CDFW appreciates that the City has included an additional relocation option however, CDFW is concerned that MM 4.4.6.4E does not include specific and enforceable language to ensure that the financial burden of any proposed translocation of

LAPM (including the translocation itself, short-term habitat management needs, as well as long-term management needs) is provided by the Project Applicant.

To improve the specificity and enforceability of MM 4.4.6.4E CDFW recommends that the City revise mitigation measure MM 4.4.6.4E and condition the measure as following (edits are in **bold** and ~~strikethrough~~):

MM 4.4.6.4E Prior to the approval of any Plot Plans proposing the development of land including or adjacent to Drainage 9, a protocol survey for the Los Angeles Pocket Mouse (LAPM), including 100 feet upstream and downstream of the affected reach shall be prepared by a qualified biologist and submitted to **CDFW and the USFWS for review and approval prior to submission to** the City. If the affected drainage is not occupied, the area is considered not to be occupied and development can continue without further action. If the species is found within the specific survey area, no development shall occur until an appropriate mitigation fee is paid or appropriate amount of land set aside on the project site or off site to compensate for any loss of occupied Los Angeles Pocket Mouse habitat. Alternatively, individuals may be relocated **to locations pre-approved by CDFW and the USFWS (which may include** ~~to~~ the 250-foot setback zone along the southern boundary of the property identified in Mitigation Measure 4.4.6.1A, or other appropriate areas**)** ~~as determined by the United States Fish and Wildlife Service~~. **All costs associated with the relocation, as well as short-and long-term management and monitoring of the receiver site shall be the responsibility of the Project Applicant.** If necessary, this measure shall also be coordinated with Mitigation Measure 4.4.6.2B regarding preparation and processing of a Determination of a Biological**ly** Equivalent or Superior Preservation report. This measure shall be implemented to the satisfaction of the City Planning Division **following coordination with CDFW and the USFWS**.

<u>Fish and Game Code section 1602</u>

MM 4.4.6.3C conditions the Project Applicant(s) to submit to the City copies of appropriate permits/agreements for impacts to Waters of the State and Waters of the U.S. The measure identifies the "need for permits based on the results of the 2012 jurisdictional delineation." Please note that CDFW will require that any stream mapping submitted to CDFW as a component of a Notification of Lake or Streambed Alteration be current. CDFW recommends the measure be revised to remove all reference to the "2012 jurisdictional delineation." In addition to removing reference to out-of-date mapping, CDFW recommends that errors

included in the measure be corrected. CDFW recommends that the City revise mitigation measure MM 4.4.6.3C as follows (edits are in **bold** and ~~strikethrough~~):

MM 4.4.6.3C Prior to issuance of any grading permit for any offsite improvements that support development within the World Logistics Center Specific Plan, the developer shall retain a qualified biologist to prepare a jurisdictional delineation (JD) for any drainage channels affected by construction of the offsite improvements. This jurisdictional delineation shall be submitted to the U.S. Army Corps of Engineers (USACE)**, Regional Water Quality Control Board,** and California Department of Fish and Wildlife (CDFW) for review and concurrence. If the offsite improvements **are deemed by the regulatory agencies to not require regulatory permits/agreements, a written copy of this determination shall be submitted to the City** ~~will not affect any identified jurisdictional areas, no United States Army Corps of Engineers permitting is required~~. **The Applicant shall consult with** ~~However, permitting through~~ the Regional Water Quality Control Board (RWQCB)**,** ~~and~~ California Department of Fish and Wildlife (i.e., Streambed ~~Alternation~~ **Alteration** Agreement) ~~may still be required for these improvements. The applicant shall consult with~~ **and** United States Army Corps of Engineers~~, California Department of Fish and Wildlife and Regional Water Quality Control Board~~ to establish the need for permits based on the results of ~~the 2012~~ **current stream mapping** ~~jurisdictional delineation~~ and final design plans for each of the proposed the facilities. Consultation with the three agencies shall take place and appropriate permits obtained. Compensation for losses associated with any altered offsite drainages shall be in agreement with the permit conditions. Any landscaping associated with these offsite improvements shall use only native species to help protect biological resources residing within or traveling through these drainages per Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Table 6.1.2. This measure shall be implemented to the satisfaction of the City Planning Division in consultation with the ~~U.S. Fish and Wildlife Service~~ **Regional Water Quality Control Board**, U.S. Army Corps of Engineers, and the California Department of Fish and Wildlife.

Wildlife Movement

The Biological Resources section (Section 4.4) of the Revised Sections of the FEIR (page 4.4-37) discusses that the Project will incorporate fencing to separate development areas from MSHCP open space areas to the south and along Gilman Springs Road. CDFW agrees that fencing is appropriate to minimize unauthorized public access, illegal trespass, and dumping. In addition, fencing

along Gilman Springs Road should be designed to minimize wildlife movement and direct wildlife towards wildlife crossings. CDFW is concerned that because a mitigation measure has not been developed and included in the FEIR the City will be unable to enforce the construction of such fences as the Project is developed. To ensure enforceability, CDFW recommends that the City include a new mitigation measure in the FEIR conditioning the construction of fencing along the Project's southern and eastern boundaries, and wildlife fencing along Gilman Springs Road. CDFW recommends the inclusion of the following new mitigation measure in the FEIR:

> **Prior to issuance of any grading permit for Projects constructed immediately west of Gilman Springs Road (Planning Areas 6, 8, 11, 12), or north of the San Jacinto Wildlife Area (Planning Areas 10, 12) the Project Applicant shall provide for review and approval to the California Department of Fish and Wildlife and City design plans for the construction of appropriate fencing along the Project's eastern and/or southern boundary, as appropriate. The City shall also inspect fence construction prior to issuance of occupancy permits, or equivalent.**

CDFW is concerned about the project's potential to restrict wildlife movement to and from the San Timoteo Badlands (Badlands) and SJWA/Mystic Lake area. As proposed, the Project will border the Badlands along portions of its northern border as well as its nearly 2-mile long eastern border at Gilman Springs Road, creating an obstruction to wildlife movement between the Badlands and open areas to the south (Mystic Lake, Lake Perris, and SJWA). The Project is located between the SJWA and the two existing culverts under State Route 60 (SR-60), and will also be located immediately west of Gilman Springs Road and the existing culverts under this road. Because the Project encompasses logistics centers that will significantly increase traffic volume, CDFW argues that the Project will have substantial effects on existing wildlife movement patterns. Species of concern include mountain lion, bobcat, badger, coyote, deer, long-tailed weasel, black-tailed jackrabbit, and desert cottontail. A fair argument can be made that the Project will increase noise, lighting, and traffic which may in turn negatively affect wildlife through direct mortality or alter movement patterns by forcing wildlife to move east or west, away from the Project. CDFW recommends that the Project install appropriate fencing along Gilman Springs Road and SR-60 to reduce wildlife mortality and direct animals to future or existing wildlife crossings.

CDFW recommends that the City condition the Project to require the installation of wildlife fencing along SR-60 and Gilman Springs Road to reduce Project-related wildlife mortality. CDFW recommends the inclusion of the following new mitigation measure in the FEIR:

> **Prior to issuance of any grading permit for Projects constructed immediately west of Gilman Springs Road (Planning Areas 6, 8, 11, 12), or south of State Route 60 (Planning Area 6) the Project Applicant shall provide for review and approval to the California Department of Fish and Wildlife and City design plans for the construction of wildlife fencing along State Route 60 and Gilman Springs Road. The City shall inspect wildlife fence construction prior to issuance of occupancy permits, or equivalent.**

Section 4.4 of the Revised Sections of the FEIR (page 4.4-61) discusses that the RCA submitted comments to the City stating that the project would likely cause an increase in truck traffic along Gilman Springs Road which "could significantly affect wildlife movement between Core H and proposed Core 3." To mitigate these impacts the Revised Sections of the FEIR (page 4.4-61) states that it would be appropriate for the Project to contribute (financially) to the "fair share of the improvements to Gilman Springs Road, including provisions for wildlife movement or crossings." CDFW agrees that contribution of funding for improvements to wildlife crossings along Gilman Springs Road would be appropriate, but CDFW is concerned that because a mitigation measure has not been developed and included in the FEIR the City will be unable to enforce the contribution of funds for this purpose. To ensure enforceability, CDFW recommends that the City include a new mitigation measure in the FEIR conditioning the contribution of funds to a mitigation account, to held by CDFW-approved entity, for later use for improvements to wildlife crossings along Gilman Springs Road. CDFW recommends the inclusion of the following new mitigation measure in the FEIR:

> **Prior to issuance of any grading permit the Project Applicant shall provide to the City 5% of total Project costs to be deposited into a mitigation account, held by a CDFW-approved entity, for later use for improvements to wildlife crossings along Gilman Springs Road.**

<u>Impacts to the San Jacinto Wildlife Area</u>

CDFW previously provided comments on the Project's proposal to construct buildings within 450 feet of the SJWA (refer to CDFW's April 8, 2013, and June 11, 2015 comment letters). SJWA is an active hunting area, and hunts are regularly conducted along the SJWA's northern boundary. Fish and Game Code Section 3004 prohibits the discharging of firearms within 150 yards (450 feet) of any building without express permission of the owner. Given that the City is proposing the construction of buildings within 450 feet of the northern property boundary of the SJWA, the City's actions will directly constrain the public's use of the SJWA. CDFW reiterates that unless the City increases the buffer distance between the SJWA and constructed elements of the Project to a minimum of 450 feet, the City will have effectively created restraints on hunting with the Wildlife

Area. Further unless the environmental document is revised, it continues to be deficient in its analysis of impacts on public access and recreational pursuits within the SJWA.

CDFW strongly recommends that the buffer distance between the northern boundary of the SJWA and the Project be increased to a minimum of 450 feet.

Project's Consistency with Adopted HCPs/NCCPs

Projects proposed for construction within the MSHCP and the Stephens' kangaroo rat Habitat Conservation Plan (SKR HCP) are subject to payment of mitigation fees. Pages 4.4-60 and 4.4-61 discuss the required payment of these fees, however the City did not include a mitigation measure to ensure the enforceability of payment of fees. To ensure enforceability, CDFW recommends that the City include a new mitigation measure in the FEIR conditioning the payment of MSHCP and SKR HCP fees, as appropriate, prior to issuance of grading permits. CDFW recommends the inclusion of the following new mitigation measure in the FEIR:

> **Prior to issuance of any grading permit the Project Applicant shall pay appropriate Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), and Stephens' kangaroo rat Habitat Conservation Plan mitigation fees.**

Resource Management

MM 4.4.6.4F discusses the development of a Biological Resource Management Plan for the proposed 250-foot setback area. The measure discusses that the plan will be reviewed by the City's "Planning Official in consultation with the San Jacinto Wildlife Area Manager." CDFW is unaware that the City contacted CDFW's SJWA manager to verify that CDFW were available and able to contribute to the review of this plan, or whether this workload element could be accommodated based on CDFW's current staffing levels. CDFW appreciates that the City is requesting review of the proposed Biological Resource Management Plan, but we request that review of this document be determined by CDFW.

CDFW recommends that the City revise mitigation measure MM 4.4.6.4F as follows (edits are in **bold** and ~~strikethrough~~):

4.4.6.4F Prior to approval of any discretionary permits for development within Planning Areas 10 and 12, a Biological Resource Management Plan (BRMP) shall be prepared to prescribe how the 250-foot setback area outlined in Mitigation Measure 4.4.6.1A will be developed and maintained **in perpetuity.** This plan will identify frequent and infrequent vegetation management requirements (i.e.,

removal of invasive plants) and the planting and maintaining trees to provide roosting and nesting opportunities for raptors and other birds. **The Biological Resource Management Plan will include an estimate of short-and long-term management costs, a discussion of how funds will be made available in perpetuity, and entities responsible for contribution of funds to support the Biological Resource Management Plan.** The Biological Resource Management Plan will also describe how relocation of listed or sensitive species will occur from other locations as outlined in Mitigation Measures 4.4.6.2A, 4.4.6.4D, and 4.4.6.4E.

The Biological Resource Management Plan**, including the short- and long-term funding strategy** shall be reviewed and approved by the Planning Official in consultation with **California Department of Fish and Wildlife** ~~San Jacinto Wildlife Area Manager~~. The Biological Resource Management Plan shall cover all the land within the 250-foot setback zone within Planning Areas 10 and 12. Implementation of the plan shall be supervised by a qualified biologist, to the satisfaction of the City Planning Division.

Fuel Management

MM 4.4.6.4J discusses the preparation of a Fuel Management Plan for those Planning Areas adjacent to the south and east boundary of the Project and MSHCP lands. The measure identifies that the plan shall demonstrate that adjacent MSHCP lands are adequately protected from expected fire risks. CDFW recommends that MM 4.4.6.4J be revised to also demonstrate that the Fuel Management Plan adequately protect CDFW's SJWA lands. CDFW recommends that the City revise mitigation measure MM 4.4.6.4J as follows (edits are in **bold** and ~~strikethrough~~):

4.4.6.4J A Fuel Management Plan shall be prepared on a project-by-project basis for those Planning Areas adjacent to the south and east boundary of the World Logistics Center Specific Plan adjacent to Western Riverside County Multiple Species Habitat Conservation Plan Conservation Areas **and/or San Jacinto Wildlife Area (SJWA) lands**. The Fuel Management Plan shall be prepared by the project proponent and submitted for approval to the prior to plot plan approval for those projects on the southern and eastern Western Riverside County Multiple Species Habitat Conservation Plan **and/or SJWA** boundary. Per the Western Riverside County Multiple Species Habitat Conservation Plan guidelines, the Fuel Management Plan shall include the following:

- A plant palette of adequate plant species that may be planted within the Fuel Management Area, which will be approved by a biologist familiar with the plant requirements of the area.

- A list of non-native invasive plants that are prohibited from installation.

- Maintenance activities and a maintenance schedule.

Fuel modification zones shall be mapped and include an impact assessment as required under California Environmental Quality Act guidelines for a project-level analysis. The plan shall demonstrate that the adjacent Western Riverside County Multiple Species Habitat Conservation Plan Areas **and SJWA lands** are adequately protected from expected fire risks.

Minor Errors

MM4.4.6.2B and 4.4.6.3B include reference to the "Resource Conservation Agency (RCA)." CDFW assumes that the City is referring to the Western Riverside County **Regional Conservation Authority**. CDFW recommends that the City review the aforementioned mitigation measures and correct all references to the Regional Conservation Authority.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e).) Accordingly, please report any special status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDB). Information can be submitted online or via completion of the CNDDB field survey form at the following link: https://wildlife.ca.gov/Data/CNDDB/Submitting-Data. The completed form can be mailed electronically to CNDDB at the following email address: CNDDB@wildlife.ca.gov. The types of information reported to CNDDB can be found at the following link: https://wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

FILING FEES

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.).

CDFW CONCLUSIONS AND FURTHER COORDINATION

CDFW appreciates the opportunity to comment on the RFEIR for the City of Moreno Valley's World Logistics Center Project (SCH No. 2012021045) and recommends that the City address the CDFW's comments and concerns prior to adoption of the RFEIR. Pursuant to CEQA Guidelines section 15097(f) CDFW has prepared a draft mitigation monitoring and reporting program (MMRP) for the new mitigation measures identified in this letter. The draft MMRP is enclosed at the end of this letter.

If you should have any questions pertaining to the comments provided in this letter, and to schedule a meeting, please contact Joanna Gibson at (909) 987-7449 or at Joanna.Gibson@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Scott Wilson
8091B1A9242F49C...

Scott Wilson
Environmental Program Manager

ec: California Department of Fish and Wildlife
HCPB CEQA Coordinator

Office of Planning and Research, State Clearinghouse
State.clearinghouse@opr.ca.gov

Mitigation Monitoring and Reporting Program for the City of Moreno Valley's World Logistics Center Project

Mitigation Measure	Timing	Responsible Parties
Prior to issuance of any grading permit for Projects constructed immediately west of Gilman Springs Road (Planning Areas 6, 8, 11, 12), or north of the San Jacinto Wildlife Area (Planning Areas 10, 12) the Project Applicant shall provide for review and approval to the California Department of Fish and Wildlife and to the City design plans for the construction of appropriate fencing along the Project's eastern and/or southern boundary, as appropriate. The City shall also inspect fence construction prior to issuance of occupancy permits, or equivalent.	Prior to issuance of grading permit, and prior to issuance of occupancy permits.	City of Moreno Valley
Prior to issuance of any grading permit for Projects constructed immediately west of Gilman Springs Road (Planning Areas 6, 8, 11, 12), or south of State Route 60 (Planning Area 6) the Project Applicant shall provide for review and approval to the California Department of Fish and Wildlife and City design plans for the construction of wildlife fencing along State Route 60 and Gilman Springs Road. The City shall inspect wildlife fence construction prior to issuance of occupancy permits, or equivalent.	Prior to issuance of grading permit, and prior to issuance of occupancy permits.	City of Moreno Valley
Prior to issuance of any grading permit the Project Applicant shall provide to the City 5% of total Project costs to be deposited into a mitigation account, held by a CDFW-approved entity, for later use for improvements to wildlife crossings along Gilman Springs Road.	Prior to issuance of grading permit.	City of Moreno Valley

Prior to issuance of any grading permit the Project Applicant shall pay appropriate Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), and Stephens' kangaroo rat Habitat Conservation Plan mitigation fees.	Prior to issuance of grading permit.	City of Moreno Valley

Julia Descoteaux

From: Ileene Anderson <IAnderson@biologicaldiversity.org>
Sent: Wednesday, May 13, 2020 2:45 PM
To: Ashley Aparicio
Cc: Julia Descoteaux; hbernas@wrc-rca.org; Cleary-Rose, Karin; Pert, Heather@Wildlife; Aruna Prabhala
Subject: Comments to Planning Commission on WLC RFEIR
Attachments: CBD comments PC WLC RFEIR 5-13-20 final.pdf; ELI 2003. Conservation Thresholds.pdf

Importance: High

Hi Ms. Aparicio,
Please find attached a comment letter from the Center for Biological Diversity to the Moreno Valley Planning Commission regarding the problems with the RFEIR for the World Logistics Center. Could you please make sure that each of the Planning Commissioners receives a copy of our letter prior to the meeting tomorrow night?
I've also attached a supporting document - ELI 2003. CONSERVATION THRESHOLDS FOR LAND USE PLANNERS - that we reference in our letter. However, that document is 64 pages long and does not necessarily need to be printed out for each planning commissioner, but please include it in the official record for the CEQA process.
Please feel free to reach out to me with any questions.
Thank you,
Ileene

Ileene Anderson
Senior Scientist
Center for Biological Diversity
660 S. Figueroa St., Suite 1000
Los Angeles, CA 90017
(213) 785.5407 (Direct Office), (323) 490-0223 (cell)
(she/her/hers)
#MobilizeForTheWild
#SavingLifeOnEarth

CENTER for BIOLOGICAL DIVERSITY Because life is good.

Protecting and restoring natural ecosystems and imperiled species through science, education, policy, and environmental law

submitted via email

May 13, 2020

Planning Commissioners
City of Moreno Valley
City Hall Council Chamber
14177 Frederick Street
Moreno Valley, CA 92553
ashleya@moval.org

RE: Deny Public Hearing Item #2 - Mitigation Monitoring and Reporting Program ("MMRP"), Statement of Overriding Consideration, Revised Final Environmental Impact Report, a Tentative Parcel Map 36457 that divides property for finance and conveyance purposes only, and the Development Agreement between the City of Moreno Valley and Highland Fairview within the World Logistics Center Specific Plan boundary.

Dear Planning Commissioners,

These comments are submitted on behalf of the Center for Biological Diversity's (the "Center") members, staff and supporters, regarding the Revised Final Environmental Impact Report ("RFEIR") for the World Logistics Center. The Center has reviewed the RFEIR and provides comments on primarily the biological issues. At this point, we urge the Planning Commission to reject the project and instead require the issues we raise below be addressed in a renewed CEQA process. The Center has closely monitored this project for many years and remains concerned about the RFEIR inadequate analysis and mitigation of the project's impacts to sensitive species and habitats. The current RFEIR fails to adequately preserve southern California's, and specifically western Riverside County's incredible biodiversity. Troublingly, extensive conservation investments by State, County and local agencies remain imperiled by inconsistent language and inadequate impact analysis in the current RFEIR.

The Center is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over 1.7 million members and online activists throughout California and the United States. The Center has worked for many years to protect imperiled plants and wildlife, open space, air and water quality, and overall quality of life for people in western Riverside County.

I. The RFEIR Fails to Provide a Cumulative Impacts Analysis

The RFEIR simply fails to provide a cumulative impact analysis to biological resources (at page 4.4-118 to 119). While Table 1.1-1: World Logistics Center Project Environmental Impact Summary provides a section on Cumulative Biological Impacts (at pg. 1-26) it does not

Ileene Anderson, Senior Scientist
660 S. Figueroa Street, Suite 1000, Los Angeles, California 90017
tel: (213) 785 -5407 *email*: ianderson@biologicaldiversity.org
www.BiologicalDiversity.org

actually provide an analysis, but instead references proposed project mitigation measures. In accordance with CEQA (CEQA Guidelines Section 15130 *et seq.*) an EIR must analyze the cumulative impacts of the proposed project in conjunction with other developments that affect or could affect the project area. According to CEQA, a cumulative impact refers to two or more individual effects that are considerable when taken together, or that compound or increase other environmental impacts (CEQA Guidelines Section 15355). And while an agency is not expected to foresee the unforeseeable, it is expected to use its "best efforts to find out and disclose all that it reasonably can." (CEQA Guidelines § 15144; see also *City of Richmond*, supra, 184 Cal.App.4th at 96; *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal. 4th 412, 428 [hereinafter *Vineyard*].)

Therefore, to comply with CEQA, a cumulative scenario needs to be developed that identifies and evaluates past, present, and reasonably foreseeable future projects within the cumulative study area that would be constructed or commence operation during the timeframe of activity associated with the proposed project. For example, but not limited to, the Villages of Lakeview housing development will also impact the southern portion of the San Jacinto Wildlife Area ("SJWA"). The lack of a cumulative impact analysis to biological resources violates CEQA. The purpose of analyzing cumulative environmental impacts is to assess adverse environmental change "as a whole greater than the sum of its parts." (*Environmental Protection Information Center v. Johnson* (1985) 170 Cal.App.3d 604, 625.) Absent meaningful cumulative analysis there would be no control of development and "piecemeal development would inevitably cause havoc in virtually every aspect of the [] environment." (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 721.)

II. The RFEIR Fails to Provide an Adequate Development Setback for the SJWA

The RFEIR still proposes only a 250-foot wide development setback from the southernmost property line along the SJWA boundary with a 150-foot area for truck traffic and other activities other than actual buildings (at pg. 4.4-97). Negative edge effects from human activity, traffic, lighting, noise, pollutants, invasive weeds, and increased fire frequency have been found to be biologically significant up to 300 meters (~1000 feet) away from anthropogenic features in terrestrial systems (Environmental Law Institute 2003). The RFEIR states "250-foot development setback is adequate for a project-SJWA bufferseparation and supported by a compilation of available academic and scientific literature and studies on wildlife impacts from diesel emissions, and also the distance established in nesting bird surveys for setbacks from human activity" (at pg. 4.4-97, emphasis original), but the RFEIR does not provide the literature and studies to support this assertion.

The SJWA is a core area under the Western Riverside Multi-Species Habitat Conservation Plan ("WR HCP"), serves as a mitigation site for a prior project's impacts and is a regionally important wildlife area. Therefore, a larger development setback needs to be incorporated to prevent negative edge effects from occurring to the project's southernmost property line along the SJWA boundary. While down lighting as required in the RFEIR will help minimize light pollution, the other negative edge effects – increased traffic, noise, pollutants, invasive weeds and increased fire frequency - have not been adequately addressed.

For example, Mitigation Measure 4.4.6.3J requires **"**A Fuel Management Plan shall be prepared on a project-by-project basis for those Planning Areas adjacent to the south and east boundary of the WLC site adjacent to Western Riverside County Multiple Species Habitat Conservation Plan Conservation Areas" (at pg. 4.4-118), but absent that plan being available, the plan's adequacy is unclear. In this case, the fuels to be manage are actually wildlife habitat. The RFEIR should require a comprehensive Fire Management Plan to protect not only the development where fire ignitions are more likely to occur but also requirements to prevent the fires from escaping onto the SJWA, as well as actions to implement if indeed fire originating on the development spreads to the SJWA.

III. The RFEIR Proposes Inconsistent Mitigation Measures

Despite the inadequate 250-foot development setback along the boundary with the SJWA, the RFEIR proposes inconsistent information as to where impact-mitigating fences/walls are to be constructed. First, MM 4.4.6.1A states "All development proposals in Planning Areas 10 and 12 shall include a minimum six-foot tall chain link fence or similar barrier to separate warehouse activity from the setback area" (at pg. 1-16). MM 4.4.6.1A also states "all truck activity areas adjacent to the 250- foot buffer area along the southern property line shall be enclosed by minimum 11-foot tall solid walls" (at pg. 1-17). The purpose of the mitigation measure is to reduce impacts to the SJWA. (*California Clean Energy Committee v. City of Woodland* (2014) 225 Cal.App.4th 173, 180.) Therefore, in order to minimize negative edge effect impacts, a solid wall, not a chain link fence, needs to be constructed. Secondly, the RFEIR states that "Warehousing will have a minimum 11-foot solid wall along the SJWA boundary" (at pg. 4.4-60) and "the Specific Plan requires solid walls along the property line." (at pg. 4.4-97). However, having a wall at the boundary of the 250-foot development setback with the SJWA defeats the setback's impact minimization purpose. The wall needs to be placed at the northern edge of the development setback nearest the development in order to help minimize the edge effect impacts.

IV. The RFEIR Fails to Provide All Required Plans

The RFEIR does not provide even a draft of all of the required plans in order for the decision-makers and the public to be able to evaluate the adequacy of the avoidance, minimization and mitigation. In addition to the Fuel Management Plans, other missing plans include but are not limited to:

- Traffic Control Plan (at pg. 1-10)
- Landscape plan for the 250-foot setback area (at pg. 1-17 and 1-23)
- Compensatory Mitigation Plan (at pg. 1-18)
- Burrowing owl Relocation plan (at pg. 1-22) and,
- Biological Resource Management Plan (BRMP) to prescribe how the 250-foot setback area is maintained (at pg. 1-23)

These plans are all key parts to evaluating the effectiveness of the proposed mitigation measures and should be included as part of the RFEIR.

V. The RFEIR Fails to Address Traffic Impacts to Wildlife on Gilman Springs Road including through the SJWA

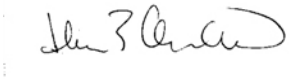
While truck and vehicle traffic will increase on Gilman Springs Road for both construction and operation, the RFEIR fails analyze much less avoid, minimize or mitigate the anticipated wildlife "roadkill". The RFEIR fails to provide any analysis of the increasing wildlife injury and mortality that will occur from the increased traffic and instead states "these impacts would be less than significant as long as the County coordinates with the RCA and takes wildlife movement between Core H and proposed Core 3 into account when designing and improving Gilman Springs Road" (at pg. 4.4-97). By failing to adequately analyze impacts from increased traffic on wildlife injury and mortality, the RFEIR also fails to also provide avoidance, minimization and mitigation measures. Under CEQA, "the public agency bears the burden of affirmatively demonstrating that, notwithstanding a project's impact on the environment, the agency's approval of the proposed project followed meaningful consideration of alternatives and mitigation measures." (*Mountain Lion Foundation v. Fish & Game Com*. (1997) 16 Cal.4th 105, 134.) It is not the RCA's and the County's responsibility to analyze, avoid, minimize and mitigate the impacts from this project, it the developer and the City's responsibility as the lead agency.

VI. CONCLUSION

Thank you for the opportunity to comment on the RFEIR for the World Logistics Center. Because of the numerous inaccuracies, short-comings and confusion in the RFEIR, we request that the Planning Commission deny recommending certification of the RFEIR, and the Mitigation Monitoring and Reporting Program ("MMRP"), Statement of Overriding Consideration, the Tentative Parcel Map 36457 that divides property for finance and conveyance purposes only, and the Development Agreement between the City of Moreno Valley and Highland Fairview within the World Logistics Center Specific Plan boundary. Rather than allowing this project to move forward with inadequate and incomplete environmental review, the City should send the RFEIR back t for revisions to address the failures identified above.

Please keep the Center to your notice list for all future updates to the Project and do not hesitate to contact the Center with any questions at the number or email listed below.

Sincerely,



Ileene Anderson
Senior Scientist
660 S. Figueroa St., Suite 1000
Los Angeles, CA 90017
323-490-0223
ianderson@biologicaldiversity.org

/S/
Aruna Prabhala, Senior Attorney
Urban Wildlands Program Director
1212 Broadway, Suite 800
Oakland, CA 94612

cc:
Julia Descoteaux, Moreno Valley Planning, juliad@moval.org
Honey Bernas, Interim Executive Director, RCA hbernas@wrc-rca.org
Karin Cleary Rose, USFWS karin_cleary-rose@fws.gov
Heather Pert, CDFW Heather.Pert@wildlife.ca.gov

References

Environmental Law Institute. (2003). *Conservation thresholds for land use planners*. *Environmental Law*. Pgs. 64 https://www.eli.org/research-report/conservation-thresholds-land-use-planners

CONSERVATION THRESHOLDS FOR LAND USE PLANNERS

ENVIRONMENTAL LAW • INSTITUTE®

Front Cover:
Encroachment, Gnatcatcher Habitat
Photo courtesy of Claire Dobert, U.S. Fish and Wildlife Service.

CONSERVATION THRESHOLDS FOR LAND USE PLANNERS

The Environmental Law Institute®

RELATED RESEARCH REPORTS FROM ELI

IN THIS SERIES:

Planning with Nature: Biodiversity Information in Action
Nature-Friendly Ordinances: Local Measures to Protect Biodiversity (*coming soon*)
Planning for Biodiversity: Authorities in State Land Use Laws (*coming soon*)

FROM ELI'S BIODIVERSITY AND LAND USE PLANNING PROGRAM:

Halting the Invasion: State Tools for Invasive Species Management
Banks and Fees: The Status of Off-site Wetland Mitigation in the United States
Smart Links: Turning Conservation Dollars into Smart Growth Opportunities

Copies of these reports can be ordered at www.elistore.org or by calling 1-800-433-5120.

Conservation Thresholds for Land Use Planners

ISBN# 1-58576-085-7, ELI project code 003101

ACKNOWLEDGMENTS

This publication is a project of the Environmental Law Institute's State Biodiversity Program. Funding was provided by a generous grant from the Doris Duke Charitable Foundation. Authors of the report are Christina Kennedy, Jessica Wilkinson, and Jennifer Balch. Jim McElfish provided valuable guidance and review. Scientific research assistance was provided by Jennifer Balch and Elah Feder. ELI also gratefully acknowledges the help of research interns Khushi Desai and Steven Krieger. Elizabeth Seeger provided editorial assistance and Wendy Sandoz provided design and layout support.

ELI is responsible for the views and research contained in this report, including any omissions or inaccuracies that may appear. The information contained in the report was obtained through scientific literature review and synthesis conducted from June 2001 through May 2002. The conclusions are solely those of ELI.

We gratefully acknowledge the help of the following people who provided us with valuable feedback on the final draft:

Timothy Beatley, Ph.D.
Associate Professor
Department of Urban and Environmental Planning
School of Architecture
University of Virginia

Christopher J. Duerksen
Managing Director
Clarion Associates LLC

Richard L. Knight, Ph.D.
Professor of Wildlife Conservation
Department of Forest, Rangeland, and Watershed Stewardship
Colorado State University

Bruce A. Stein, Ph.D.
Vice President for Programs
NatureServe

TABLE OF CONTENTS

LIST OF FIGURES AND BOXES

INTRODUCTION

While there are many threats to biological diversity in the United States, the loss and fragmentation of habitats and ecosystems have become the most significant (Wilcove et al. 1998). The survival of plant and animal species and whether our natural systems will continue to provide essential services—recycling of nutrients, flood and pest control, and maintenance of clean air, water, and soil—significantly depends upon where and how land is used, converted, and managed. Land use change resulting from development and associated human activities (e.g., agriculture, grazing, forest harvesting, and hunting) often alters the abundances and varieties of native species; introduces novel and potentially detrimental species to an area; and disrupts natural water and nutrient cycles, and natural disturbance patterns (e.g., fire) (U.S. Geological Survey 1998).

> *"Spatial planning is most significant in nature conservation when 10-40% of the natural vegetation has been removed from a landscape."*
>
> Forman and Collinge (1997), Landscape and Urban Planning 37, p. 129

Everyday, land use planners are faced with decisions regarding whether and how land is developed, parcelized, and used, and in what pattern. For the most part, such land use decisionmaking occurs without taking into account individual and cumulative impacts to biological resources. Implementing biologically sensitive spatial planning early in the development process will help preserve our natural heritage for the future, since the most crucial time for planning is when the first 10 to 40 percent of the natural vegetation is altered or removed from the landscape (Forman and Collinge 1997). A growing interest exists among land use planners and developers to use the tools at their disposal to better protect biological diversity. However, these professionals often lack the necessary information to incorporate ecological principles into their decisionmaking and to transform their traditional planning approaches into progressive, ecologically-based conservation tools.

To encourage and facilitate better integration of ecological knowledge into land use and land management decisionmaking, the scientific community needs to provide planners with applicable ecological information and guidance. To this end, the Ecological Society of America (ESA) convened a committee of leading scientists to identify principles of ecological science relevant to land use and to develop guidelines for land use decisionmaking.[1] The result was the development of eight general guidelines to assist land use planners in evaluating the ecological consequences of their decisions (*see* Box 1).

Conservation guidelines, such as those established by the ESA Land Use Committee, are designed to be flexible and to apply to diverse land use situations. As a result, they tend to be general in nature. For ecological principles to be put into practice, however, land use planners will need more specific information on potential threshold responses of species and ecosystems to development activities, particularly in relation to habitat fragmentation. To facilitate the adequate preservation of contiguous or connected natural areas, land use planners will need to know what science tells them about the minimum sizes of habitat patches species need to survive, or the amount of habitat necessary for the long-term persistence of native populations and communities in a region. In addition, they need information about the adequate size and placement of habitat corridors that would facilitate species movement and colonization among disjunct habitat patches, and about recommended widths of riparian buffers to protect water quality and provide wildlife habitat. Similarly, knowing the extent to which edges influence natural habitats would help land use professionals evaluate the effective area of any given habitat patch or corridor. Other fragmentation thresholds—such as the maximum distance between isolated patches tolerable in a landscape before ecological processes and patterns become disrupted—would arm decisionmakers with specific parameters that could be incorporated into land use design and modeling.

[1] "The Ecological Society of America (ESA) is a non-partisan, nonprofit organization of scientists founded in 1915 to: promote ecological science by improving communication among ecologists; raise the public's level of awareness of the importance of ecological science; increase the resources available for the conduct of ecological science; and ensure the appropriate use of ecological science in environmental decision making by enhancing communication between the ecological community and policy-makers."
As cited in Ecological Society of America. "About ESA." <www.esa.org> (31 July 2002).

Given the inherent complexity of ecological systems, scientists are understandably reticent about providing exact prescriptions for land use planning and design because answers vary depending on the species, ecosystem, or scale in question. Nevertheless, by not promoting the use of even partial knowledge about species or ecosystem responses to human disturbance and fragmentation, the result is that land use decisions—even the most well-intentioned—are being made completely uninformed by science.

BOX 1. GUIDELINES FOR LAND USE PLANNING AND MANAGEMENT

In the face of rapid land use change, the Ecological Society of America's Land Use Committee recommends that land use planners and developers take into consideration the following eight guidelines to evaluate the potential impact of their decisions on our natural systems (*see* Dale et al. 2000 for full discussion):

1. Examine the impacts of local decisions in a regional context.

The persistence of species and the sustainability of ecosystems are determined not only by immediate surroundings but also by larger landscape factors, such as how habitats are interspersed across the landscape. Thus, local land alterations may have broad-scale regional impacts. Land use planners should both identify the surrounding region that is likely to affect and be affected by a local project and examine how adjoining jurisdictions are using and managing their lands. Regional environmental data (e.g., land cover classes, hydrologic patterns, and habitats for species of concern) should be incorporated into the decision-making process to facilitate a regional assessment of impacts.

2. Plan for long-term change and unexpected events.

Ecological processes, such as nutrient cycling, energy flow patterns, and disturbance regimes, may function over lengthy and variable time scales. In addition, ecosystems change over time. As a result, impacts posed by land use decisions are often long-term and unpredictable. Impacts may be delayed and not fully realized until years or decades later, or they may be cumulative such that a "unique trajectory of events" results that could not have been predicted from any single event. The complexity and variability of ecosystem responses dictate that land use decisions consider potential occurrences and implications of unanticipated and long-term events (e.g., variations in weather and disturbance patterns).

3. Preserve rare landscape elements and associated species.

Rare landscape elements, such as wetlands, riparian and mountain zones, and old-growth forests, often provide critical habitats for rare and endangered species. To protect a region's biological diversity, the natural diversity within a landscape must be preserved. Land use planners should identify the location of rare and unique landscape elements, by methods such as inventory and analysis of vegetation types, geology, hydrology, and physical features, and by their associated species. Once such landscape elements are identified, development should be guided away from such areas and toward more common landscape features.

4. Avoid land uses that deplete natural resources over a broad area.

Depletion of natural resources over time will lead to the irreversible disruption of ecosystems and associated processes. Consequently, land use planning and development should strive to prevent the diminishment of natural resources (e.g., soil, water, and habitat types such as wetlands) in any given area by identifying vital or at-risk resources and by taking the necessary precautions to avoid actions that threaten resource sustainability. Certain land uses or land activities may be deemed altogether incompatible in particular settings.

5. Retain large contiguous or connected areas that contain critical habitats.

Large habitat patches typically support a greater diversity and abundance of plants and animals and can maintain more ecosystem processes than small patches. Large intact habitats provide more resources, allowing larger populations of a species to persist, thus, increasing the chance of survival over time. Parcelization of large habitats often decreases the connectivity of systems, negatively affecting the movement of species necessary for fulfilling nutritional or reproductive requirements. To counter such effects, large intact areas and small areas that are well connected to other critical habitats should be protected.

6. Minimize the introduction and spread of non-native species.

Non-native species often negatively affect the survival of native species and disrupt the functioning of ecosystems. The spread of non-natives is facilitated by the development of transportation infrastructure and by the creation of edge environments and artificial landscapes. Land use professionals should strive to minimize the potential introduction and spread of non-native species into natural environments.

7. Avoid or compensate for effects of development on ecological processes.

Development may not only cause site-specific impacts, but may also disturb regional ecological processes. Ecological processes, such as fire, grazing, dispersal patterns, and hydrologic cycles, help to sustain plant and animal populations across a landscape. Thus, land uses that could negatively affect other systems or lands through the disruption of these processes should be avoided while those that benefit or enhance ecological attributes should be encouraged.

8. Implement land use and land management practices that are compatible with the natural potential of the area.

The natural potential of a site, as determined in part by local physical and biologic conditions, should be factored into how land is used and managed. Land uses that do not take advantage of a site's natural potential or consider its limitations, will likely result in unnecessary resource loss and high economic costs.

For more information on ecological principles to guide land use planning decisionmaking, see Dale et al. (2000), Duerksen et al. (1997), and Dramstad et al. (1996).

FROM GUIDELINES TO THRESHOLDS

The Environmental Law Institute (ELI) surveyed existing scientific literature to determine whether a body of knowledge has emerged within the scientific community relevant and applicable to national land use decisionmaking, specifically pertaining to biological conservation thresholds. A literature search of the major ecological, conservation, and land use journals was conducted using the Science Citation Index (ISI Web of Science) using search terms under the following categories: habitat fragmentation,[2] buffers,[3] corridors,[4] ecological thresholds,[5] and indicator species.[6] To increase applicability to current land use decisionmaking in the states, the search was confined to studies pertaining to the continental United States, as well as articles published between 1990-2001, and pre-1990 articles commonly cited within the scientific community. Only those articles containing quantitative information directly relevant to determining conservation thresholds for land use planning and land management were considered.[7] In addition to the literature search, review papers found in the gray literature (e.g., those produced by land management and regulatory agencies) were also included when possible and applicable.

ELI found adequate information on potential ecological threshold measures for the following areas: habitat patch area, percent of suitable habitat, edge effects, and buffers. Corridor design is reviewed in brief; however, specific guidance on corridor size was not feasible given inadequate available information within the scientific literature. This survey reflects scientific information largely related to habitat fragmentation and landscape ecology issues, with a focus on the spatial relationships (e.g., size, shape, location) and interactions of land attributes over large geographic areas.[8] This review does not cover other important conservation elements such as how to account for the biological integrity or ecological significance of habitat patches, which land use planners should consider when determining which parcels of land to protect. In addition, the thresholds presented in this review does not adequately address the conservation of species or habitat types that are naturally rare or localized (e.g., those with patchy distributions or limited ranges).

This report summarizes the Institute's findings and provides a platform for identifying gaps in existing knowledge to help guide more in-depth ecological research directly applicable to land use planning. This report in no way attempts to misrepresent the complexity of species and ecosystem response to land conversion, degradation, and fragmentation by providing simplified prescriptions. Land use planners should cautiously interpret the presented threshold values and ranges and tailor them to their unique circumstances and geographic settings.

First and foremost, land use planners need to establish their priorities for conservation—whether they be water quality or quantity, wildlife habitat, or biodiversity. In addition, conservation targets need to be established—whether they be regionally rare or endangered species or unique landscape elements (e.g., wetlands, old growth forests, riparian zones), or other targets—because this will directly influence the value and scale of any threshold.[9] Thresholds should be chosen or developed to meet the needs of the resources a locality is most concerned with managing and conserving. Planners should place great emphasis on evaluating site-specific and regional physical and biological conditions that influence the resiliency of particular systems to human disturbance.

The threshold values presented in this report should not detract from the larger goals of conserving or restoring indigenous species, rare and representative habitats, ecosystem functions, and natural connectivity. Where possible, the ESA land use guidelines should be followed. Land use planners should strive to protect large, intact parcels of land, high quality and ecologically important habitat, and where appropriate, should connect protected natural areas. When development is deemed necessary, land use planners should promote more compatible land uses and avoid or minimize fragmenting habitat patches wherever possible.

---

[2] To locate papers with potential habitat fragmentation threshold information, the following search terms were used: minimum habitat size, habitat size, habitat requirement, habitat fragmentation, patch size, minimum fragment size, island biogeography, landscape connectivity, habitat connectivity, and metapopulation theory.

[3] To locate papers with potential threshold information on buffer width, the following search terms were used: riparian buffer, wetland buffer, buffer zone, buffer distance, forest buffer, buffer width, and buffer size.

[4] To locate papers with potential threshold information on corridor width, the following search terms were used: fragment connectivity, boundary permeability, landbridge, highway overpass, highway underpass, stream cross, habitat corridor, corridor, migration corridor, riparian corridor, and underpass.

[5] To locate papers with potential ecological threshold information, the following search terms were used: ecological threshold, conservation threshold, environmental threshold, and landscape threshold.

[6] To locate papers with potential threshold information relevant to indicator species, the following search terms were used: indicator species, indicator species and habitat fragmentation, and indicator species and thresholds.

[7] The majority of the papers encountered and selected focus on terrestrial species and to a lesser extent freshwater aquatic communities.

[8] As defined by Risser et al. (1984), "Landscape ecology considers the development and dynamics of spatial heterogeneity, spatial and temporal interactions and exchanges across heterogeneous landscapes, influences of spatial heterogeneity on biotic and abiotic processes, and management of spatial heterogeneity."

[9] Thresholds presented in this report reflect a taxonomic bias in the scientific literature toward birds and mammals. Thus, for many of the recommended threshold values, these two animal groups are assumed to be the conservation targets.

BOX 2. DEFINITION OF TERMS

Biological diversity (or biodiversity) – the variety of life and its processes, which includes the abundances of living organisms, their genetic diversity, and the communities and ecosystems in which they occur (The Keystone Center 1991). Diversity at all levels from genes to ecosystems need to be maintained to preserve species diversity and essential ecosystem services like climate regulation, nutrient cycling, water production, and flood/storm protection (Dale et al. 2000).

Biological (or ecological) integrity – refers to a system's wholeness, including presence of all appropriate elements and occurrence of all processes at appropriate rates, that is able to maintain itself through time (Angermeier and Karr 1994).

Boundary – a zone comprised of the edges of adjacent ecosystems or land types (Forman 1995).

Corridor – a linear strip of a habitat that differs from the adjacent land on both sides, connecting otherwise isolated larger remnant habitat patches (Forman 1995, Fischer et al. 2000).

Buffers – linear bands of permanent vegetation, preferably consisting of native and locally adapted species, located between aquatic resources and adjacent areas subject to human alteration (Castelle et al. 1994, Fischer and Fischenich 2000).

Ecosystem – a geographic area including all the living organisms (e.g., people, plants, animals, and microorganisms), their physical surroundings (e.g., soil, water, and air), and the natural cycles (nutrient and hydrologic cycles) that sustain them. Ecosystems can be small (e.g., single forest stand) or large (e.g., an entire watershed including hundreds of forest stands across many different ownerships) (USFWS 1994).

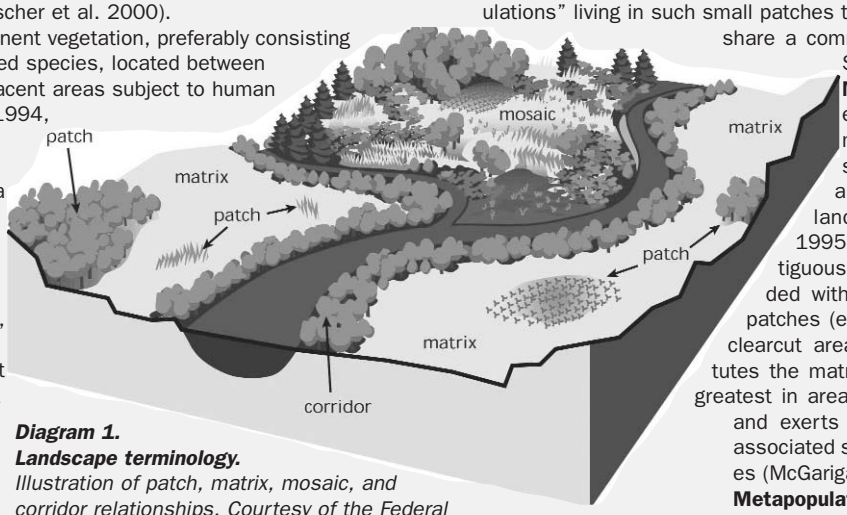


Diagram 1. Landscape terminology. *Illustration of patch, matrix, mosaic, and corridor relationships. Courtesy of the Federal Interagency Stream Restoration Working Group (FISRWG), Stream Corridor Restoration: Principles, Processes, and Practices (10/98).*

Ecosystem functions – the biophysical processes that take place within an ecosystem, apart from any human context (e.g. nutrient, energy, and hydrologic cycling; or soil formation).

Ecosystem services – refer to the ecosystem goods (e.g., food, and medicine) and services (e.g., climate regulation, water purification, and flood control) that humans derive benefit, directly or indirectly, from ecosystem functions (Costanza et al. 1997).

Ecosystem sustainability – the tendency of a system to be maintained or preserved over time without loss of decline to elements such as its structure, function, diversity, and production. Sustainability is widely regarded as economically and ecologically desirable and the only viable long-term pattern of human land use (Dale et al. 2000).

Edge – the portion of an ecosystem or habitat near its perimeter, where influences of the surroundings prevent development of interior/core-area environmental conditions (Forman 1995).

Edge effects – the negative influence (e.g., such as the profound modifications of biological and physical conditions) of habitat or ecosystem edges on interior conditions of habitat or on associated species (Meffe and Carroll 1997, Lindenmayer and Franklin 2002).

Habitat – consists of the physical features (e.g., topography, geology, stream flow) and biological characteristics (e.g., vegetation cover and other species) needed to provide food, shelter, and reproductive needs of animal or plant species (Duerksen et al. 1997).

Habitat fragmentation – the breaking up of previously continuous habitat (or ecosystem) into spatially separated and smaller parcels. Habitat fragmentation results from human land use associated with forestry, agriculture, and settlement, but can also be caused by natural disturbances like wildfire, wind, or flooding. Suburban and rural development commonly change patterns of habitat fragmentation of natural forests, grasslands, wetlands, and coastal areas as a result of adding fences, roads, houses, landscaping, and other development activities (Dale et al. 2000).

Landscape – a large heterogeneous land area (e.g., multiple square miles or several thousand hectares) consisting of a cluster of interacting ecosystems repeated in similar form (e.g., watershed) (Forman 1995, Duerksen et al. 1997).

Land use – the purpose to which land is used by humans (e.g., protected areas, forestry for timber production, plantations, row-crop agriculture, pastures, or human settlement) (Dale et al. 2000).

Local population – set of individuals of a species that live in the same habitat patch and interact with each other; most naturally applied to "populations" living in such small patches that all individuals practically share a common environment (Hanski and Simberloff 1997).

Matrix – the background ecosystem or land use type in a mosaic, characterized by extensive cover, high connectivity, and/or major control over the landscape functioning (Forman 1995). For example, in a large contiguous area of mature forest embedded with numerous small disturbance patches (e.g., timber harvest patches or clearcut areas), the mature forest constitutes the matrix element type because it is greatest in areal extent, is mostly connected, and exerts a dominant influence on the associated species and ecological processes (McGarigal 2003).

Metapopulation – a network of semi-isolated populations with some level of regular or intermittent migration and gene flow among them, in which individual populations may be extinct but then be recolonized from other subpopulations (Meffe and Carroll 1997).

Mosaic – a pattern of patches, linear corridors, and matrix in a landscape (Forman 1995).

Minimum viable population - The minimum viable population size is the smallest number of individuals required to maintain a population over the long-term (Forman 1995).

Non-native (or exotic) species – organisms (plants, animals, insects, and microorganisms) that occur in locations beyond their known historical, natural ranges or have been brought in from other continents, regions, ecosystems, or habitats (National Invasive Species Council 2001).

Patch – a relatively homogeneous type of habitat that is spatially separated from other similar habitat and differs from its surroundings (Forman 1995).

Remnant patch – habitat patches that escape disturbance (e.g., development) and are left remaining from an earlier more extensive span of habitat (e.g., woodlots in an agricultural area) (Dramstad et al. 1996).

Scale – the relative size or degree of spatial resolution of an area of interest. Small areas of interest (e.g., area around a house of single subdivision) are considered to be fine scale; in contrast to a larger area (e.g., a county or watershed), which is considered to be of coarse scale (Forman 1995, Duerksen et al. 1997).

Suitable habitat – habitat that meets the survival and reproductive needs of a species, allowing for a stable or growing population over time (Lamberson et al. 1994).

THRESHOLDS FOR LAND USE PLANNING: ADDRESSING HABITAT FRAGMENTATION

Habitat fragmentation severely threatens biodiversity and ecosystem functioning wherever humans dominate the landscape. Land use planners play a significant role in determining whether and how landscapes and ecosystems are fragmented or maintain natural connectivity.

Varying shapes and configuation of habitat patches resulting from habitat fragmentation, Buchanan, Alabama. Courtesy of John R. Tolliver, USDA Forest Service, www.forestryimages.org.

Habitat fragmentation is the process whereby contiguous natural areas are reduced in size and separated into discrete parcels. Fragmentation results from a reduction in the area of the original habitat due to land conversion for other uses, such as residential and commercial development. It also occurs when habitat is divided by roads, railroads, drainage ditches, dams, power lines, fences or other barriers that may prohibit the free movement and migration of plant and animal species (Primack 1993, Forman 1995). When habitat is destroyed, a patchwork of habitat fragments is left behind, often resulting in patches that are isolated from one another in a modified and inhospitable landscape matrix.[10] Fragmentation causes the microclimate to be altered due to changes in solar radiation, wind, and humidity; habitat patches become more isolated with a growing distance between remnant patches; and the resulting landscape is modified by changes in size and shape of the resulting patches (Saunders et al. 1991). These changes have varying impacts on species persistence and ecosystem sustainability.

Groups of organisms respond differently to habitat fragmentation. Some species, such as game species like white-tailed deer and bobwhite quail (referred to as edge species), may actually thrive under altered conditions (Bolger et al. 1997). However, many other species—often rare species and habitat specialists—are negatively affected. Species that depend upon the interior of forests, prairies, wetlands or other natural habitats will be absent from landscapes that lack sufficient natural areas containing true core habitat (Meffe and Carroll 1997). Although a fragmented landscape may enhance the abundance of certain generalist species, overall, fragmentation threatens the maintenance of biodiversity and the functioning of natural systems (Soulé 1991, Forman 1995).

To the detriment of many species, particularly those that are area-sensitive, habitat patches may lack the range of resources necessary to support permanent populations (Primack 1993, Forman 1995). Habitat fragmentation will reduce the foraging and nesting ability of animals and can lead to the rapid loss of species due to the creation of barriers to dispersal and colonization. In a fragmented landscape, normal dispersal will be disrupted when the land surrounding the remaining patches is inhospitable to species formerly thriving in the contiguous habitat (e.g., because it is degraded or is home to predators). For example, many bird species that dwell in the forest interior will not cross even short distances of open areas (Askins 1995). When species migration and dispersal is limited, new immigrants are less likely to supplement diminishing populations, thereby, increasing extinction vulnerability (Askins 1995).

The negative effects of habitat fragmentation are compounded by an altered physical environment (*see* "Edge Effects"). Land conversion and land transformation can cause major alterations in hydrologic regimes, mineral and nutrient cycles, radiation balance, wind and dispersal patterns, and soil stability (Harris 1984 as cited in Collinge 1996; Hobbs 1993 *as cited in* Forman 1995). Changes in such ecosystem properties and processes in turn affect native species composition, abundance, and long-term persistence, further degrading the biodiversity and the integrity of the affected natural areas.

[10] Matrix is the background ecosystem or land use type in a mosaic, characterized by extensive cover, high connectivity, and/or major control over the landscape functioning (Forman 1995) (see Box 2).

UNDERSTANDING THE EFFECTS OF FRAGMENTATION

Over the past 25 years, the scientific community has devoted much energy to understanding the various components of fragmentation—the influence of fragment size, shape, configuration, heterogeneity, connectivity, among other factors—and how they effect the sustainability and persistence of species and natural processes in a landscape. Ideally, scientists would understand the influence and interaction of these characteristics on the continued survival of species and the integrity of ecosystems. Due to gaps in scientific knowledge, available information was only found within the literature to present potential threshold responses related to patch area, proportion of suitable habitat, edge effects, and buffers.

This paper provides land use decisionmakers with concrete information culled from the scientific literature in order to translate the land use guideline #5 offered by the Ecological Society of America (*see* Box 1) for on-the-ground practice. Recommendations on "how to retain large contiguous or connected areas that contain critical habitat" are presented, with specific information on how to best protect habitat patches and sufficient natural area, to minimize edge effects, and to design riparian buffers and habitat corridors.

HABITAT PATCHES

A common consequence of land development is the fragmentation of an originally connected natural landscape into a mosaic of disconnected habitat patches.[11] The size of the remaining habitat fragments significantly influences the type, abundance, and diversity of species that can persist in the affected region. In general, large patches better sustain wildlife populations and ecosystem functions over time than small patches. Holding other factors constant—such as patch shape, condition, and configuration—larger areas of habitat tend to support larger population sizes and a greater number of interior, specialist, and native species due to increased habitat diversity and more core area (Harris 1984, Dramstad et al. 1996, Forman 1995). The probability of a species population being extirpated generally increases with decreasing patch size.[12] This is due to the tendency of larger patches to retain a greater array of the natural resources and ecological functions provided by healthy ecosystems than smaller patches with more edge, increased susceptibility to invasion by exotics or predators, and more disturbed conditions (Soulé 1991, Metro 2001) (*see* "Edge Effects"). Area-sensitive forest bird species in the mid-Atlantic United States, for example, have been found to exhibit lower species diversity and higher extinction and turnover rates in landscapes with smaller mean forest patch size (Boulinier et al. 2001).

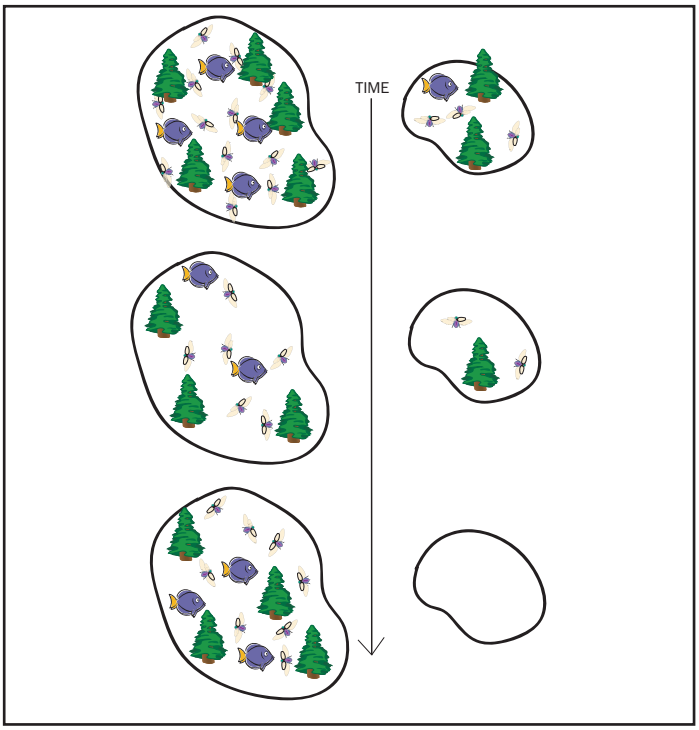


Diagram 2. Patch size and local extinction. *Probability of a local species population going extinct increases with decreasing habitat patch size. A larger patch generally supports a larger population size for a given species than a smaller patch, making it less likely that the species will go locally extinct in the larger patch. Modified from Dramsted et al (1996), Landscape Ecology Principles in Landscape Architecture and Land-Use Planning, p. 20.*

In general, to ensure the survival of individual species, population levels must remain large enough to protect against extinction from random natural events (e.g., floods, fires, droughts) and to maintain sufficient genetic variation to adapt to changing environmental conditions (e.g., changes in rates of predation, competition, disease, and food supply) (Gilpin and Soulé 1986, Meffe and Carroll 1997). A common tool used to determine the size of a population(s) needed to ensure long-term survival is a Population Viability Analysis (PVA). A PVA uses quantitative methods to predict the likely future status of a population or set of populations of conservation concern—often those that are at risk of extinction (Morris et al. 2002). This technique can take into account the many environmental, demographic, and genetic variables that determine extinction probabilities for individual species (Meffe and Carroll 1997).

[11] A patch is a relatively homogeneous type of habitat that is spatially separated from other similar habitat and differs from its surroundings (Forman 1995).

[12] What is being discussed in this report is to the local extinction of a species population from a particular habitat or region (termed extirpation or population extinction), rather than the overall elimination of the species worldwide (termed global extinction).

Because plant and animal population size is the best predictor of extinction probability, habitat patches should be large enough to maintain viable populations of important species—including rare, endangered, and economically important species—and to maintain the ecological processes that support these communities. Based on Population Viability Analyses, general guidelines have been proposed for minimum viable population sizes:[13] 1) populations less than 50 individuals being too small and vulnerable to extinction due to their rapid loss of genetic variability and inability to withstand natural catastrophes; and 2) populations of 1,000 to 10,000 individuals being adequate to ensure long-term persistence (Meffe and Carroll 1997). Such numbers, however, should be viewed with scrutiny because much debate still exists about what size constitutes a minimum viable population for the many different species that make up natural systems (Saunders et al. 1991).

Managing for Adequate Habitat Patch Size

For purposes of this review, minimum patch area is the smallest habitat patch that should be protected in order to sustain a species, a diversity of species or communities, or functioning of ecosystems. The literature suggests that, depending on the species or habitat in question, minimum critical patches range from as little as 0.0004 hectares (0.001 acres) (based on the needs of certain invertebrates) up to 220,000 hectares (550,000 acres) (based on the needs of certain mammals) to sustain target species or communities (*see* Appendix B). This wide range reveals that a generic "minimum" critical patch size or habitat requirement does not exist; thresholds are entirely dependent on the target species in question.

Ultimately, the amount of habitat necessary to maintain healthy wildlife populations varies according to many factors, such as taxonomic group, body size, foraging and resource requirements, and dispersal patterns of the species (Bender et al. 1998). Taxonomic groups, such invertebrates and plants, which have smaller dispersal ranges and tend to respond to their environment at smaller spatial scales, are reported to need less habitat area (e.g., less than 10 hectares or 25 acres) (McGarigal and Cushman 2002).

Larger patch areas are recommended to support bird, mammal, and fish species. Minimum habitat requirements for birds ranged from one hectare up to 2,500 hectares (6,250 acres), with the majority (75 percent) of the values found within the literature to be under 50 hectares (125 acres).[14] Minimum patch size required by mammals ranges from one hectare to 10 hectares for small mammals and up to 220,000 hectares for large-bodied or wide-ranging mammals (e.g., bears, cougars). Larger bodied vertebrates and wide-ranging predators tend to require larger territories to meet resource and reproductive needs (Soulé 1991). Minimum habitat area is greater for predators, such as bears, with recommended patch sizes greater than 900 and 2,800 hectares and cougars with 220,000 hectares (Mattson 1990, Mace et al. 1996, Beier 1993, respectively).[15] In contrast, estimates for habitat requirements for small mammals, such as rodents and rabbits, varied from one hectare to 10 hectares (Soulé et al. 1992, Barbour and Litvaitis 1993, Bolger et al. 1997). Only one study was found to provide evidence on possible watershed area needed to sustain fish species, finding that suitable patch sizes larger than 2,500 hectares might increase the chance of bull trout occurrence in Idaho (Rieman and McIntyre 1995).

Overall, the majority of the findings in this survey pertain to birds and mammals (*see* "A Closer Look at Habitat Patch Size" in Appendix A for specific information on numbers and trends). Few studies were found to recommend patch sizes to sustain plant, invertebrate, or fish populations. Keeping in mind this sample represents a narrow array of species and habitats, the protection of habitat patches of 55 hectares (137.5 acres) or more appears to capture 75 percent of species requirements reviewed in this select survey (*see* Figure 1). Such minimum land parcels, however, are not likely to capture particularly area-sensitive species, like wide-ranging predators or particularly sensitive interior bird species, found to need habitat patches greater than 2,500 hectares (or about 6,175 acres) (Trine 1998, Mattson 1990, and Beier 1993).

Given the great scientific uncertainty and gaps in the knowledge base on minimum habitat requirements of species and ecosystems, land use planners should adopt a conservative approach. The goal should be to maintain sufficiently large intact and well-connected habitat patches that would support the most area-sensitive species, species of greatest environmental concern (e.g., rare, threatened, or endangered species), or focal species, such as keystone species,[16] link species,[17] or umbrella species.[18] Declines in these groups of organisms may have wide ranging implications, negatively affecting the persistence of other associated species and ecosystems (Dale et al. 2000).

Land use planners should carefully consider the conservation needs of species with large-area or specialized life history requirements or that depend upon a combination of different habitats (e.g., large-ranging predators; interior species, or rare species); these species are likely to survive only in rel-

[13] The minimum viable population size is the smallest number of individuals required to maintain a population over the long-term (Forman 1995); for example, the size of a population that would have a 95 percent probability of persisting for 100 years (Boyce 1992).

[14] Recommended conservation threshold values are based on the goal of capturing 75 percent of the requirements found for species, communities, and habitats surveyed in this literature review; thus, the third quartile was used by calculating the value for which 75 percent of the threshold values lie below this value (after numerical ranking).

[15] One hectare is equal to approximately 2.5 acres.

[16] Keystone species are species that have greater effects on ecological processes than would be predicted by their abundance or biomass alone (Dale et al. 2000).

[17] Link species are species that exert critical roles in the transfer of matter and energy across trophic levels of a food web or that provide critical links for energy transfer within complex food webs (Dale et al. 2000).

[18] Umbrella species are species that either have large area requirements or use multiple habitats and thus overlap the habitat requirements of other species (Dale et al. 2000).

atively large areas or in very specific habitat types (potentially very small, localized areas), which should be actively targeted for protection (Saunders et al. 1991, Ruggierro et al. 1994, Collinge 1996). To help guide conservation planning, umbrella species (e.g., vertebrate mammals such as cougars and grizzly bears) have been proposed as targets for conservation, because their protection may ensure the protection of other secondary species (Franklin 1993). By protecting areas large enough to maintain viable populations of wide-ranging species, sufficient habitat may be maintained to ensure survival of other species dependent on the same habitat. Land use planning that allows for the persistence of focal species—like rare and endangered species, keystone or umbrella species—may help direct land conservation. Land use planners will need the help of local biologists to identify appropriate focal and area-sensitive species in their region to better implement habitat conservation strategies.

Land use planners should strive to protection and maintain habitat patches larger than 55 hectares (137.5 acres).

Even though protecting large expanses of connected habitat is the ultimate goal, this may not be practicable in the often highly developing landscapes in which land use planners often find themselves working. In these settings, land use professionals should try and conserve what habitat remains and, where possible, work with land management agencies and land trusts to identify potential areas for habitat restoration. Working to conserve even the smallest remaining natural areas is important, particularly in human-dominated landscapes. A series of small- or medium-sized reserves may capture a greater diversity of habitat types, environmental heterogeneity, and biological diversity than the preservation of one large fragment (Tscharntke et al. 2002) (*see* "Role of small patches"). Protecting natural habitats with the greatest conservation significance locally and regionally—regardless of size—is vital to preserving biological diversity and ecosystem services. No matter how small habitat patches may be, they still have ecological and/or aesthetic values, whether providing habitat for small organisms like amphibians or insects; providing green space for recreational activities; helping moderate temperature and provide shade in urban areas; or decreasing run-off from streets, pavements, and other impermeable surfaces.

Other Patch Area Design Considerations

The size of any given habitat patch is only one factor determining whether or not the patch will support species persistence, biological diversity, and ecosystem functions. Other factors to consider are the shape, location/configuration, condition, and boundaries of patches, as well as the role of small habitat patches. The following is general guidance on ways to counteract the negative impacts of habitat fragmentation and habitat loss at a landscape scale.

- **Patch shape:** Patch size and shape determine the distance of the patch's edge to the habitat interior and the amount of core area remaining in any remnant habitat patch (*see* "Edge Effects") (Collinge 1996). Shape determines the edge to interior ratio of a habitat patch, which should be as low as possible to minimize edge effects (Wilcove et al. 1986, Saunders et al. 1991, Collinge 1996). Circular habitat reserves are recommended to minimize contact between the protected core habitat and adjacent environmental or human pressures (Wilcove et al. 1986). In contrast, long, thin remnants have proportionally more edge, and thus, more negative edge effects (Forman and Godron 1981, Saunders et al. 1991).

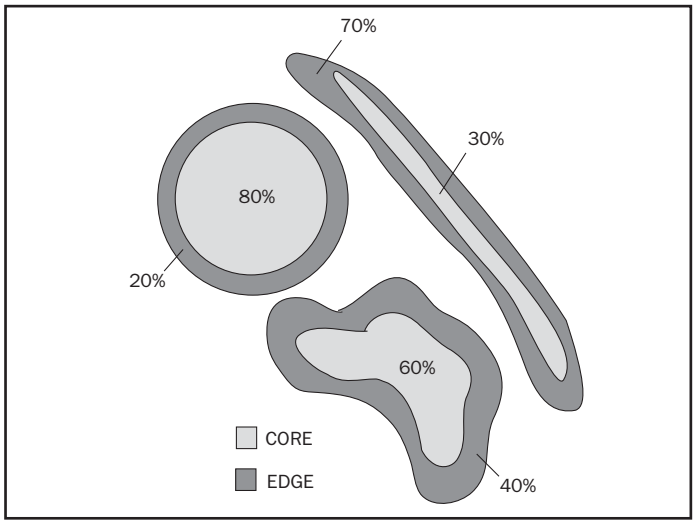


Diagram 3. Patch shape and edge. *The edge to interior ratio of a habitat patch is affected by patch shape. A more convoluted, irregular, or linear patch will have a higher proportion of edge, thus, increasing the number of edge species and decreasing the number of interior species.*

- **Patch location/configuration:** The landscape context in which patches reside may have an even greater effect on the function and sustainability of a habitat fragment than the characteristics of the patch itself (Forman 1995). The distances between suitable habitat patches and the nature of the matrix between these patches will influence species survival (Ruggiero et al. 1994, Andren 1997). In general, more connected habitats are better than isolated habitats because patches in close proximity are likely to enhance species dispersal, recolonization, and persistence (Fahrig and Merriam 1994). Even where wildlife populations may decline or disappear in isolated patches due to random events or patch conditions, recolonization may occur if species are able to successfully disperse from nearby habitat (Pulliam et al. 1992). To maintain demographic linkages, suitable patches should be positioned to provide stop-over points or "stepping stones" for species dispersal (Forman and Godron 1981). The allowable distance between patches will depend

upon individual species' dispersal capabilities, which vary within and among species groups (Ruggiero et al. 1994, Bender et al. 1998). When making land use planning decisions, practitioners should consider the contribution of patches to the overall landscape structure and how well the location of any given patch relates or links to other patches (Dramstad et al. 1996).

- **Boundary zone:** The contrast between a patch edge and the surrounding landscape matrix (also referred to as the boundary zone) affects the severity of edge effects and the dispersal abilities of wildlife populations. The higher the contrast between patch types or patches and their surrounding matrix, the greater the edge effects (Franklin 1993). Boundaries in a landscape could be either "hard" or "soft." Hard boundaries usually result from human activities, such as clearcutting and development, and have linear borders with high vegetation contrast, such as between a forest and cultivated field. Soft edges, which dominate natural landscapes, tend to have varying degrees of structural contrast with curved habitat boundaries (Forman 1995). To minimize edge effects at the local scale and facilitate the movement of species between a patch and the surrounding matrix, land use planners should mimic naturally occurring edges and provide gradual thinning of vegetation (e.g., smaller shrubs grading into larger shrubs and taller trees at the edge of a wooded patch) rather than an abrupt transition from vegetated to denuded areas (Forman and Godron 1981, Forman 1995, Duerksen et al. 1997).

- **Patch condition:** The quality of the habitat patch itself will also influence the ability of remnant species and systems to persist or function over the long-term (Fahrig and Merriam 1994, Forman 1995). Large patches with degraded habitat—such as those dominated by non-native species, or with diminished biological diversity, severe erosion, or modified hydrologic patterns—may have less conservation value than small patches of high biological integrity.[19] The biological integrity of land parcels and whether or not they contain unusual or distinctive landscape features (e.g., cliffs, caves, meadows, thermal features, and vernal pools), old-growth forests or mature habitats, or rare, threatened, or endemic species, are also factors that land use planners should consider when selecting which lands to conserve (Dramstad et al. 1996, Duerksen 1997, Lindenmayer and Franklin 2002).

- **Role of small patches:** While large patches generally are recommended to provide sufficient habitat to sustain populations of species—particularly area-sensitive species—small patches also play a vital role in regional conservation. Although larger patches may contain greater habitat diversity than smaller ones, a collection of multiple small patches may capture a greater array of habitats, and perhaps more rare species, than a single large habitat patch (Forman and Godron 1981, Saunders et al. 1991, Forman 1995, Tschartnke et. al. 2002). Small wetlands of less than two hectares, for example, can support surprisingly high species richness of amphibians (Richter and Azous 1995 as cited in Metro 2001). Proximity to core habitat and local habitat heterogeneity, rather than riparian habitat area, may better predict reptile and amphibian richness (Burbink et. al. 1998). In addition, small isolated riparian habitat patches have been found to be vital stop-over sites for en-route migratory birds in the southeastern United States (Skagen et al. 1998). If strategically positioned between larger habitat patches, smaller patches can serve as "stepping stones" to allow for greater species dispersal and recolonization (Murphy and Weiss 1988; Burel 1989 and Potter 1990 as cited in Fahrig and Merriam 1994; Forman 1995).

Many of the above described factors influence not only the effective habitat patch size, but also other fragmentation thresholds, such as the proportion of suitable habitat or the amount of edge in a landscape. Thus, land use planners should keep these design considerations in mind when interpreting the thresholds presented below.

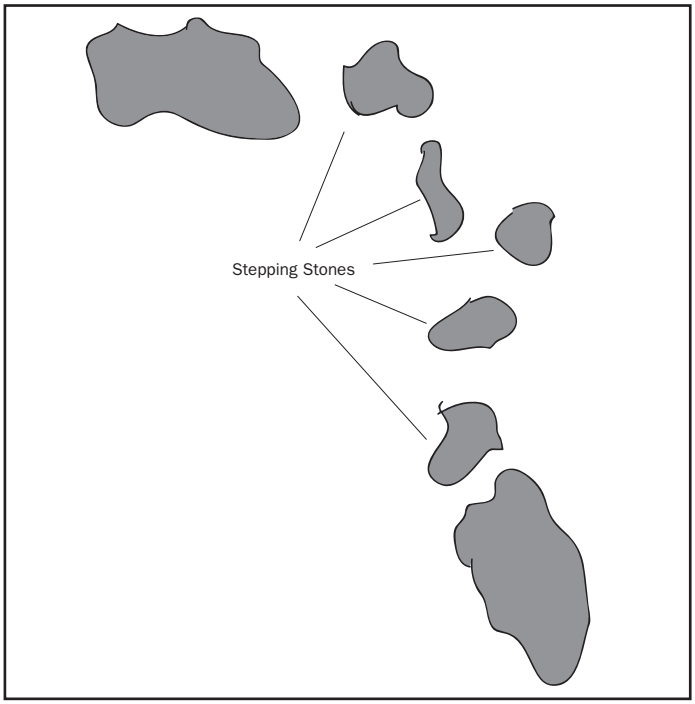


Diagram 4. Stepping stone patches. *Protecting habitat patches strategically positioned between larger habitat patches can be a way to enhance species dispersal and colonization in a landscape, and to increase local species population persistence. Modified from Duerksen et al. (1997), Habitat Protection Planning: Where the Wild Things Are, p 14.*

[19] Biological integrity refers to "a system's wholeness, including presence of all appropriate elements and occurrence of all processes at appropriate rates" (as cited in Angermeier and Karr 1994).

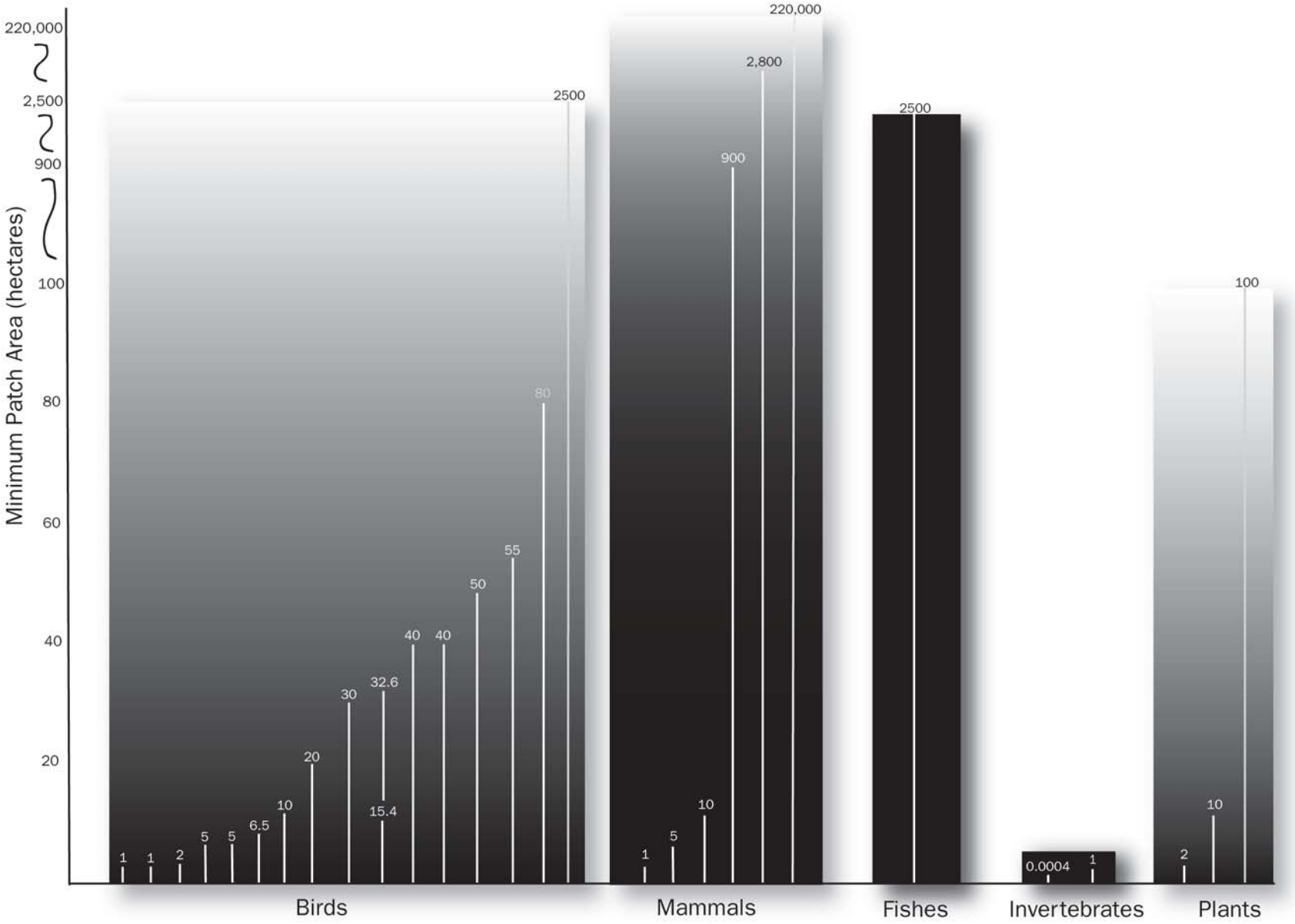


Figure 1. Minimum patch area requirements (in hectares) needed to maintain populations or communities of birds, mammals, fishes, invertebrates, or plants species in the United States, as cited in the scientific literature. Numbers represent the recommended minimum patch area sizes; two numbers along one line indicate a recommended range (*see* Appendix A for specific findings). Lines extend from zero to the recommended minimum patch area sizes to indicate the span of habitat needed for protection.

SUITABLE HABITAT IN LANDSCAPE

Landscapes are complex assemblages of many habitat fragments that together help sustain large-scale biological systems. As a result, meeting minimum patch sizes for species in a given landscape may be inadequate to ensure their persistence (Fahrig 2001). The configuration and nature of the landscape surrounding a patch also greatly determine whether a region will support species persistence and diversity (Lindenmayer and Franklin 2002).

In addition to considering the size of patches, land use planners must consider the total amount of suitable habitat in a given landscape. Local populations of plants and animals are often linked together by dispersal, essentially forming a larger "metapopulation" (Hanski and Simberloff 1997).[20] Individual species from such subpopulations migrate between habitat patches, interacting and breeding with other individuals, which influences the overall survivorship of the species in a region. In addition, the quality and availability of habitat patches can greatly determine the viability of a metapopulation. Some habitat patches may be of higher quality allowing for the local species population to benefit from higher reproductive rates than death rates. These "source" populations produce excess individuals that could emigrate into neighboring patches to settle and breed, thus, expanding the overall population and helping to buffer it from local extirpation. On the other hand, some habitat patches may be of poor quality, where local productivity is less than mortality. Referred to as "sink" populations, these areas lack immigration of individuals from source populations, leading to the extirpation of the local population (Pulliam 1988). For species populations that exhibit a metapopulation structure, land use planners should strive to protect existing source habitat patches, as well as restore habitat that may serve to support future source populations. However, land use planners should be cautious not to designate critical habitat solely by the proportion of the local population present; a source habitat could support as little as 10 percent of the metapopulation, which is responsible for maintaining the other 90 percent of the total population (Pulliam 1988). Rather, land use planners should work with ecologists to identify source habitat by demographic characteristics (e.g., death and birth rates of species).

Metapopulation theory reveals that the local extinction of a subpopulation can be prevented by occasional immigration from neighboring patches, termed the "rescue effect," which is considered important in maintaining small populations and high levels of species diversity (Brown and Kodric-Brown 1977, Stevens 1989). Local extinctions may commonly occur within small habitat patches; about 10-20 percent of certain local populations of plants, arthropods, amphibians, birds, and small mammals within various habitat types have been found to go extinct per year (Fahrig and Merriam 1994). Thus, a set of interconnected habitat patches should be conserved to sustain sufficiently large metapopulations that would allow for regional species persistence.[21] Habitat patches must also be configured to facilitate dispersal and recolonization between patches, particularly those used for breeding and foraging (Saunders et al. 1991, Fahrig and Merriam 1994, Boulinier et al. 2001, Fahrig 2001). Land use planners should strive to identify particular subpopulations, habitat patches, or links between isolated patches that are critical for the maintenance of the overall metapopulation of priority species (Meffe and Carroll 1997).

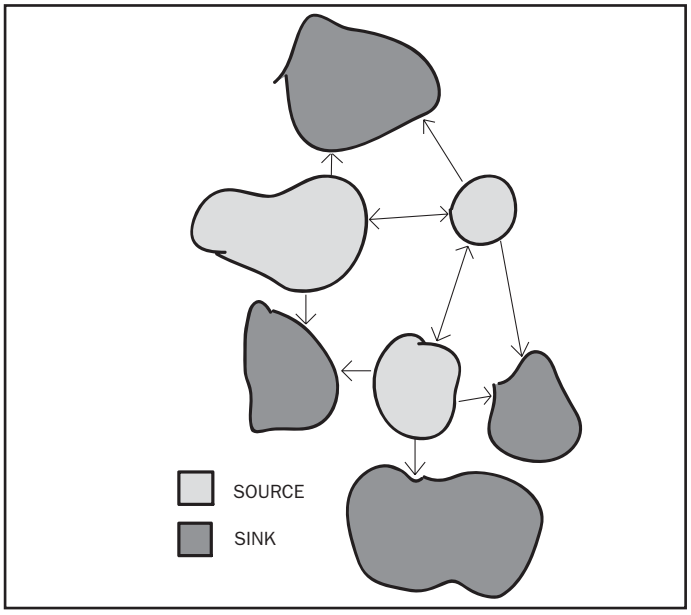


Diagram 5. Metapopulation and Source/Sink Dynamics. *Local populations of organisms in different habitat patches may be linked demographically, forming an interdependent metapopulation. "Source" habitat patches, which supplement local populations in "sink" habitat patches, should be targeted for protection. Ideally, land use planners should protect entire metapopulations. Modified from Mette and Carroll (1994), Principles of Conservation Biology, p 188.*

Not only is the quality of the habitat patches themselves important, but also the condition of the matrix between isolated habitat patches. If the matrix is able to support populations of species present in the original contiguous habitat or allows for adequate species dispersal or migration between fragments, then communities in remnant patches may retain diverse and viable populations of native plants and animals (Askins 1995). Estimating the proportion of suitable habitat in a landscape is a larger scale method of determining how much suitable habitat should be conserved to ensure the persistence of species in a region.

MANAGING FOR THE AMOUNT OF NECESSARY HABITAT IN A LANDSCAPE

Scientists generally offer recommendations on the proportion of suitable habitat that should be conserved in a

[20] A metapopulation is a set of local populations that interact by individuals moving between the local populations (or subpopulations) (Hanski and Gilpin 1991).

[21] A local extinction refers to the extinction of a single, local population in a given geographic area; a local extinction does not entail that the entire species has gone extinct within its known range.

landscape based on two scientific trends. First, species disappear in a landscape with the loss of a certain amount of habitat, and different species go extinct at different thresholds of habitat loss (Fahrig 2002). Thus, scientists have estimated extinction thresholds to determine the proportion of suitable habitat needed to sustain specific species.[22] The "extinction threshold" is the minimum amount of habitat required for a population to persist in a region below which the population will go extinct (Fahrig 2001, Fahrig 2002).[23] Extinction thresholds are essentially the converse of population viability estimates derived from PVAs (described above).

Second, threshold values may be based on the amount of habitat below, which the negative effects of habitat fragmentation may compromise species persistence. This is termed "habitat fragmentation thresholds" (Andrén 1994, Fahrig 1998). As the proportion of suitable habitat decreases in a landscape, the reduction in patch sizes and the increasing isolation of these fragments begins to significantly affect the abundance, distribution, or diversity of species in the landscape due to alterations in species movement or the spread of disturbance (e.g., wildfire, flooding, invasion by exotic species), among other factors (Gustafson and Parker 1992, Andrén 1994). The recommendations presented in this review are largely based on existing literature reviews of both extinction thresholds and habitat fragmentation thresholds (*see* Andrén 1994, Fahrig 2001).

Studies of suitable habitat range between 5 percent to 80 percent of the landscape depending on the species, geographic region, and parameters in question (*see* Appendix C). Seventy-five percent of the surveyed studies reported that suitable habitat should be up to 50 percent of the total landscape, whereas 50 percent of the studies reported at least 20 percent of habitat (*see* Figure 2). Given the constraints presented by the available literature (*see* "A Closer Look at Proportion of Suitable Habitat" in Appendix A for explanation on limitations), the conservation of greater proportions of habitat—such as a minimum of 60 percent—is recom-

[22] From a species perspective, suitable habitat has been interpreted as habitat utilized for nesting, with associated expected birth and death rates that allow for a stable or growing population (Lamberson et al. 1994).

[23] The extinction threshold may be estimated by: 1) the minimum amount of habitat below which the equilibrium population is zero; or 2) the minimum amount of habitat below which the probability of longterm population survival is less than one (Fahrig 2002).

BOX 3. PLANNING AT THE RIGHT SCALE

Natural communities vary greatly in the area in which they occur. In order to determine which land parcels and how much habitat to protect, land use planners should plan at the appropriate scale for the target system or species. Ideally, planning would occur across multiple scales to capture the greatest habitat and species diversity (*see* Box 2 for a definition of scale).

1. Coarse scale

Certain habitats and species, termed "matrix" habitats and "coarse-scale" species, will require planning to occur at a very large scale to capture their wide-ranging needs. Natural communities—such as spruce-fir forests (Northeast), longleaf pine forests (Southeast), tallgrass prairie (Midwest), and sagebrush (West)—can span as much as one million contiguous acres. Matrix communities are historically dominant habitat and exist across widespread physical gradients, such as broad ranges of elevation, precipitation, and temperature. Coarse-scale species (also termed wide-ranging species) require large areas to access the quantity of habitat or the different habitat types needed for survival (e.g., prairie chicken, fox, badger, marten, and pike minnow). Migratory species (e.g., migratory birds or salmon) and top-level predators (e.g., caribou, wolves, and bears) may depend upon not only matrix communities, but also associated habitat patches (described below), connecting corridors, and aquatic systems. To address the needs of such expansive communities and wide-ranging species, land use planners will need to take a landscape scale and regional approach; an area of several thousand acres up to one million acres may need to be conserved. This scale of planning will likely demand an inter-jurisdictional perspective and inter-municipal cooperation.

2. Intermediate scale

Planning may need to occur at a smaller scale—on the order of several hundred to a thousand acres—to conserve "large patch" community types and "intermediate-scale" species. Occurring in large patches, but not as vast an area as matrix types, are communities like red maple-black ash swamps or northern hardwood forests. Large patch communities may span a thousand acres but are bound by certain physical factors (e.g., coastal salt marshes being defined by low topographic position and predictable tides) or by a single dominant ecological process (e.g., fire, flooding, or drainage). Intermediate-scale species are those that depend on a single large patch or several different kinds of habitats (e.g., amphibians that depend on both wetland and upland complexes).

3. Fine scale

Land use planners will need to plan at a more "fine" or site-specific scale to ensure that "small patch" communities and local-scale species are protected. Small patch communities are communities that naturally occur in narrow, localized, or discrete areas (e.g., fens, bogs, glades, caves, or cliffs) or occur only where specific or narrow physical factors and local environmental conditions are present (e.g., seepages, outcrops, certain types of soil). Local-scale species are species with limited movement and dispersal abilities or specific habitat needs that restrict their populations to a single community or habitat type. Belonging to this category are many rare and threatened species, insects, and plants. Occurrences of small patch communities and local-scale species may be found in only a couple of acres up to several hundred acres.

Given the natural variability in occurrence of communities and species and their wide-ranging geographic needs land use planners will need to plan at multiple scales to capture the biological diversity of a region, as well as to plan at the right scale for designated conservation targets.

The conservation thresholds found within this literature survey are predominately based on matrix and large patch communities, as well as coarse- and intermediate-scale terrestrial species. Thus, the findings and recommendations in this report do not fully address the conservation needs for small patch communities, local-scale species, and aquatic environments. To ensure the protection of restricted communities and rare species, land use planners will need to collaborate with local ecologists to identify priority conservation areas for their region.

The above information is based on research by The Nature Conservancy (TNC) (see Poiani and Richter 2000, and TNC 1998).

mended to sustain long-term populations of area-sensitive species and rare species.

Scientists have proposed that more robust species (e.g., large dispersal range, high fecundity, high survivorship)—usually the more common widespread species—may persist in even the most extensively fragmented systems with only 25 to 50 percent of suitable habitat. In contrast, rare species and habitat specialists like the Northern spotted owl may require up to 80 percent of suitable habitat to persist in a region (Lande 1987, Lande 1988, Lamberson et al. 1992). Land use planners should take into account the more sensitive and rare species within their region to develop critical thresholds for proportions of suitable habitat relevant to their geographic setting (Mönkkönen and Reunanen 1999). Such an approach may also provide for the protection of more common and robust species that depend on similar habitat types.

Land use planners should strive to conserve at least 20% to 60% of natural habitat in a landscape.

In addition to the proportion of suitable habitat, other considerations should be factored into land use decisionmaking, such as the spatial arrangements of remaining habitat patches and the matrix between patches. In landscapes that are highly fragmented—including most urban, suburban, and even rural areas with less than 30 percent of remaining suitable habitat—the spatial arrangement of habitat patches greatly affects species survival (Andrén 1994). For example, wetland bird communities are found to depend not only on their local habitat, but also on the amount of wetlands within a surrounding three kilometer buffer (Fairbairn and Dinsmore 2001).

The condition of the surrounding matrix in which habitat patches are embedded also influences the effective size of the remaining fragments and the degree to which the patches are isolated (Andrén 1994, Lindenmayer and Franklin 2002). In turn, these factors affect whether or not species will be able to successfully disperse among habitat patches and whether important ecosystem processes, such as fire and hydrologic cycling, will occur on the landscape (Fahrig and Merriam 1994) (*see* "Patch location/configuration").

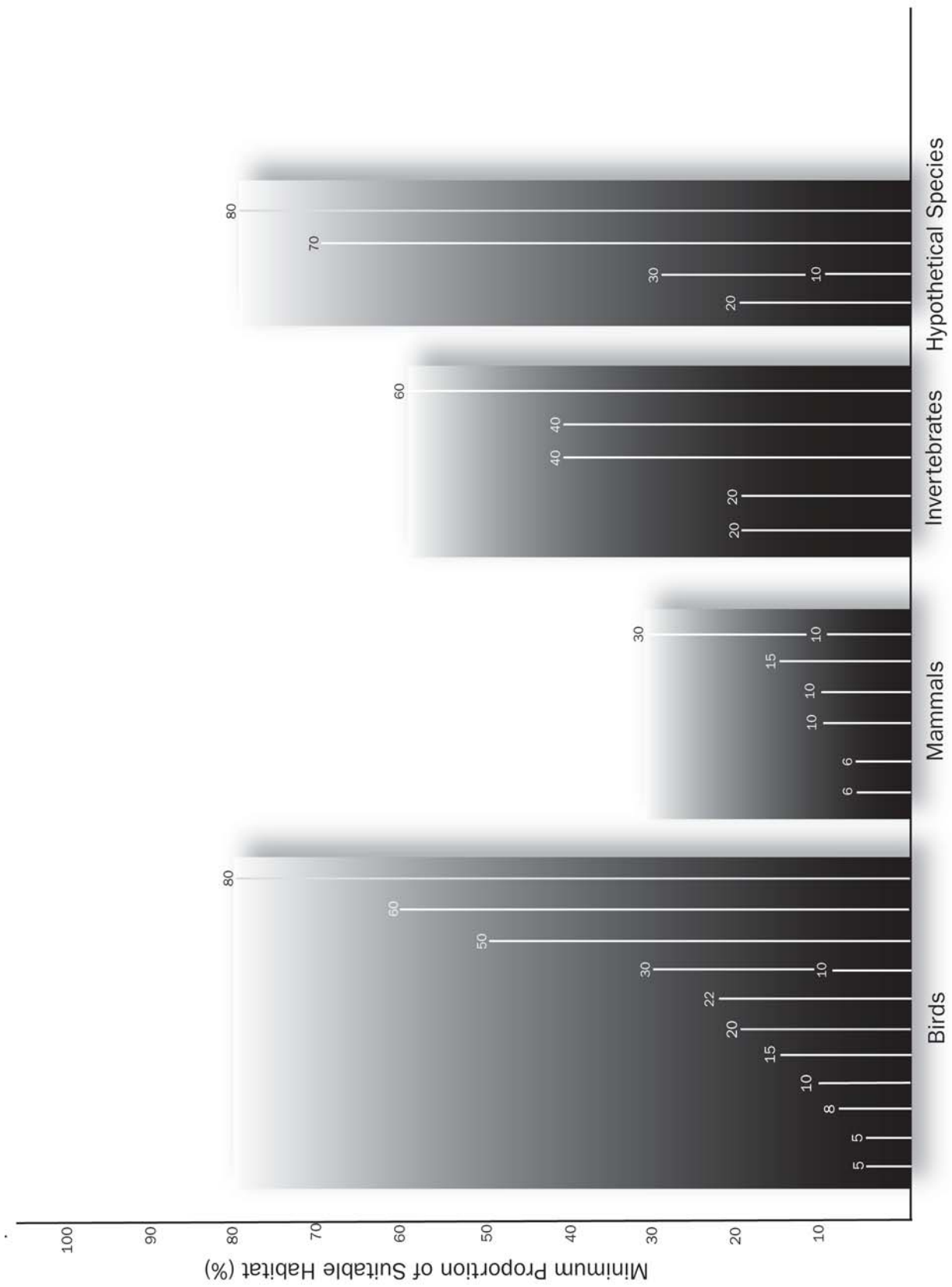


Figure 2. Recommended minimum proportions of suitable habitat (in percentages) needed to maintain populations or communities of birds, mammals, invertebrates, or hypothetical species (as determined by models) in the United States, as cited in the scientific literature. Numbers represent the recommended minimum proportions of habitat; two numbers along one line indicate a recommended range (*see* Appendix B for specific findings). Lines extend from zero to the recommended proportion to indicate the span of habitat needed for protection.

EDGE EFFECTS

Habitat fragmentation inevitably results in the creation of edge environments. Edges occur where a habitat—such as a forest, prairie, or wetland—meets a road, clearcut, housing development, or some other natural or artificial transition or boundary (Soulé 1991). Habitat fragments differ from the original contiguous natural habitat in that they have a greater amount of edge per area and the habitat core is closer to an edge environment. Patch edges may have significantly different conditions than the contiguous system or habitat interior, with altered fluxes of wind, sun exposure, water, and nutrients that greatly affect animal and plant communities (Saunders et al. 1991, Murcia 1995). This change in energy, nutrient, or species flow results from increased amounts of edge and reduced interior habitat, and has been termed the "edge effect."

Increased amounts of edge along habitats create a disturbed environment that allows for the establishment of pest and predator species, which penetrate the fragment interior and adversely affect the diversity and abundance of interior species (Primack 1993). Mammalian predators (e.g., raccoons, foxes, coyotes, feral cats), egg-eating birds (e.g., crows and blue jays), and brood parasitizers (e.g., brown-headed cowbirds) concentrate their hunting along forest edges, thus, increasing the intensities of predation on native species (Soulé 1991).[24] Habitat fragmentation also increases the vulnerability of remnant patches to invasion by exotic and pest species (Soulé 1991, Askins 1995). Higher frequency and intensity of disturbances, like fire and wind damage, may also result due to increased edge (Soulé 1991). Edges like roads and trails introduce such disturbances as pedestrian, pet, and vehicular traffic, causing animals to avoid such areas (Duerksen et al. 1997). Each of these edge effects has significant impact on the vitality and composition of the species in the remaining habitat patch.

Information on environmental and species response to edges helps determine how large patch sizes should be designed to provide sufficient interior habitat, as well as how far development, such as roads, trails, and housing, should be from remnant core areas.

Managing for Edge Influence

The intensity of edge effects has been measured by a number of different methods. The influence of an edge (termed "edge influence") may be defined as the distance between the border to the point where microclimate and vegetation do not significantly differ from the interior conditions of the habitat. From a species perspective, edge influence may be defined as the distance from an edge to the area where species densities, survival rates, or reproductive rates do not differ from those in the interior habitat (Forman 1995, Murcia 1995). Edge influence has also been measured by the behavioral response of animal movement, such as flushing distance, from a disturbance associated with edge environments.[25]

Creation of edge by deforestation, Willamette National Forest, Oregon. Photo courtesy of Steve Holmer, American Lands Alliance.

The intensity of edge effects is influenced by many physical factors, such as the shape and size of the patch, the direction the edge faces (i.e., aspect), and the structural contrast of its boundaries (Soulé 1991). As discussed earlier, larger, circular patches will have more interior habitat and less edge than a rectangular or oblong patch of the same size (Forman and Godron 1981) (*see* "Patch shape"). The orientation of edges affect the amount of exposure to solar radiation, with edges facing the equator tending to have wider edge influence (Forman and Godron 1981, Murcia 1995). The more structurally different the boundaries between different habitat types, the greater the edge effects.

To decrease the influence of edge, buffers are recommended to "soften" the transition between natural and artificial environments (*see* "Boundary zone"). A remnant forest patch directly abutting cropland or urban development will have significant edge effects in contrast to a forest adjacent to a buffer of small shrubs or secondary vegetation. In addition, some habitat types may be more susceptible to negative edge effects; for example, grasslands have been found to exhibit wider edges than forest edges (Forman 1995).

Scientists offer a wide range of findings on the distance edge effects penetrate into ecosystems in the United States, with results ranging from only eight meters up to five kilometers. Based on the response of birds to edge environments, edge effects may penetrate into a habitat patch from about 16 meters up to almost 700 meters; mammals may avoid edge environments from 45 meters up to 900 meters; and microclimate changes may extend from eight meters up to 240 meters into habitat (*see* Appendix E). The majority of the surveyed studies (75 percent) estimates edge influence to be approximately 230 meters or less (*see* Figure 3).

Based on this select review, land use planners should take a conservative approach to mitigating edge effects. To pro-

[24] Cowbird females lay their eggs in the nests of other bird species, relying on these hosts to incubate and raise their chicks. Brown-headed cowbirds have been found to parasitize over 220 host species. (see http://www.audubon.org/bird/research/cowbird-info.html).

[25] Flushing distance is the distance that an animal may flee in response to a disturbance, such as in response to pedestrian or pets on a trail or vehicular traffic on roads (Duerksen et al. 1997)

vide for sufficient suitable habitat, land use planners should buffer remnant patches by at least 300 meters from all edge peripheries, particularly for matrix and large patch community remnants; naturally small patch communities may not require such a wide buffer (*see* Box 3). The area within the buffer should not be counted as suitable habitat provided for species conservation. In addition, roads, trails, and other development should be placed at least 300 meters away from interior habitat to minimize impact. Ideally, land use planners and ecologists should work collaboratively to determine the intensity of edge effects by the response of species or groups of species that are most sensitive to patch size in the ecosystems or regions of concern (Forman 1995). Measuring edge distance by the most sensitive species—often vertebrates of conservation concern—would mean that the influence of edges may actually be hundreds or thousands of meters, thus, requiring much larger patch sizes to meet habitat requirements.

To avoid the negative effects of edges, land use planners should consider buffering up to 230 to 300 meters around edge peripheries.

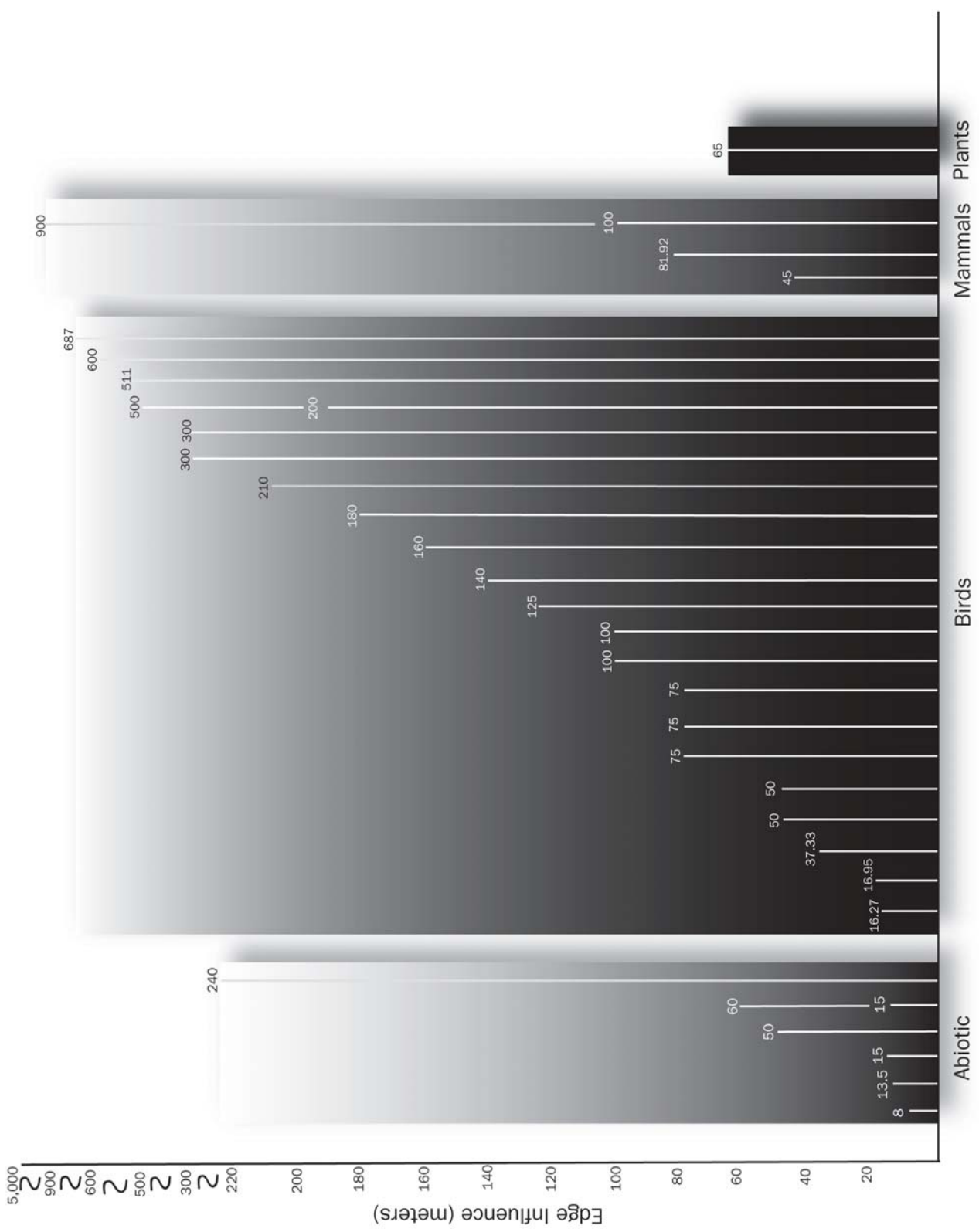


Figure 3. Distances (in meters) that edge effects penetrate into habitats in the United States, as cited in the scientific literature. Edge width is measured by abiotic, bird, mammal, or plant responses; abiotic responses include microclimate changes, such as changes in temperature, humidity and light. Numbers represent edge width distance findings; two numbers along one line indicate a range of edge width distance (*see* Appendix C for specific findings). Lines extend from zero to the determined edge widths to indicate the span of habitat that is affected by edge effects.

RIPARIAN BUFFERS

Although generally comprising a small proportion of the landscape—often less than 1 percent—riparian areas are regional hot spots that support a disproportionately high number of wildlife species and provide a wide array of ecological functions and values (Naiman et al. 1993, Fischer and Fischenich 2000, National Research Council 2002). The support of high levels of species diversity and ecological processes in these areas is due in part to regular disturbance events, like floods, as well as to climatic and topographic variation and the availability of water and nutrients (Naiman et al. 1993).

Riparian areas are ecosystems adjacent to or near flowing water, such as rivers, lakes, shorelines, and some wetlands. They are transitional areas between aquatic and upland terrestrial systems and exhibit gradients in environmental conditions, ecological processes, and living organisms (National Research Council 2002). Unfortunately, riparian systems are continuously threatened by adjacent or upstream human activities. For example, agricultural, industrial, or urban development can increase levels of light, temperature, stormwater runoff, sedimentation, pollutant loading, and erosion, which degrade water quality and diminish suitable aquatic habitat (Castelle et al. 1994). In the last 200 years, over 80 percent of riparian land in North America and Europe has disappeared (Naiman et al. 1993).

To ameliorate the negative impacts of adjacent land uses, a common regulatory and management practice is to establish protected areas, or buffers, around aquatic resources like rivers, streams, lakes, and wetlands. At least 15 states and seven local jurisdictions in the United States have adopted riparian buffer regulations, protecting widths ranging from six meters to over 300 meters in size (Johnson and Ryba 1992).

Buffers are vegetated zones, usually linear bands of permanent vegetation, preferably native species, located between aquatic resources and adjacent areas subject to human alteration (Castelle et al. 1994, Fischer and Fischenich 2000). Buffers can help regulate riparian microclimate and provide necessary shading for the in-stream growth and reproduction of aquatic life; stabilize stream banks and prevent channel erosion; provide organic litter (e.g., leaf litter) and woody debris, which are important sources of food and energy for fish and aquatic invertebrate communities; remove or regulate sediment, nutrients, or other contaminants (e.g., pesticides, herbicides) from runoff; provide flood attenuation and storage to decrease damage to property; and provide wildlife habitat (Castelle et al. 1994, O'Laughlin and Belt 1995, Wenger 1999, Fischer and Fischenich 2000, National Research Council 2002).

Riparian buffer establishment, North Hather Creek, Innoko, Alaska. Courtesy of U.S. Fish and Wildlife Service.

Managing for Adequate Buffer Width

Recommended buffer widths are commonly determined by one of two methods: uniform versus variable widths. Uniform-width buffers are commonly adopted because they are easier to enforce, require less specialized knowledge, time, and resources to administer, and allow for greater regulatory predictability (Castelle et al. 1994). Uniform widths are often based on a single resource protection goal, usually related to water quality. In contrast, with variable-width buffers, the size or width of the strip is adjusted along its length to account for multiple functions, adjacent land use, and site and stream conditions. The width of the strip may be adjusted depending on the value of the aquatic resources, the intensity of surrounding land use, and the type and condition of vegetation, topography, soils, or hydrology, among other variables. For example, a larger width may be required for buffers surrounding more pristine or highly valued wetlands or streams; in close proximity to high impact land use activities; or with steep bank slopes, highly erodible soils, or sparse vegetation (Castelle et al. 1994, Fischer and Fischenich 2000).

Land use planners should strive to establish 100-meter wide riparian buffers to enhance water quality and wildlife protection.

Although the method of varying buffer width is generally believed to provide more adequate protection for aquatic resources, it may be less efficient because variable strips can retain less material than a uniform-width buffer of equivalent average width (Weller et al. 1998). Thus, providing policymakers with scientific guidance on uniform buffer widths allows for the implementation of practicable land management practices that protect aquatic resources.

For this report, riparian buffer widths are measured from the top of the bank or level of bankfull discharge of one side of a water body;[26] therefore, a 50 meter buffer on a 10 meter stream would create a zone at least 110 meters wide (Wenger 1999, Fischer and Fischenich 2000).

As with other conservation thresholds, the scientific literature does not support an ideal buffer width applicable in all circumstances. This survey found recommended buffer widths ranging from one meter up to 1600 meters, with 75 percent of the values extending up to 100 meters (*see* "A Closer Look at Buffer Width" in Appendix E for further discussion). At minimum, a riparian buffer should encompass "the stream channel and the portion of the terrestrial landscape from the high water mark towards the uplands where vegetation may be influenced by elevated water tables or flooding, and by the ability of soils to hold water" (Naiman et al. 1993).

The necessary buffer size varies considerably based on the specific management goal. In general, recommended buffer sizes are significantly greater if the intent is to protect ecological functions, such as providing wildlife habitat and supporting species diversity, as opposed to water quality functions.

Based on the majority of scientific findings, land use practitioners should plan for buffer strips that are a minimum of 25 meters in width to provide nutrient and pollutant removal; a minimum of 30 meters to provide temperature and microclimate regulation and sediment removal; a minimum of 50 meters to provide detrital input and bank stabilization; and over 100 meters to provide for wildlife habitat functions.[27] To provide water quality and wildlife protection, buffers of at least 100 meters are recommended (*see* Figure 4).

Other Buffer Design Considerations

The width of any given buffer is just one aspect, albeit important, which determines its ability to provide a variety of functions. Other factors to consider are the linear extent, vegetation composition, and level of protection of buffers. The following is general guidance on the design and development of buffers.

- **Vegetation:** Buffers should have diverse vegetation that is both native and well-adapted to the region. Maintaining a diverse array of species and vegetation structure (e.g., herbaceous ground cover, understory saplings, shrubs, and overstory trees) is recommended to allow for greater tolerance to possible fluctuations in environmental conditions (e.g., water levels, temperature, herbivory), and to provide for greater ecological functions (e.g., wildlife habitat) (see Fischer and Fischenich 2000 for further guidance on vegetation type, diversity, and propagation techniques).
- **Extent:** In part, the effectiveness of a buffer in meeting management objectives is a function of the linear extent of the aquatic system that is protected (Wenger 1999). Protection efforts should prioritize the establishment of continuous buffer strips along the maximum reach of stream, rather than focusing on widening existing buffer fragments (Weller et al. 1998). Protection of the headwater streams as well as the broad floodplains downstream is also recommended. Headwater streams and downstream floodplains generally encompass less than 10 percent of total landmass; thus, this level of protection is practicable (Naiman et al. 1993). Ideally, buffers

[26] The bankfull discharge is the maximum level of discharge that a stream channel can convey without flowing onto its floodplain. This stage plays a vital role in forming the physical dimensions of the channel because the flows near the bankfull stage move the most sediment over the long-term and the processes of sediment transport and deposition are the most active in forming the channel (Dunne and Leopold 1978).

[27] While a 100-meter buffer is recommended to provide for adequate wildlife values, some natural riparian habitat is too narrow to support such an area. In these cases, land use planners should consider the utility of narrower buffers, especially where they might function as wildlife corridors (see "Habitat Connectivity").

should extend along all perennial, intermittent, and ephemeral streams, lakes, shorelines, and adjacent wetlands (Weller et al. 1998, Wenger 1999), so long as such buffering would not create detrimental upland habitat fragmentation as might be the case in areas of high stream densities (Lindenmayer and Franklin 2002).

- **Buffer protection:** To ensure that buffers function adequately, all major sources of disturbance and contamination should be excluded from the buffer zone, including dams, stream channelization, water diversions and extraction, heavy construction, impervious surfaces, logging roads, forest clear cutting, mining, septic tank drain fields, agriculture and livestock, waste disposal sites, and application of pesticides and fertilizers (Wenger 1999, Pringle 2001). Another consideration is the level of legal protection afforded to the area. Whether the buffer is in preservation status or protected under a conservation easement that allows for some level of activity, for example, will also determine its ability to provide desired functions.

BOX 4. UNDERSTANDING THE EFFECTS OF LAND USE

The many different uses of land—whether for agriculture, silviculture, recreation/open space, or commercial or residential development—will have varying impacts on the ecosystems, habitats, and species in a region. The types, extent, and combinations of land uses within a matrix will affect the viability of habitat patch sizes, the amount of suitable habitat, the severity of edge effects, and the utility of buffers and corridors in a given landscape.

Certain land use types are likely to be more compatible with biodiversity conservation in certain landscapes, depending on the natural arrangement of physical features, habitats, and species, and the effect of previous land uses (Forman 1995). A study on breeding bird communities in central Pennsylvania, for example, found that forests within agricultural landscapes had fewer forest-associated species, long-distance migrants, forest-canopy and forest-understory nesting species, and a greater number of edge species than forest landscapes primarily disturbed by silviculture, irrespective of the effect of disturbance (Rodewald and Yahner 2001). In Colorado, ranchlands and protected reserves were found to be more compatible with species of conservation concern (including songbirds, carnivores, and plant communities) than exurban developments, which tended to support only human-adapted species (Maestas et al. *in press*).

To plan for long-term sustainability, land use planners will need more guidance on the level of compatibility of different land uses in various regions and ecosystems. As a general rule, a landscape mosaic should be planned first according to its ecological constraints (e.g., water availability, forest and soil productivity, natural flooding/fire cycles) and natural site potential (e.g., natural potential for productivity and for nutrient and water cycling) (Dale et. al. 2000). In terms of hierarchical planning, a general recommendation is for land use planners to first plan "for water and biodiversity; then for cultivation, grazing, and wood products; then for sewage and other wastes; and finally for homes and industry" (Forman 1995 *as cited in* Dale et al. 2000, p.658).

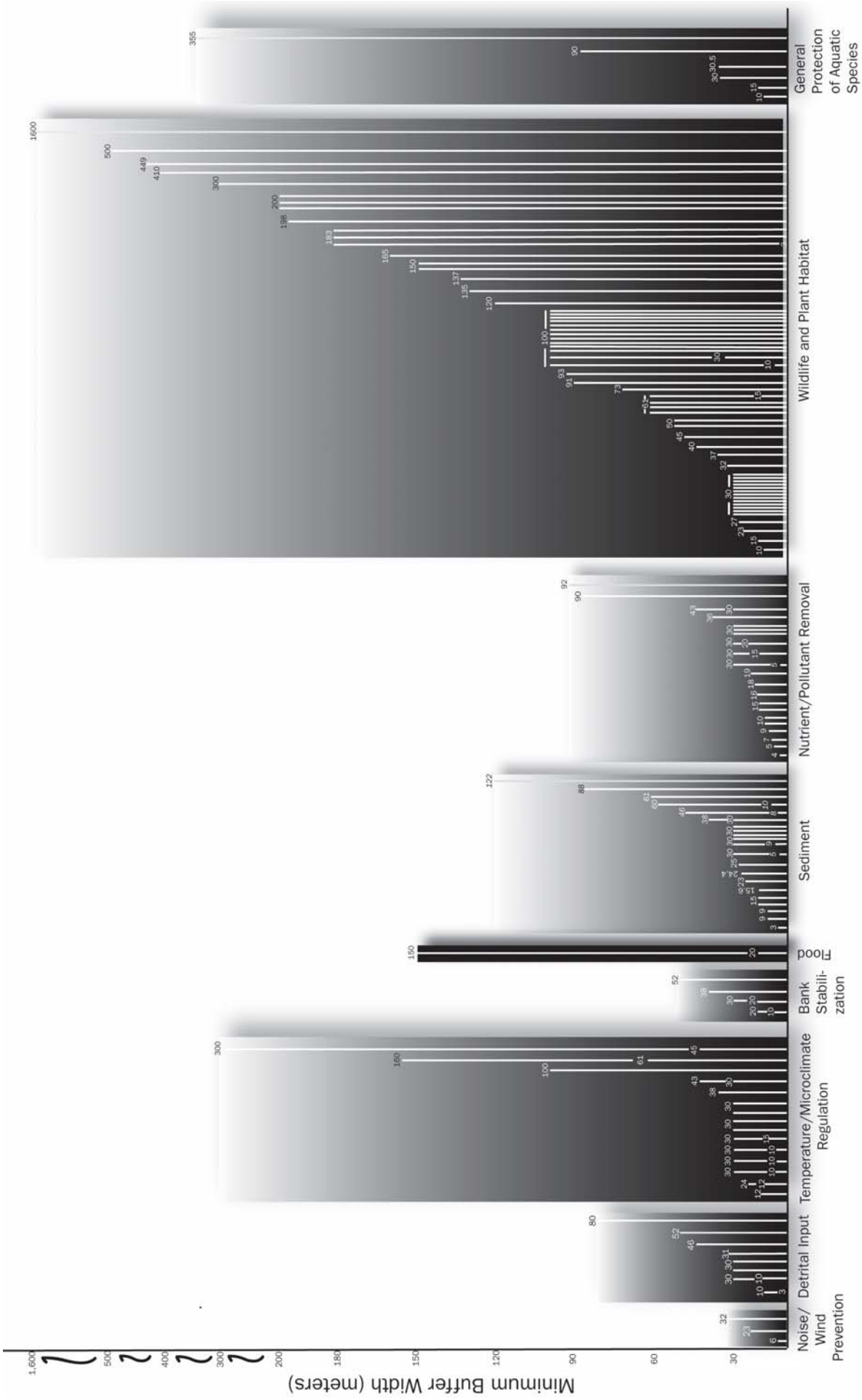


Figure 4. Recommended minimum riparian buffers (in meters) from each side of a water body (e.g. stream bank) needed to prevent noise/wind damage; provide detrital input; moderate temperature/microclimate; stabilize banks; provide flood attenuation; control sediment; reduce nutrients/pollutants; and provide wildlife habitat functions and general protection of aquatic systems in the United States, as cited in the scientific literature. Numbers represent the recommended minimum buffer widths; two numbers along one line indicate a recommended range (*see* Appendix D for specific findings). Lines extend from zero to the recommended buffer widths to indicate the span of habitat needed for protection.

HABITAT CONNECTIVITY

Conservation biologists generally agree that species viability and diversity are enhanced by well-connected habitats (Fahrig and Merriam 1985, Gilpin and Soulé 1986, Primack 1993, Noss and Cooperrider 1994, Meffe and Carroll 1997, Beier and Noss 1998, Lehtinen et al. 1999). Because small, isolated reserves are unlikely to maintain viable populations over the long-term, and because climate change and disturbances require that organisms be able to move over large distances, corridors are recommended as one conservation measure to counter the negative effects of habitat fragmentation and patch isolation (Noss 1991).

Not only can riparian buffers help ensure water quality protection and habitat for plants and animals adjacent to waterbodies, but they can also act as dispersal routes for species and connect remnant patches.[28] Although riparian corridors are useful for some terrestrial wildlife, linkages outside riparian areas may be required to maintain connectivity for non-associated upland species (McGarigal and McComb 1992).

Corridors (also referred to as conservation corridors, wildlife corridors, or dispersal corridors) are intended to permit the direct spread of many or most taxa from one region to another (Brown and Gibson 1983 *as cited in* Noss 1991). They should facilitate foraging movements, seasonal migrations, dispersal and recolonization, and escape from disturbance (Saunders et al. 1991, Soulé 1991). Whether or not corridors actually provide connectivity will depend largely on the species in question and its dispersal capabilities and movement patterns across the landscape (Saunders et al. 1991). Given the species-specific nature of this issue, generalizations about the biological value of corridors are under debate among the scientific community (Noss 1987, Simberloff and Cox 1987, Simberloff et al. 1992, Franklin 1993, Beier and Noss 1998) (for further discussion *see* Appendix A "Further Analysis").

Managing for Optimal Corridor Width

An important design consideration when maintaining or establishing habitat corridors is width. Corridor width can influence the dispersal behavior of species, resulting in changes in home range size, shape, and use. In addition, corridor width is positively correlated with the abundance and species richness for birds, mammals, or invertebrates (Lindenmayer and Franklin 2002). As is true for other conservation thresholds, in general, the wider the better. Wider corridor bands are recommended to provide interior habitat conditions, which allows for the movement and/or habitation of interior species. In addition, greater habitat area is more likely to provide sufficient cover for species from predators, domestic animals, or human disturbance (Forman and Godron 1981). Corridors that are too narrow may consist entirely of edge, thus, deterring the use by interior or area-sensitive species or causing an increase in mortality from predation (Wilcove et al. 1986).

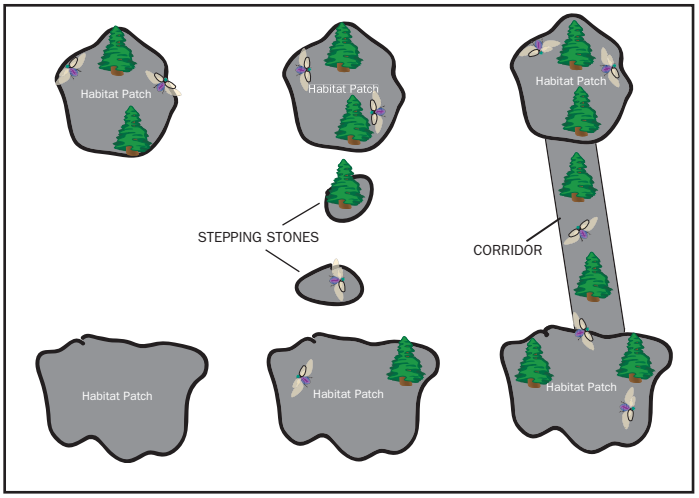


Diagram 6. Habitat Connectivity. *Habitat connectivity can be increased by the protection of stepping stone patches or by the establishment of a corridor. Modified from Dramsted et al. (1996), Landscape Ecology Principles in Landscape Architecture and Land-Use Planning, p. 37.*

Although corridor width has been identified as an important design element, few studies explicitly examined minimum corridor width requirements. This survey found a limited number of studies that provide indirect evidence on effective corridor sizes, however, none of the reviewed studies explicitly tested different corridor widths with the goal of determining an optimal size. Although they did not directly examine recommended corridor width, three studies did find corridor widths of 32 meters and 100 meters to encourage the movement of butterflies and reduce species turnover rates for breeding birds, respectively (Haddad and Baum 1999, Haddad 1999 for butterflies; Schmiegelow et al. 1997 for birds).

Data limitations on the relationship between corridor width and species response prevent the development of recommendations on optimal corridor size. For any given set width, corridor effectiveness will vary with other attributes, such as length, habitat continuity, habitat quality, and topographic position in the landscape, among other factors (Lindenmayer and Franklin 2002) (*see* "Other Corridor Design Considerations").

First and foremost, land use planners should strive to limit the degree of isolation between existing habitat patches and optimize the natural connectivity to allow for the dispersal of sensitive native species through the most appropriate means. This may be done by establishing habitat corridors, maintaining specific structural conditions within the landscape, or setting aside stepping stone patches (Lindenmayer and Franklin 2002) (*see* "Inter-patch distance").

[28] A riparian corridor is a strip of vegetation adjacent to an aquatic system that connects two or more larger patches of habitat through which an organism is likely to move (Fischer et al. 2000). Corridors are not only riparian but also can be positioned in upland environments as well.

Simultaneously, land use planners should minimize the connectivity of artificial habitats like clearcuts, agricultural fields, and roadsides that tend to spread exotic and pest species (Noss 1991).

Other Corridor Design Considerations

Corridor width is one important factor that determines whether a corridor will enhance landscape connectivity. Other factors to consider are the condition of the landscape matrix, the distances between remnant patches, and the extent and configuration of the corridors themselves.

- **Condition of landscape matrix:** The landscape matrix in which corridors are embedded greatly influences corridor use. If conditions in the matrix are suitable (e.g., sufficient original vegetation cover exists), then species reliance on corridors may be minimized. On the other hand, if matrix conditions are inhospitable or degraded (e.g., are highly developed or fragmented; have disrupted ecological processes or disturbed conditions; or are highly invaded by exotic species), then corridor systems linking remnant patches may be required to retain landscape connectivity (Rosenburg et al. 1997 *as cited in* Lindenmayer and Franklin 2002). Given that land use planners often work in extensively developed or developing areas, the latter case is the most likely. Understanding the relationship between the landscape matrix and the movements of target organisms will be fundamental in determining the best placement of corridors to enhance connectivity (Lindenmayer and Franklin 2002).

- **Inter-patch distance:** The distance between remnant patches will affect the conservation value of corridors. When distances between remnant patches are short as compared to the movement ability of target species, a stepping stone approach may be the most effective mechanism for promoting dispersal (*see* "Patch location/configuration"). On the other hand, if the distance separating habitat fragments is relatively far, corridors may be the right mechanism to provide landscape connectivity (Haddad 2000).

- **Corridor configuration and extent:** Networks of intersecting corridors may provide for more effective migratory pathways, allowing greater opportunities for animal foraging and predator avoidance (Forman and Godron 1981). Ideally, a corridor would "encompass the entire topographic gradient and habitat spectrum from river to ridgetop" (Noss 1991). Such an expansive corridor network may allow for the representation of different native habitat and land cover types in a region. In addition, having such a broad system of corridors would help enhance overall resiliency in case of the destruction of individual corridors by unexpected disturbances (Noss 1991).

BOX 5. CONSERVATION THRESHOLDS: A STARTING POINT

The following summarizes findings from a select sample of scientific papers pertinent to species and ecosystems in the United States on critical thresholds related to minimum habitat patch area, proportion of suitable habitat, edge influence, and riparian buffer width. Recommendations are based on the goal of capturing 75 percent of the requirements found for species, communities, and habitats surveyed; thus, the third quartile was used by calculating the value for which 75 percent of the threshold values lie below this value (after numerical ranking). These guidelines should be interpreted very cautiously because they are based on a small sample, and may not be applicable for specific species, habitats, and geographic settings of concern. Land use planners and land managers should consider these results as a baseline from which to launch more tailored and in-depth assessments.

Habitat Patch Area

In general, land use planners should strive to maintain and protect habitat patches greater than 55 hectares (137.5 acres). The goal should be to maintain larger parcels greater than 2,500 hectares (or about 6,175 acres) to protect more area-sensitive species.

Proportion of Suitable Habitat

In general, land use planners should strive to conserve at least 20 percent up to 50 percent of the total landscape for wildlife habitat, where possible.[†] The conservation of greater proportions of habitat—such as a minimum of 60 percent—may be needed to sustain long-term populations of area-sensitive species and rare species.

Edge Influence

In general, to avoid the negative effects of edges on habitats, land use planners should consider establishing buffer zones up to at least 230 to 300 meters from the periphery of edges.

Riparian Buffer Width

In general, land use planners should plan for riparian buffer strips that are a minimum of 25 meters in width to provide for nutrient and pollutant removal; a minimum of 30 meters to provide temperature and microclimate regulation and sediment removal; a minimum of 50 meters to provide detrital input and bank stabilization; and over 100 meters to provide for wildlife habitat functions. To provide water quality and wildlife protection, buffers of at least 100 meters are recommended.

Landscape Connectivity

Land use planners should strive to reduce the distances between habitat patches and to optimize the natural connectivity of the landscape. This may be done by establishing habitat corridors that connect previously isolated patches; by maintaining the natural, structural conditions within the landscape; or by setting aside stepping stone patches. Simultaneously, land use planners should minimize the connectivity of artificial habitats like clearcuts, agricultural fields, and roadsides.

‡ The 50 percent recommendation is based on capturing 75 percent of the threshold values surveyed; 20 percent is based on capturing 50 percent of threshold values surveyed. The latter recommendation is provided because land use planners are often working in highly developed regions where protecting 50 percent or more of the landscape is impractical.

RECOMMENDATIONS FOR FUTURE RESEARCH AND ACTION

THE ROLE OF THE SCIENTIFIC COMMUNITY

More scientific research is needed to help inform specific land use decisions being made everyday in the United States—decisions that significantly determine the future of domestic biodiversity. This survey of the scientific literature found that out of all land management strategies geared toward reducing the effects of urbanization and sprawl, the most substantial guidance available is on how to best develop riparian buffers. Conversely, science offers very little consensus opinion to land use planners on how to determine which habitat patches to conserve and where; the amount of habitat to protect in a region or conversely the maximum amount of impervious surface to allow; the ways in which to mitigate against the negative consequences of habitat edges; or how best to design and plan for corridors. In addition, because development will continue to occur and because private lands are increasing becoming more important in species conservation, more information is needed on the level of compatibility of the various types and combinations of land uses with biodiversity. To better inform decisionmaking, the scientific community needs to provide more specific information to land use practitioners on how to implement ecologically conscious growth.

> *"Fragmentation effects are difficult to translate into management rules-of-thumb for several reasons: (1) they tend to be highly specific to the taxa, spatial scales, and ecological processes considered; (2) they vary according to the landscape type and its structure; and (3) their influence on species distribution and abundance may be obscured by local effects such as changes to certain microhabitat features (e.g., habitat degradation)."*
>
> Villard (2002), Ecological Society of America, Ecological Applications 12(2), p.319

In addition, scientists should address the taxonomic bias in the literature. A recent review of 134 papers on habitat fragmentation found that over half of the research focuses on birds, the vast majority being songbirds. Mammals and plants come second, making up about 18 percent; invertebrates and reptiles/amphibians are the most understudied, with only 9 percent and 4 percent, respectively (McGarigal and Cushman 2002). Our survey found similar results. Most of the fragmentation research used for this study looks at the effects of fragmentation on bird species and, to a lesser extent, mammals. Sixty-six percent of the surveyed research on edge effects; 57 percent on patch area; 44 percent on proportion of suitable habitat; and 32 percent of the wildlife papers on buffers measured effects on bird species. Mammals made up 24 percent of the research on proportion of suitable habitat; 21 percent on patch area; 11 percent of research on buffers; and 9 percent on edge effects. Fish, invertebrate, and plant response made up anywhere from zero to 13 percent of the research. This focus has left particularly large gaps in research on reptiles and amphibians, invertebrates, and plants.

If the scientific community wishes to help curtail the loss and endangerment of species, then it will need to start addressing other taxonomic groups. The most at-risk species in the United States are flowering plants and freshwater species. In terms of species numbers, flowering plants have by far the greatest number of at-risk species (over 5,000 species are at-risk). In terms of the proportion, species that rely on freshwater habitats—mussels, crayfishes, stoneflies, amphibians, and fishes—exhibit the highest level of risk. With only 14 percent of bird species being at risk and 16 percent of mammal species, these groups are the least threatened (Master et al. 2000).

Above all else, this literature search reveals the inadequacy of the information currently available for land use planners to use in their day-to-day decisions, which have profound effects on biological diversity. The scientific community should be commended for developing theories, such as metapopulation concepts, which have important implications for applied management like endangered species recovery. However, due to the simplified assumptions implied within metapopulation models, their application to real landscapes is severely limited (Fahrig and Merriam 1994). In addition, whether metapopulations are actually common in real landscapes is largely unknown (Lindenmayer and Franklin 2002). Similarly, the SLOSS debate on whether a single large reserve is better than a group of small ones, which consumed the academic community for many years, failed to produce concrete management recommendations (Forman 1995).[29] In order for ecological principles to be put into practice, land use professionals will need general rules of thumb and specific guidelines to implement on-the-ground.

[29] SLOSS stands for Single Large Or Several Small, which refers to whether conservation reserves are best designed as one large tract of protected land versus several smaller tracts of the equivalent area (Meffe and Carroll 1997).

Only about 10 percent of the papers reviewed in this survey provided quantitative information useful for developing conservation thresholds relevant to land use planning. Similarly, most of the papers published in the Journal of Applied Ecology during a large proportion of the last 30 years have been devoid of practical applications or management recommendations (Pienkowski and Watkinson 1996). Given the complexity surrounding habitat fragmentation, it is understandable that the scientific community is apprehensive about presenting or extrapolating research findings such that they can be easily applied to land use planning and management. Scientists even warn that providing general thresholds "may be more dangerous than useful because many species can be lost if the threshold is determined by averaging over the requirements of many species" (Mönkkönen and Reunanen 1999).

Without adequate information on land use thresholds, land use decisionmaking will continue to be uninformed by the best available science. Although reaching consensus in the scientific community on these thresholds may be an impractical goal, if enough resources are directed to answer specific land use threshold questions, research results may begin coalescing on some general range of values, which would provide useful guidance. Hopefully, this literature review will prompt scientific research that is relevant to and usable by everyday land use practitioners.

THE ROLE OF THE POLICY COMMUNITY

Although more scientific study is needed to provide ecologically-based and scientifically defensible advice on land use planning and land management thresholds, substantial research has already been conducted. The policy community could play a more active role as a conduit between the scientific community and land use planners—to help interpret the available research, help with dissemination, and communicate back to scientists on research gaps and needs. Periodical reviews of the literature, such as this survey, should be conducted to provide land use planners and land management practitioners with the most up-to-date and best available scientific information. In addition, where possible, scientific research will need to be translated into easily applied management recommendations. To ensure that land use decisions are well-informed, mechanisms should be in place to communicate current scientific understanding to the general public. Scientific institutes, such as the National Academy of Sciences, among others, should conduct or commission studies on areas where particular research gaps are found. Clear arguments, particularly those that are economically based, need to be conveyed to the land use community so that they understand why they should make land use decisions with biodiversity in mind.

THE ROLE OF THE LAND USE PLANNING COMMUNITY

The failure of land use planners to communicate their needs to the scientific community may be another reason that science inadequately addresses land use planning concerns. Land use practitioners should be encouraged to better communicate with scientists about the type of information that they need and in what format it would be most useful. An exchange about what is working on-the-ground and what is not, and about public concerns regarding land use alteration and biodiversity, would be of great benefit.

However, given the diverse habitat requirements of species and the great uncertainty and unpredictability of species and ecosystem response to habitat alteration, land use planners should not wait for the development of *the magical threshold value* before applying known general ecological guidelines, such as those presented by the Ecological Society of America's Land Use Committee. To ensure that our natural resources will be conserved for future generations, spatial planning needs to proceed immediately using the best available information.

Land use planners should err on the side of caution and adopt the most conservative threshold ranges, particularly since factors, such as global climate change, are likely to intensify land use impacts. The future change of our climate —predicted to rise globally by an average about 4° Fahrenheit (2° Celsius) by the year 2100—is likely to alter the level and timing of temperature and precipitation and to increase the frequency of environmental disturbances (like floods, droughts, hurricanes, and fires), causing shifts in suitable ecosystem and species ranges, as well as the composition of species and flows of energy and nutrients (Field et. al. 1999). For species and ecosystems to be able to withstand such drastic environmental perturbations, sufficient intact and well-connected habitat will be essential. Thus, larger patch sizes, greater habitat area, wider buffers, and more corridors are likely required under future global warming than presented in this review.

Land use planners should realize that, ultimately, there is no replacement for site-specific assessments. It is both difficult and often misleading to develop thresholds that generalize across landscapes and across ecoregions (Mönkkönen and Reunanen 1999). Since thresholds will fail to be meaningful when generalized across landscapes, ecosystems, and states, thus unable to capture the unique variation in nature, land use planners and managers need to work in close collaboration with ecologists (Mönkkönen and Reunanen 1999). Land use professionals should use the articles and research highlighted in this review only to the extent that they are appropriate for their region and to launch more in-depth analyses. This review predominately covers thresholds and guidelines for planning at a large (coarse) scale. This report,

however, does not focus on the conservation of rare or localized species or habitat types, and species other than birds and mammals. It does not provide guidance on how to protect lands of greatest biological value. Rather than simply adopting the types of measures discussed in this review, land use planners should collaborate with scientists to better protect small patch communities and local-scale species and to better identify site-specific and regional conservation needs.

Although land use planners are asked to make local, site-specific decisions on a daily basis, it is still vital to maintain a landscape perspective. Numerous, small development projects that independently may not contribute to significant habitat loss, degradation, or fragmentation, may cumulatively have devastating consequences. Site-specific land use decisions would be more ecologically mindful if better informed by scientific information. Yet, to really make a difference for biodiversity, land use planners will need to begin considering their cumulative and landscape-scale impacts.

Biodiversity needs to be a central component directly considered in all land use and community planning projects. An overarching land use vision with a statewide or county-wide blueprint for protecting ecosystems, representative and rare species, and broader patterns of biodiversity would serve as an important framework to guide the implementation of the specific thresholds outlined in this report. For example, Florida developed a model that identifies areas with priority conservation significance and landscape linkages (i.e., corridors) captures most of the major ecological communities and known occurrences of rare species for the entire state (Hoctor et al. 2000). Conserving regional biodiversity and accounting for land use impacts over a large scale—both spatially and temporally—will likely require inter-municipal cooperation and state-level leadership, as in the case of Florida.

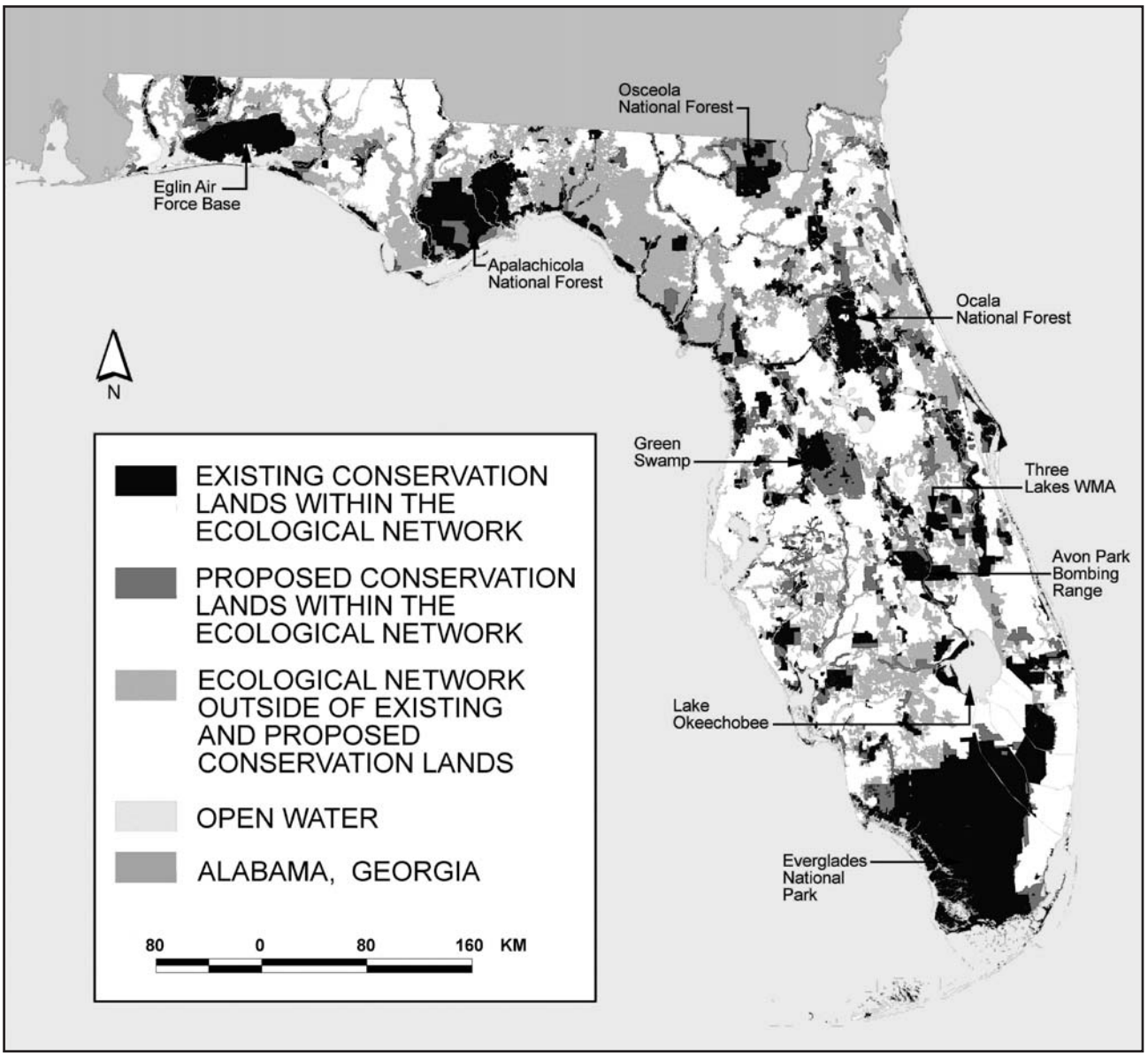


Diagram 7. Florida Ecological Network. *Results from the Florida Statewide Greenways GIS decision support model. Courtesy of the University of Florida.*

CONCLUSION

Land use decisions have profound effects on biological diversity. Land use planners, however, have many opportunities to tailor their traditional land use tools to better address biodiversity conservation. To the extent possible, planning decisions should be based on the best available science. Although the current scientific literature provides much guidance to land use planners on how to incorporate ecological knowledge into their actions, significant gaps exist in the information provided by the scientific community. The more that is known about how human mediated fragmentation impacts ecosystems, the more it is revealed that species and communities interact in complex, dynamic, and often unpredictable ways on multiple temporal and spatial scales. For science to meet the needs of local land use planners, on-going and dedicated collaboration needs to exist between the scientific, policy, and land use planning communities. Although a consensus may never develop in the scientific community on broad conservation thresholds, more effective and targeted guidance can be developed to help land use planners make more ecologically informed decisions. Without this information, little incentive exists for land use planners and land managers to factor biodiversity considerations into their decisions at all.

LITERATURE CITED

Ambuel, B., and S. A. Temple. 1983. Area-dependent changes in bird communities and vegetation of southern Wisconsin forests. Ecology 64:1057-1068.

Andrén, H. 1994. Effects of habitat fragmentation on birds and mammals in landscapes with different proportions of suitable habitat: A review. Oikos 71:355-366.

Andren, H. 1997. Population response to landscape change depends on specialization to different habitat elements. Oikos 80:193-196.

Askins, R. 1995. Hostile landscapes and the decline of migratory songbirds. Science 267:1956-1957.

Askins, R., M. Philbrick, and D. Sugeno. 1987. Relationship between the regional abundance of forest and the composition of forest bird communities. Biological Conservation 39:129-152.

Aune, K., and W. Kasworm. 1989. Final Report on East Front Grizzly Bear Study. Montana Department of Fish, Wildlife, and Parks, Helena.

Barbour, M., and J. Litvaitis. 1993. Niche dimensions of New England cottontails in relation to habitat patch size. Oecologia 95:321-327.

Beier, P. 1993. Determining minimum habitat areas and habitat corridors for cougars. Conservation Biology 7:98-108.

Beier, P. 1995. Dispersal of juvenile cougars in fragmented habitat. Journal of Wildlife Management 59:228-237.

Beier, P., and R. F Noss. 1998. Do habitat corridors provide connectivity? Conservation Biology 12:1241-1252.

Bender, D.J., T.A. Contreras, and L. Fahrig. 1998. Habitat loss and population decline: A meta-analysis of the patch size effect. Ecology 79:517-533.

Bennett, A. 1998. Linkages in the Landscape: The Role of Corridors and Connectivity in Wildlife Conservation. IUCN, Gland, Switzerland.

Bodie, J., and R. Semlitsch. 2000. Spatial and temporal use of floodplain habitats by lentic and lotic species of aquatic turtles. Oecologia 122:138-146.

Bohning-Gaese, K., M. Taper, and J. Brown. 1993. Are declines in North American insectivorous songbirds due to causes on the breeding range? Conservation Biology 7:76-86.

Bolger, D. , A. Alberts, and M. Soulé. 1991. Occurrence patterns of bird species in habitat fragments: Sampling, extinction, and nested subsets. Am. Nat. 137:155-166.

Bolger, D. , A. Alberts, R. Sauvajot, P. Potenza, C. McCalvin, D. Tran, S. Mazzoni, and M. Soulé. 1997. Response of rodents to habitat fragmentation in coastal southern California. Ecological Applications 7(2):552-563.

Bosakowski, T., D. Smith, and R. Speiser. 1992. Nest sites and habitat selected by Cooper's hawks, *Accipiter cooperii*, in northern New Jersey and southeastern New York. Canadian Field-Naturalist 106(4):474-479.

Bottom, D. , P. Howell, and J. Rogers. 1983. Final Report: Fish Research Project Oregon Salmonid Habitat Restoration. Oregon Department of Fish and Wildlife, Portland.

Boulinier, R., J. Nichols, J. Hines, J. Sauer, C. Flather, and K. Pollock. 2001. Forest fragmentation and bird community dynamics: Inference at regional scales. Ecology 82(4):1159-1169.

Bowne, D., J. Pales, and G. Barrett. 1999. Effects of landscape spatial structures on movement patterns of the hispid cotton rat (*Sigmodon hispidus*). Landscape Ecology 14:53-65.

Boyce, M. 1992. Population viability analysis. Annual Review of Ecology and Systematics 23:481-506.

Brazier, J., and G. Brown. 1973. Buffer strips for stream temperatures control. Forest Research Lab, Oregon State University, Corvallis.

Brittingham, M., and S. Temple. 1983. Have cowbirds caused forest songbirds to decline? BioScience 33:31-35.

Broderson, J. 1973. Sizing Buffer Strips to Maintain Water Quality, Master of Science Thesis. University of Washington, Seattle.

Brosofske, K., J. Chen, R. Naiman, and J. Franklin. 1997. Harvesting effects on microclimatic gradients from small streams to uplands in western Washington. Ecological Applications 7:1188-1200.

Brothers, T. 1993. Fragmentation and edge effects in central Indiana old-growth forests. Natural Areas Journal 13:268-275.

Brothers, T., and A. Spingarn. 1992. Forest fragmentation and alien plant invasion of central Indiana old-growth forests. Conservation Biology 6(1):91-100.

Brown, J., and A. Kodric-Brown. 1977. Turnover rates in insular biogeography: Effect of immigration on extinction. Ecology 58:445-449.

Brown, J., and A. Gibson. 1983. Biogeography. The C.V. Mosby Co., St. Louis, Missouri.

Brown, M., and J. Dinsmore. 1986. Implications of marsh size and isolation for marsh bird management. J. Wildl. Manage. 50(3):392-397.

Budd, W. , P. Cohen, P. Saunders, and S. Frederick. 1987. Stream corridor in the Pacific Northwest: Determination of stream-corridor widths. Environmental Management 11(5):587-597.

Buhlmann, K. 1998. Ecology, Terrestrial Habitat Use, and Conservation of a Freshwater Turtle Assemblage Inhabiting a Seasonally Fluctuating Wetland with Emphasis on Life History of *Deirochelys reticularia*, Doctor of Philosophy Dissertation. University of Georgia, Athens.

Burbrink, F., C. Phillips, and E. Heske. 1998. A riparian zone in southern Illinois as a potential dispersal corridor for reptiles and amphibians. Biological Conservation 86:107-115.

Burel, F. 1989. Landscape structure effects on carabid beetles spatial patterns in western France. Landscaping Ecology 2:215-226.

Burke, V., and J. Gibbons. 1995. Terrestrial buffer zones and wetland conservation: A case study of freshwater turtles in a Carolina bay. Conservation Biology 9:1365-1369.

Castelle, A., C. Conolly, M. Emers, E. Metz, S. Meyer, M. Witter, S. Mauermann, T. Erickson, and S. Cooke. 1992. Wetland Buffers: Use and Effectiveness. Publication No. 92-10. Washington Department of Ecology, Shorelands and Coastal Zone Management Program, Olympia.

Castelle, A. , A. Johnson, and C. Conolly. 1994. Wetland and stream buffer size requirements - A review. Journal of Environmental Quality 23:878-882.

Cederholm, C. 1994. A suggested landscape approach for salmon and wildlife habitat protection in western Washington riparian ecosystems. Pages 78-90 *in* A.Carey and C. Elliott, eds. Washington Forest Landscape Management Project Progress Report. Washington Department of Natural Resources, Olympia.

Chen, J., J. Franklin, and T. Spies. 1995. Growing season microclimatic gradients from clearcut edges into old-growth Douglas-Fir forests. Ecological Applications 5:74-86.

Collinge, S. 1996. Ecological consequences of habitat fragmentation: Implications for landscape architecture and planning. Landscape and Urban Planning 36:59-77.

Corbett, E. and J. Lynch. 1985. Management of streamside zones on municipal watersheds. Pages 187-190 *in* R. Johnson, C. Ziebell et al., eds. Riparian Ecosystems and their Management: Reconciling Conflicting Uses. First North American Riparian Conference (1985), Tucson, Arizona.

Corley, C., G. Frasier, M. Trlica, F. Smith, and E. Taylor. 1999. Technical note: Nitrogen and Phosphorus in runoff from two montane ripari an communities. Journal of Range Management 52:600-605.

Crist, T., and R. Ahern. 1999. Effects of habitat patch size and temperature on the distribution and abundance of ground beetles (Coleoptera: Carabidae) in an old field. Environmental Entomology 28(4):681-689.

Dale, V., S. Brown, R. Haeuber, N. Hobbs, N. Huntly, R. Naiman, W. Riesbsame, M. Turner, and T. Valone. 2000. Ecological Society of America report: Ecological principles and guidelines for managing the use of land. Ecological Applications 10:639-670.

Desbonnet, A., P. Pogue, V. Lee, and N. Wolf. 1994. Vegetated Buffers in the Coastal Zone. A Summary Review and Bibliography. Coastal Resources Center Technical Report No. 2064. University of Rhode Island, Narragansett, RI.

Dickson, J. 1989. Streamside zones and wildlife in southern U.S. forests. Pages 131-133 *in* G. Gresswell, B. Barton, and J. Kershner, eds. Practical Approaches to Riparian Resource Management: An Educational Workshop. U.S. Bureau of Land Management, Billings, Montana.

Dillaha, T., R. Reneau, S. Mostaghimi, and D. Lee.1989. Vegetative filter strips for agricultural nonpoint source pollution control. Trans. ASAE 32:513-519.

Dooley, J., and M. Bowers. 1998. Demographic responses to habitat fragmentation: Experimental tests at the landscape and patch scale. Ecology 79(3):969-980.

Doyle, R., G. Stanton, and D. Wolf. 1977. Effectiveness of forest and grass buffer strips in improving the water quality of manure polluted runoff. ASAE, Paper 77-2501. ASAE, St. Joseph, Michigan.

Dramstad, W., J. Olsen, and R. Forman. 1996. Landscape Ecology Principles in Landscape Architecture and Land-Use Planning. Island Press, Washington, DC.

Duerksen, C., D. Elliott, N. Hobbs, E. Johnson, and J. Miller. 1997. Habitat Protection Planning: Where the Wild Things Are. American Planning Association, Chicago, IL.

Dunne, T., and L. Leopold. 1978. Water in Environmental Planning. Freeman and Co., San Francisco, CA.

Ecological Society of America. "About ESA." <www.esa.org> (31 July 2002).

Elfstrom, B. 1974. Tree Species Diversity and Forest Island Size on the Piedmont of New Jersey, Masters Thesis. Rutgers University, New Brunswick, NJ.

Erman, D., J. Newbold, and K. Ruby. 1977. Evaluation of Streamside Bufferstrips for Protecting Aquatic Organisms. Water Resource Center, Contr. 165, Univ. of Calif., Davis, CA.

Fahrig, L., 1998. When does fragmentation of breeding habitat affect population survival? Ecological Modeling 105:273-292.

Fahrig, L. 2001. How much habitat is enough? Biol. Conservation 100:65-74.

Fahrig , L. 2002. Effect of habitat fragmentation on the extinction threshold: A synthesis. Ecological Applications 12:346-353.

Fahrig, L. and, G. Merriam. 1985. Habitat patch connectivity and population survival. Ecology 66:1762-1768.

Fahrig, L. and, G. Merriam. 1994. Conservation of fragmented populations. Con. Bio. 8:50-59.

Fairbairn, S., and J. Dinsmore. 2001. Local and landscape-level influences on wetland bird communities of the prairie pothole region of Iowa, USA. Wetlands 21:41-47.

FEMAT (Forest Ecosystem Mangement Assessment Team). 1993. Aquatic ecosystem assessment: Riparian ecosystem components. Forest Ecosystem Management: An Ecological, Economic, and Social Assessment. Report of the Forest Ecosystem Management Assessment Team. 1993-793-071. USDA Forest Service, Washington, DC.

Fennessey, M., and J. Cronk. 1997. The effectiveness and restoration potential of riparian ecotones for the management of nonpoint source pollution, particularly nitrate. Critical Reviews in Environmental Science and Technology 27(4):285-317.

Field, C., G. Daily, F. Davis, S. Gaines, P. Matson, J. Melack, N. Miller. 1999 (November). Confronting Climate Change in California: Ecological Impacts on the Golden State. The Union of Concerned Scientists and the Ecological Society of America, Washington, D.C. <http://www.ucsusa.org/publication.cfm?publicationID=7>

Fischer, R. 2000. Width of riparian zones for birds. Ecosystem Management and Restoration Research Program Technical Notes Collection. U.S. Army Engineer Research and Development Center, Vicksburg, Mississippi. <www.wes.army.mil/el/emrrp>

Fischer, R. and J. Fischenich. 2000 (April). Design recommendations for corridors and vegetated buffer strips. U.S. Army Corps Engineer Research and Development Center, Vicksburg, MS, ERCD TN-EMRRP-SR-24.

Fischer, R., C. Martin, and J. Fischenich. 2000 (August). Improving riparian buffer strips and corridors for water quality and wildlife. Pages 457-462 *in* P. Wigington and R. Beschta, eds. Riparian ecology and mangement in multi-land use watersheds. American Water Resources Association, Middleburg, Virginia, TPS-00-2.

Forman, R. 1995. Land Mosaics: The Ecology of Landscape and Regions. Cambridge University Press, Cambridge.

Forman, R., A. Galli and C. Leck. 1976. Forest size and avian diversity in New Jersey woodlots with some land use implications. Oecologia 26:1-8.

Forman, R., and M. Godron. 1981. Patches and structural components for a landscape ecology. Bioscience 31:733-740.

Forman, R., and S. Collinge. 1997. Nature conserved in changing landscapes with and without spatial planning. Landscape and Urban Planning 37:129-135.

Franklin, J. 1993. Preserving biodiversity: Species, ecosystems, or landscapes? Ecological Applications 3:202-205.

Franklin, J., and R. Forman. 1987. Creating landscape patterns by forest cutting: Ecological consequences and principles. Landscape Ecology 1:5-18.

Furfey, R., J. Budhabhatti, and L. Putnam. 1997 (July). Policy Analysis and Scientific Review for Title 3 of the Urban Growth Management Functional Plan: Water Quality and Floodplain Management Conservation. Metro, Portland, OR.

Gaines, D. 1974. Review of the status of the yellow-billed cuckoo in California: Sacramento Valley populations. Condor 76:204-209.

Galli, A.E., C. Leck and, R. Forman. 1976. Avian distribution patterns in forest islands of different sizes in central New Jersey. Auk 93:356-64.

Gardner, R., B. Milne, M. Turner, and R. O'Neill. 1987. Neutral models for analysis of broad-scale landscape pattern. Landscape Ecology 1:19-28.

Ghaffarzadeh, M., A. Robinson, and R. Cruse. 1992. Vegetative filter strip effects on sediment deposition from overland flow. Agronomy Abstracts. ASA, Madison, WI.

Gilpin, M., and M. Soulé. 1986. Minimum viable population: Processes of species extinction. Pages 19-34 *in* M. Soulé, ed. Conservation Biology: The Science of Scarcity and Diversity. Sinauer Associates, Sutherland, MA.

Gregory, S., G. Lamberti, D. Erman, K. Koski, M. Murphy, and J. Sedell. 1987. Influence of forest practices on aquatic production. Pages 233-255 *in* E. Salo and T. Cundy, eds. Streamside management: Forestry and Fishery Interactions. Coll. Forest Resources Contribution 57. Univ. of Washington, Institute of Forest Resource, Seattle, WA.

Gresswell, R., B. Barton, and J. Kershner, eds. Practical Approaches to Riparian Resource Management: An Educational Workshop. U.S. Bureau of Land Management, Billings, Montana.

Grismer, M. 1981. Evaluating dairy waste management systems influence on fecal coliform concentration in runoff, Masters Thesis. Oregon State University, Corvallis, OR.

Groffman, P., A. Gold, T. Husband, R. Simmons, and W. Eddleman. 1990. An Investigation into Multiple Uses of Vegetated Buffer Strips. Publication No. NBP-90-44. Dept. of Nat. Res. Sci., University of Rhode Island, Kingston, RI.

Gustafson, E., and G. Parker. 1992. Relationships between landcover proportion and indices of landscape spatial pattern. Landscape Ecology 7:101-110.

Haddad, N. 1999. Corridor use predicted from behaviors at habitat boundaries. The American Naturalist 153:215-227.

Haddad, N. 1999. Corridor and distance effects on interpatch movements: A landscape experiment with butterflies. Ecological Applications 9:612-622.

Haddad, N. 2000. Corridor length and patch colonization by a butterfly, Junonia coenia. Conservation Biology 14:738-745.

Haddad, N., and K. Baum. 1999. An experimental test of corridor effects on butterfly densities. Ecological Applications 9:623-633.

Hagar, J. 1999. Influence of riparian buffer width on bird assemblages in western Oregon. Journal of Wildlife Management 63:484-496.

Hannon, S., and F. Schmiegelow. 2002. Corridors may not improve the conservation value of small reserves for most boreal birds. Ecological Applications 12(5):1457-1468.

Hansen, A., D. Urban, and B. Marks. 1992. Avian community dynamics: The interplay of landscape trajectories and species life histories. Pages 170-195 *in* A. Hansen, and F. di Castri, eds. Consequences for Biotic Diversity and Ecological Flows. Springer-Verlag, New York.

Hanski, I. 1994. A practical model of metapopulation dynamics. Journal of Animal Ecology 63:151-162.

Hanski, I., and M. Gilpin. 1991. Metapopulation dynamics: Brief history and conceptual domain. Biological Journal of the Linnean Society 42:3-16.

Hanski, I., and D. Simberloff. 1997. The metapopulation approach, its history, conceptual domain and application to conservation. Pages 5-26 *in* I. Hanski, and M. Gilpin, eds. Metapopulation Biology: Ecology, Genetics and Evolution. Academic Press, London.

Harris, L. 1984. The Fragmented Forest: Island Biogeography Theory and the Preservation of Biotic Diversity. University of Chicago Press, Chicago, IL.

Harris, R. 1985. Vegetative barriers: An alternative highway noise abatement measure. Noise Control Engineering Journal 27:4-8.

Hartley, M., and M. Hunter, Jr. 1998. A meta-analysis of forest cover, edge effects, and artificial nest predation rates. Conservation Biology 12(2):465-469.

Henderson, M., G. Merriam, and J. Wegner. 1985. Patchy environments and species survival: Chipmunks in an agricultural mosaic. Biol. Cons. 31:95-105.

Hennings, L. 2001. Riparian bird communities in Portland, Oregon: Habitat, urbanization, and spatial scale patterns, Masters Thesis. Oregon State University Department of Fisheries and Wildlife, Corvallis, OR.

Herkert, J. 1994. The effects of habitat fragmentation on midwestern grassland bird communities. Ecological Applications 4(3):461-471.

Herson-Jones, L., M. Heraty, and B. Jordan. 1995. Riparian Buffer Strategies for Urban Watersheds. Metropolitan Washington Council of the Governments, Washington, D.C.

Hewlett, J., and J. Fortson. 1982. Stream temperatures under an inadequate buffer strip in the southeast Piedmont. Water Resources Bulletin 18:983-988.

Hickman, T., and R. Raleigh. 1982. Habitat suitability index models: Cutthroat trout. U.S. Department of Interior, Fish Wildlife Service. FWS/OBS-82/10.5.

Hobbs, R. 1992 (November). The role of corridors in conservation: Solution or bandwagon? Tree 7(11):389-392.

Hobbs, R. 1993. Effects of landscape fragmentation on ecosystem processes in the western Australian wheatbelt. Biological Conservation 64:193-201.

Hoctor, T., M. Carr, and P. Zwick. 2000. Identifying a linked reserve system using a regional landscape approach: The Florida ecological network. Conservation Biology 14(4):984-1000.

Hodges, M., Jr., and D. Krementz. 1996. Neotropical migratory breeding bird communities in riparian forests of different widths along the Altamaha River, Georgia. The Wilson Bulletin 108:496-506.

Holmes, T., R. Knight, L. Stegall, and G. Craig. 1993. Responses of wintering grassland raptors to human disturbance. Wildl. Soc. Bull. 21:461-478.

Hoover, J., M. Brittingham, and L. Goodrich. 1995. Effects of forest patch size on nesting success of wood thrushes. The Auk 112(1):146-155.

Hopkins, P., and N. Webb. 1984. The composition of the beetle and spider faunas on fragmented Calluna-heathland. Journal of Applied Ecology 21:935-946.

Horner, R., and B. Mar. 1982. Guide for Water Quality Impact Assessment of Highway Operations and Maintenance. Report No. WA-RD-39.14. Washington Department of Transportation, Olympia.

Howe, R. 1984. Local dynamics of bird assemblages in small forest habitat islands in Australia and North America. Ecology 65:1585-1601.

Jacobs, T. and J.W. Gilliam. 1985. Riparian losses of nitrate from agricultural drainage waters. Journal of Environmental Quality 14:472-478.

Janzen, D. 1986. The eternal external threat. Pages 286 - 303 *in* M. Soulé, ed. Conservation Biology: The Science of Scarcity and Diversity. Sinauer Associates, Sunderland, MA.

Jenkins, S. 1980. A size-distance relation in food selection by beavers. Ecology 61:740-746.

Johnson A., and D. Ryba. 1992. A Literature Review of Recommended Buffer Widths to Maintain Various Functions of Stream Riparian Areas. King County Surface Water Management Division, King County, Washington.

Jones, J., J. Lortie, and U. Pierce, Jr. 1988. The identification and mangement of signiciant fish and wildlife resources in southern coastal Maine. Maine Department of Inland Fish and Wildlife, Augusta.

Joyal, L., M. McCollough, and M. Hunter. 2001. Landscape ecology approaches to wetland species conservation: A case study of two turtle species in southern Maine. Conservation Biology 15(6):1755-1762.

Jules, E. 1998. Habitat fragmentation and demographic change for a common plant: Trillium in old-growth forest. Ecology 79(5):1645-1656.

Karr, J., and I. Schlosser. 1977. Impact of Near Stream Vegetation and Stream Morphoology on Water Quality and Stream Biota. Document No. EPA-600/3-77-097. U.S. Environmental Protection Agency, Athens, GA.

Kasworm, W., and T. Manley. 1990. Road and rail influences on grizzly bears and black bears in northwest Montana. International Conference on Bear Research and Management 8:79-85.

Keller, C., C. Robbins, and J. Hatfield. 1993. Avian communities in riparian forests of different widths in Maryland and Delaware. Wetlands 13:137-144.

Kilgo, J., R. Sargent, B. Chapman, and K. Miller. 1998. Effect of stand width and adjacent habitat on breeding bird communities in bottomand hardwoods. Journal of Wildlife Management 62:72-83.

Knutson K., and V. Naef. 1997. Management recommendations for Washington's priority habitats: Riparian. Washington Department of Fish and Wildlife, Olympia, WA.

Lamberson, R., R. McKelvey, B. Noon, and C. Voss. 1992. A dynamic analysis of spotted owl viability in a fragmented forest landscape. Conservation Biology 6:505-512.

Lamberson, R., B. Noon, C. Voss, and K. McKelvey. 1994. Reserve design for territorial species: The effects of patch size and spacing on the viability of the northern spotted owl. Conservation Biology 8:185-195.

Lande, R. 1987. Extinction thresholds in demographic models of terrestrial populations. American Naturalist 130:624-635.

Lande, R. 1988. Demographic models of the northern spotted owl (*Strix occidentalis caurina*). Oecologia 75:601-607.

Laurance, W., and E. Yensen. 1991. Predicting the impacts of edge effects in fragmented habitats. Biological Conservation 55:77-92.

Laurence, W., R. Bierregaard, C. Gascon, R. Didham, A. Smith, A. Lynam, V. Viana, T. Lovejoy, K. Sieving, J. Sites, M. Anderson, M. Tocher, E. Kramer, C. Restrepo, and C. Moritz. 1997. Tropical forest fragmentation: Synthesis of diverse and dynamic discipline. Pages 502- 525 *in* W. Laurence and R. Bierregaard, eds. Tropical Forest Remnants: Ecology, Management, and Conservation of Fragmented Communities. University of Chicago Press, Chicago, IL.

Lehtinen, R., S. Galatowitsch, and J. Tester. 1999. Consequences of habitat loss and fragmentation for wetland amphibian assemblages. Wetlands 19(1):1-12.

Lidicker, W.Z. 1999. Responses of mammals to habitat edges: An overview. Landscape Ecology 14:333-343.

Lindenmayer, B., and J. Franklin. 2002. Conserving Forest Biodiversity: A Comprehensive Multiscaled Approach. Island Press, Washington DC.

Lomolino, M., J. Brown, and R. Davis. 1989. Island biogeography of montane forest mammals in the American southwest. Ecology 70:180-194.

Lovejoy, T., and D. Oren 1981. The minimum critical size of ecosystems. Pages 7- 12 *in* R. Burgess and D. Sharpe, eds. Forest Island Dynamics in Man-Dominated Landscapes. Springer-Verlad New York, Inc., New York.

Lovejoy, T., and J. Rankin, R. Bierregaard, K. Brown, L. Emmons, and M. van der Voort. 1984. Extinctions. Pages 295-325 *in* M. Niteki, ed. Ecosystem Decay of Amazon Remnants. University of Chicago Press, Chicago, IL.

Lowrance, R. 1992. Groundwater nitrate and denitrification in a coastal plain riparian forest. Journal of Environmental Quality 21:266-271.

Lowrance, R., R. Todd, J. Fail, O. Hendrickson, R. Leonard, and L. Asmussen. 1984. Riparian forests as nutrient filters in agricultural watersheds. BioScience 34:374-77.

Lynch, J., and D. Whigham. 1984. Effects of forest fragmentation on breeding bird communities in Marlyand, USA. Biol. Cons. 28:287-324.

Lynch, J., E. Corbett, and K. Mussallem. 1985. Best management practices for controlling nonpoint-source pollution on forested watersheds. Journal of Soil and Water Conservation 40:164-167.

Mace, R., J. Waller, T. Manley, L. Lyon, and H. Zuuring. 1996. Relationships among grizzly bears, roads, and habitat in the Swan Mountains, Montana. Journal of Applied Ecology 33:1395-1404.

Madison, C., R. Blevins, W. Frye, and B. Barfield. 1992. Tillage and grass filter strip effects upon sediment and chemical losses. Agronomy Abstracts. ASA, Madison, Wisconsin.

Maestas, J., R. Knight, and W. Gilbert. 2003 (in press). Biodiversity across a rural land-use gradient. Conservation Biology, *in press.*

Master, L., B. Stein, L. Kutner, and G. Hammerson. 2000. Vanishing assets: Conservation status of U.S. species. Pages 92-118 *in* B. Stein, L. Kutner, and J. Adams, eds. Precious Heritage: The Status of Biodiversity in the United States. Oxford University Press, New York.

Matlack, G. 1993. Microenvironment variation within and among forest edge sites in the eastern United States. Biological Conservation 66:185-194.

Mattson, D. 1990. Human impacts on bear habitat use. International Conference on Bear Research and Management 6:105-110.

Mattson, D., R. Knight, and B. Blanchard. 1987. The effects of developments and primary roads on grizzly bear habitat use in Yellowstone National Park, Wyoming. International Conference on Bear Research and Management 7:259-273.

May, C. 2000. Protection of stream-riparian ecosystems: A review of the best available science. Pages B2-B51 *in* Kitsap County. Kitsap Peninsula Salmonid Refugia Study. Port Orchard, Washington.

McDade, J., F. Swanson, W. McKee, J. Franklin, and J. Van Sickle. 1990. Source distances for coarse woody debris entering small streams in western Oregon and Washington. Canadian Journal of Forest Research 20:326-330.

McGarigal, K. 2003. "Landscape Structure and Spatial Pattern Analysis for ARC/INFO." <www.innovativegis.com/products/fragstatsarc/about-lc.htm> (24 February 2003).

McGarigal, K. and W. McComb. 1992. Streamside versus upslope breeding bird communities in the central Oregon Coast Range. Journal of Wildlife Management 56:10-23.

McGarigal, K., and S. Cushman. 2002. Comparative evaluation of experimental approaches to the study of habitat fragmentation effects. Ecological Applications 12:335-345.

McIntyre, N. 1995. Effects of forest patch size on avian diversity. Landscape Ecology 10(2):85-99.

McLellan, B., and D. Shackleton. 1988. Grizzly bears and resource extraction industries: Effects of roads on behavior, habitat use and demography. Journal of Applied Ecology 25:451-460.

Meffe, G., and C. Caroll. 1997. Principles of Conservation Biology, 2nd Edition. Sinauer Associates, Sunderland, MA.

Meier, A., S. Bratton, and D. Duffy. 1995. Possible ecological mechanisms for loss of vernal-herb diversity in logged eastern deciduous forests. Ecological Applications 5:935-946.

Metro Regional Services. 2001 (August). Metro's Scientific Literature Review for Goal 5. Metro, Portland, Oregon.

Meyer, C., and S. Miller. 2002 (June). Use of fragmented landscapes by marbled murrelets for nesting in southern Oregon. Conservation Biology 16(3):755-766.

Miller, S., R. Knight, and C. Miller. 1998. Influence of recreational trails on breeding bird communities. Ecological Applications 8(1):162-169.

Miller, S., R. Knight, and C. Miller. 2001. Wildlife responses to pedestrians and dogs. Wildlife Society Bulletin 29(1):124-132.

Milligan, D. 1985. The Ecology of Avian Use of Urban Freshwater Wetlands in King County, Washington, Masters Thesis, University of Washington, Seattle.

Mills, L. S. 1996. Fragmentation of a natural area: Dynamics of isolation for small mammals on forest remnants. Pages 199-218 *in* R. Wright, ed. National Parks and Protected Areas: Their role in Environmental Protection. Blackwell Sci. Pub. Cambridge, MA.

Mitchell, F. 1996. Vegetated buffers for wetlands and surface waters: Guidance for New Hampshire municipalities. Wetlands Journal 8:4-8.

Mitchell, C., M. Turner, and S. Pearson. 2002. Effects of historical land use and forest patch size on mymechores and ant communities. Ecological Applications 12(5):1364-1377.

Mitsch, W., and J. Gosselink. 1993. Wetlands, 2nd Edition. Van Nostrand Reinhold, New York.

Mönkkönen, M., and P. Reunanen. 1999. On critical thresholds in landscape connectivity: A management perspective. Oikos 84(2):302-305.

Moring, J. 1982. Decrease in stream gravel permeability after clear-cut logging: An indication of intragravel conditions for developing salmonid eggs and alevins. Hydrobiologia 88:295-298.

Morris, W., P. Bloch, B. Hudgens, L. Moye, and J. Stinchcombe. 2002. Population viability analysis in endangered species recovery plans: Past use and future improvements. Ecological Applications 12(3):708-712.

Mudd, D. 1975. Touchet River Wildlife Study, Bulletin No. 4. Applied Research Section, Environmental Management Division, Washington Game Department.

Murcia, C. 1995. Edge effects in fragmented forests: Implications for conservation. Trends Ecological Evolutions 10:58-62.

Murphy, D., and S. Weiss. 1988. Ecological studies and the conservation of the Bay checkerspott butterfly, *Euphydryas editha bayensis*. Biological Conservation 46:183-200.

Murphy, D., and B. Noon. 1992. Integrating scientific methods with habitat conservation planning: Reserve design for northern spotted owls. Ecological Applications 2:3-17.

Naiman, R., H. Décamps, and M. Pollock. 1993. The role of riparian corridors in maintaining regional biodiversity. Ecological Applications 3(2):209-212.

National Invasive Species Council (NISC). 2001 (January). Management Plan: Meeting the Invasive Species Challenge. National Invasive Species Council, Washington, D.C.

National Research Council (NRC). 2002. Riparian Areas: Functions and Strategies for Management. National Academy Press, Washington, DC.

National Resources Conservation Service (NRCS). 1995. Riparian Forest Buffers. U.S. Department of Agriculture, Washington, DC.

Naugle, D., K. Higgins, S. Nusser, and W. Johnson. 1999. Scale-dependent habitat use in three species of prairie wetland birds. Landscape Ecology 14:267-276.

Naugle, D., R. Johnson, M. Estey, and K. Higgins. 2001. A landscape approach to conserving wetland bird habitat in the prairie pothole region of eastern South Dakota. Wetlands 21:1-17.

Nelson, S., and T. Hamer 1995. Nest success and the effects of predation on marbled murrelets. Pages 89-97 *in* C. Ralph, G. Hunt, M. Raphael, and J. Piatt, eds. Ecology and Conservation of the Marbled Murrelet, General Technical Report PSW-GTR-152. U.S. Forest Service, Albany, CA.

Newbold, J., D. Erman, and K. Roy. 1980. Effect of logging on macroinvertebrates in streams with and without buffer strips. Can. J. Fish. Aquat. Sci. 37:1076-1085.

Nichols, D., T. Daniel, D. Edwards, P. Moore, and D. Pote. 1998. Use of grass filter strips to reduce 17-estradiol in runoff from fescue-applied poultry litter. Journal of Soil and Water Conservation 53:74-77.

Nieswand, G., R. Hordon, T. Shelton, B. Chavooshian, and S. Blarr. 1990. Buffer strips to protect water supply reservoirs: A model and recommendations. Water Resources Bulletin 26(6):959-966.

Nilsson, S. 1978. Fragmented habitat, species richness and conservation practice. Ambio 7:26-27.

Nilsson, S. 1986. Are bird communities in small biotope patches random samples from communities in large patches? Biol. Cons. 38:179-204.

Norris, D., and B. Stutchbury. 2001. Extraterritorial movements of a forest songbird in a fragmented landscape. Conservation Biology 15(3):729-736.

Noss, R. 1987. Corridors in real landscapes: A reply to Simberloff and Cox. Conservation Biology 1:159-164.

Noss, R. 1991. Landscape connectivity: Different functions at different scales. Pages 27-40 *in* W. Hudson, ed. Landscape Linkages and Biodiversity. Defenders of Wildlife, Washington, DC.

Noss, R., and L. Harris. 1986. Nodes, networks, and MUMs: Preserving diversity at all scales. Environ. Management 10:299-309.

Noss, R., and A.Cooperrider. 1994. Saving Nature's Legacy: Protecting and Restoring Biodiversity. Island Press, Washington, DC.

Odell, E., and R. Knight. 2001. Songbird and medium-sized mammal communities associated with exurban development in Pitkin County, Colorado. Conservation Biology 15(4):1143-1150.

O'Laughlin, J., and G. Belt. 1995. Functional approaches to riparian buffer strip design. Journal of Forestry 93(2):29-32.

Osborne, L., and D. Kovacic. 1993. Riparian vegetated buffer strips in water-quality restoration and stream management. Freshwater Biology 29:243-258.

Paton, P. 1994. The effect of edge on avian nest success: How strong is the evidence? Conservation Biology 8:17-26.

Pearson, S., and D. Manuwal. 2001. Breeding bird response to riparian buffer width in managed pacific northwest Douglas-Fir forests. Ecological Applications 11:840-853.

Petersen, R., L. Deusen, S. M. Keller, and P. A. Knudsen. 1989. A new approach to riparian management in Washington state. Pages 11-15 *in* R. Gresswell, B. Barton, and J. Kershner, eds. Practical Approaches to Riparian Resource Management: An Educational Workshop. U.S. Bureau of Land Management, Billings, Montana.

Pienkowski, M., and A. Watkinson. 1996. The Application of Ecology. Journal of Applied Ecology 33:1-4.

Poiani, K., and B. Richter. 2000. Functional landscapes and the conservation of biodiversity. Working Papers in Conservation Science. The Nature Conservancy, Conservation Science Division. <http://www.conserveonline.org/2000/11/b/en/WP1.pdf>

Pollock, M., and P. Kennard. 1998. A Low-Risk Strategy for Preserving Riparian Buffers Needed to Protect and Restore Salmonid Habitat in Forested Watersheds of Washington State, Version 1.1. 10,000 Years Institute, Bainbridge Island, Washington.

Potter, M. 1990. Movement of North Island brown kiwi (*Apteryx australis mantelli*) between forest fragments. New Zealand Journal of Ecology 14:17-24.

Primack, R. 1993. Essentials of Conservation Biology. Sinauer Associates, Sutherland, MA.

Pringle, C. 2001. Hydrologic connectivity and the management of biological reserves: A global perspective. Ecological Applications 11(4):981-998.

Pulliam, H. 1988. Sources, sinks and population regulation. American Naturalist 132:652-661.

Pulliam, H., J. Dunning, and J. Liu. 1992. Population dynamics in complex landscapes: A case study. Ecological Applications. 2:165-177.

Raleigh, R. 1982. Habitat Suitability Index Models: Brook Trout. FWS/OBS-82/10.24. U. S. Department of Interior, U.S. Fish and Wildlife Service.

Raleigh, R., Hickman, R. Solomon, and P. Nelson. 1984. Habitat Suitability Information: Rainbow Trout. FWS/OBS082/10.60. U.S. Department of Interior, Fish and Wildlife Service.

Raleigh, R., W. Miller, and P. Nelson. 1986. Habitat Suitability Index Models: Chinook Salmon. FWS/OBS-82/10.122. U.S. Department of Interior, Fish and Wildlife Service.

Ranney, J., M. Bruner, and J. Levenson, 1981. The importance of edge in the structure and dynamics of forest islands. Pages 68-95 *in* R. Burgess and D. Sharpe, eds. Forest Island Dynamics In Man Dominated Landscapes. Springer, New York.

Richardson, C., and C. Miller. 1997. Recommendations for protecting raptors from human disturbance: A review. Wildlife Society Bulletin 25:634-638.

Richter, K., and A. Azous. 1995. Amphibian occurrence and wetland characteristics in the Puget Sound Basin. Wetlands 15:305-312.

Rieman, B., and J. McIntyre. 1995. Occurrence of bull trout in naturally fragmented habitat patches of varied size. Transactions of the American Fisheries Society 124:285-296.

Robbins, C., D. Dawson, and B. Dowell. 1989. Habitat area requirements of breeding forest birds of the middle Atlantic states. Wildlife Monographs 103:1-34.

Roby, K., D. Erman, and J. Newbold. 1977. Biological Assessment of Timber Management Activity Impacts and Buffer Strip Effectiveness on National Forest Streams of Northern California. USDA Forest Service, California Region.

Rodewald, A., and R. Yahner. 2001. Influence of landscape composition on avian community structure and associated mechanisms. Ecology 82(12):3493-3504.

Rodgers, J., and H. Smith. 1997. Buffer zone distances to protect foraging and loafing waterbirds from human disturbance in Florida. Wildlife Bulletin Society 25:139-145.

Rosenburg, D., B. Noon, and E. Meslow. 1997. Biological corridors: Form, function, and efficacy. Bioscience 47:677-687.

Rudolph, D., and J. Dickson. 1990. Streamside zone width and amphibian and reptile abundance. The Southwest Journal 35(4):472-476.

Ruggiero, L., G. Hayward, and J. Squires. 1994. Viability analysis in biological evaluations: Concepts of population viability analysis, biological population, and ecological scale. Conservation Biology 8(20):364-372.

Saunders, D., R. Hobbes, and C. Margules. 1991. Biological consequences of ecosystem fragmentation: A review. Conservation Biology 5:18-31.

Schaefer, J., M. Brown, R. Hamann, and J. Tucker. 1991. A natural resources management and protection plan for the Econlockhatchee River Basin. Pages 145-150 *in* L. Adams and D. Leedy, eds. Wildlife Conservation in Metropolitan Environments, National Institute for Urban Wildlife, Columbia, MD.

Schellinger, G., and J. Clauses. 1992. Vegetative filter treatment of dairy barnyard runoff in cold region. Journal of Environmental Quality 21:40-45.

Schmiegelow, K.., C. Machtans, and S. Hannon. 1997. Are boreal birds resilient to forest fragmentation? An experiment study of short-term community responses. Ecology 78:1914-1932.

Semlitsch, R. 1998. Biological delineation of terrestrial buffer zones for pond-breeding salamanders. Conservation Biology 12:1113-1119.

Shisler, J., R. Jordan, and R. Wargo. 1987. Coastal wetland buffer delineation. New Jersey Department of Environmental Protection, Trenton, NJ.

Simberloff, D., and J. Cox. 1987. Consequence and costs of conservation corridors. Conservation Biology 1:63-71.

Simberloff, D., J. Farr, J. Cox, and D. Mehlman. 1992. Movement corridors: Conservation bargains or poor investments. Conservation Biology 6:493-504.

Skagen, S., C. Melcher, W. Howe, and F. Knopf. 1998. Comparative use of riparian corridors and oases by migrating birds in southeast Arizona. Conservation Biology 12:896-909.

Small, M. 1982. Wildlife management in riparian habitats. Publication of the Maine Agricultural Experimental Station, Orono, ME.

Smith, A. 1974. The distribution and dispersal of pikas: Consequences of insular population structure. Ecology 55:1112-1119.

Smith, A. 1980. Temporal changes in insular populations of the pika (*Ochotona prineps*). Ecology 61:8-13.

Soulé, M. 1991. Land use planning and wildlife maintenance: Guidelines for conserving wildlife in an urban landscape. Journal of the American Planning Assoc. 57(3):313-323.

Soulé, M., D. Bolger, A. Alberts, R. Sauvajot, J. Wright, M. Sorice, and S. Hill. 1988. Reconstructed dynamics of rapid extinctions of chaparral-requiring birds in urban habitat islands. Conservation Biology 2:75-92.

Soulé, M., A. Alberts, and D. Bolger. 1992. The effects of habitat fragmentation on chaparral plants and vertebrates. Oikos 63:39-47.

Spackman, S., and J. Hughes. 1995. Asessment of minimum stream corri dor width for biological conservation: Species richness and distribution along mid-order streams in Vermont. Biol. Conserv. 71:325-332.

Spence, B., G. Lomnicky, R. Hughes, and R. Novitzki. 1996. An ecosystem approach to salmonid conservation. TR-4501-96-6057. ManTech Environmental Research Services Corp, Corvallis, OR.

Stauffer, D. and L. Best. 1980. Habitat selection by birds of riparian communities: evaluating effects of habitat alterations. Journal of Wildlife Management 44(1):1-15.

Steinblums, I., H. Froehlich, and J. Lyons. 1984. Designing stable buffer strips for stream protection. Journal of Forestry 82:49-52.

Stevens, G. 1989. The latitudinal gradient in geographic range: How so many species coexist in the tropics. Am. Nat. 133:240-256.

Stewart, J., D. Downes, L. Wang, J. Wierl, and R. Bannerman. 2000 (August). Influences of riparian corridors on aquatic biota in agricultural watersheds. Pages 209-214 *in* P.J. Wigington and R. L. Beschta, eds. International Conference on Riparian Ecology and Management in Multi-Land Use Watersheds, American Water Resources Association, Portland, OR.

Summerville, K., and T. Crist. 2001. Effects of experimental habitat fragmentation on patch use by butterflies and skippers (lepidoptera). Ecology 82:1360-1370.

Tassone, J. 1981. Utility of hardwood leave strips for breeding birds in Virginia's central piedmont, Masters Thesis. Virginia Polytechnic Institute and State University, Blacksburg, VA.

The Keystone Center. 1991. Final Consensus Report of the Keystone Policy Dialogue on Biological Diversity on Federal Lands. The Keystone Center, Keystone, Colorado.

The Nature Conservancy (TNC). 1998. Northern Appalachian/Boreal Ecoregion Plan. *Unpublished.*

Todd, A. 2000 (August). Making decisions about riparian buffer width. Pages 445-450 *in* P.J. Wigington and R. L. Beschta, eds. International Conference on Riparian Ecology and Management in Multi-Land Use Watersheds, American Water Resources Association, Portland, OR.

Trine, C. 1998. Wood thrush population sinks and implications for the scale of regional conservation strategies. Conservation Biology 12(3):576-585.

Triquet, A., G. McPeek, and W. McComb. 1990. Songbird diversity in clearcuts with and without riparian buffer strip. Journal of Soil and Water Conservation 45:500-503.

Tscharntke, T., I. Steffan-Dewenter, A. Kruess, and C. Thies. 2002. Contribution of small habitat fragments to conservation of insect communities of grassland-cropland landscapes. Ecological Applications 12(2):354-363.

USDA Soil Conservation Service (SCS). 1982. Filter strip (acre). Filter Strip 393.

U.S. Fish and Wildlife Service (USFWS). 1994. "Ecosystems." <http://daphne.fws.gov/ecosystem/ecosystem.htm> (24 February 2003).

U.S. Geological Survey. 1998. Status and Trends of the Nation's Biological Resources, Volume 1. U.S. Department of the Interior, U.S. Government Printing Office, Washington, D.C.

Vander Haegen, W., and R. Degraaf. 1996. Predation on artificial nests in forested riparian buffer strips. Journal of Wildlife Management 60:542-550.

Villard, M. 2002. Habitat fragmentation: Major conservation issue or intellectual attractor? Ecological Applications 12(2):319-320.

Washington Department of Ecology (WDOE). 1981. Western Washington urban stream assessment. Washington Department of Ecology, Office of Water Programs, Water Quality Planning, Olympia, WA.

Weaver, J., P. Paquet, and L. Ruggiero. 1996. Resilience and conservation of large carnivores in the Rocky Mountains. Conservation Biology 10(4):964-976.

Weddell, B. 1991. Distribution and movements of Columbian ground squirrels (*Spermophilus columbianus (Ord)*): Are habitat patches like islands? Journal of Biogeography 18:385-394.

Weins, J. 1989. Spatial scaling in ecology. Functional Ecology 3:385-397.

Weller, D., T. Jordan, and D. Correll. 1998. Heuristic models for material discharge from landscapes with riparian buffers. Ecological Applications 8:1156-1169.

Wenger, S. 1999 (March 5). A Review of the Scientific Literature on Riparian Buffer Width, Extent and Vegetation. Institute of Ecology, University of Georgia, Athens, GA.

Whitcomb, R., C. Robbins, J. Lynch, B. Whitcomb, M. Klimkiewicz, and D. Bystrak. 1981. Effects of forest fragmentation on avifauna of the eastern deciduous forest. Pages 125-205 *in* R. Burgess, and M. Sharpe, eds. Forest Island Dynamics in Man-Dominated Landscapes. Springer, New York.

Wiens, J., R. Schooley, and R. Weeks, Jr. 1997. Patchy landscapes and animal movements: Do beetles percolate? Oikos 78:257-264.

Wilcove, D., C. McLellan, and A. Dobson. 1986. Habitat fragmentation in the temperate zone. Pages 237-256 *in* M. Soulé, ed. Conservation Biology: The Science of Scarcity and Diversity. Sinauer Associates, Sunderland, MA.

Wilcove, D., D. Rothstein, J. Dubow, A. Phillips, and E. Losos. 1998. Quantifying threats to imperiled species in the United States. BioScience 48:607-615.

Wilson, L. 1967. Sediment removal from flood water by grass filtration. Transactions of the American Society of Agricultural Engineers 10(1):35-37.

With, K. 1997. The application of neutral landscape models in conservation biology. Conservation Biology 11:1069-1080.

With, K., and T. Crist. 1995. Critical thresholds in species responses to landscape structure. Ecology 76:2446-2459.

With, K., D. Pavuk, J. Worchuck, R. Oates, and J. Fisher. 2002. Threshold effects of landscape structure on biological control in agroecosystems. Ecological Applications 12(1):52-65.

Woodard, S., and C. Rock. 1995. Control of residential stormwater by natural buffer strips. Lake and Reservoir Management 11:37-45.

Young, R., T. Huntrods, and W. Anderson. 1980. Effectiveness of vegetated buffer strips in controlling pollution from feedlot runoff. Journal of Environmental Quality 9:483-497.

Zeigler, B. 1988. Interdepartmental Report–Wetland Buffers: Essential for Fish and Wildlife. Habitat Management Division, Washington State Department of Wildlife, Olympia, WA.

APPENDIX A. FURTHER ANALYSIS

Titles and abstracts of 1,458 papers within scientific and land use planning journals were reviewed to determine whether they provide specific information on conservation thresholds that could help guide land use planning in the United States. A total of 160 papers (11 percent) were selected for inclusion in this study: 20 papers with quantitative information on minimum patch area; 27 papers on minimum proportion of suitable habitat; 25 papers on edge width distance; and 88 papers on minimum buffer width.[30]

A CLOSER LOOK AT HABITAT PATCH SIZE

Only 20 papers were found in the scientific literature to provide specific information on minimum patch area requirements pertaining to ecoregions within the United States; these papers provided 28 citations on threshold patch size.[31] The majority of papers that address habitat patch size focus primarily on estimating the area of habitat needed to sustain specific target species—as measured by species occurrence, population densities, or breeding success—and to a lesser extent species diversity or community assemblages. As reported in previous literature reviews, little is known about the amount of patch area needed to maintain essential ecosystem functions, such as primary productivity, nutrient and hydrologic cycling, or disturbance regimes (Forman 1995).

This survey reveals a taxonomic bias in scientific literature. Out of the total 28 citations, 16 citations (57 percent) pertain to birds and six citations (21 percent) to mammals. Minimum patch area requirements reported in the literature ranged from one hectare to over 2,500 hectares for birds, and from one hectare to over 220,000 hectares for mammals. Only two studies provide three relevant citations on patch size requirements for plant species: an estimated two hectares needed to sustain a representative tree community type (Elfstrom 1974), and at least 10 hectares needed to conserve an old growth forest if surrounded by secondary forest, or 100 hectares if surrounded by clearcuts (Harris 1984). Two additional studies provide patch area information for invertebrates, which indicate that habitat requirements for invertebrates may range from a minimum of 0.0004 hectares (four meters squared) up to one hectare. One study provides information for fishes, predicting a 50 percent chance of bull trout occurrence in watershed patches larger than 2,500 hectares (Rieman and McIntyre 1995).

Reported habitat patch size thresholds vary widely, even within the same taxonomic group and for the same species. This lack of convergence on minimum critical patch size reflects the large range of habitat needs exhibited by different species across different ecosystems and that species response to habitat fragmentation is very complex. This natural and inherent complexity is compounded by the lack of consistency in methodology researchers used to measure minimum habitat requirements—with differing study designs as well as parameters measured. Minimum patch area is commonly determined for target species by measuring species occurrence on a site, species densities, or nesting/breeding success. To a lesser extent studies evaluate the persistence of species diversity or community assemblages. Since different parameters are measured, different results are produced. For example, according to this survey, neotropical wood thrushes require anywhere from one hectare up to greater than 2,500 hectares of habitat depending on the variable measured (evidence of breeding versus nesting success and occurrence of nesting predation) (Robbins et al. 1989 and Trine 1998).

By in large, this review reiterates a viewpoint expressed by the scientific community several years ago: simply not enough is known about minimum critical size that should be protected in order to maintain species diversity and species composition in any given ecosystem (Lovejoy and Oren 1981 *as cited in* Saunders et al. 1991; Noss and Harris 1986). Given the lack of information on the habitat patch size requirements of species, communities, or ecosystems in the United States, land use planners should work with land and natural resource agencies and local scientists to identify the habitat patches most in need of protection.

A CLOSER LOOK AT PROPORTION OF SUITABLE HABITAT

Twenty-seven papers were encountered within the scientific literature reporting extinction or habitat fragmentation thresholds on the proportion of suitable habitat needed for an array of species. The papers surveyed provide 26 different estimates of the amount of habitat needed, depending on the species and taxa in question, and the parameter measured. The majority of findings—42 percent (11 citations)—relate to the amount of habitat recommended to maintain bird

[30] These numbers only include papers that provided specific threshold information, which was factored into the assessment (see Appendices). Review papers and background papers are not included in these figures if they failed to provide relevant quantitative information.

[31] Because papers provide multiple findings/recommendations related to minimum patch area size requirements, the number of papers does not necessarily equal the number of citations.

species or populations. Based on this review, bird species in the United States may require anywhere from 5 percent to 80 percent of suitable remaining habitat.

The second most commonly researched group is mammals. About 23 percent of the findings (six citations) pertained to mammalian response to habitat loss and habitat isolation, which suggests that this taxonomic group may require anywhere from 6 percent to 30 percent of suitable habitat. This range, however, should not be considered representative for all mammalian groups, because it only includes small mammals (e.g., chipmunks, rabbits, squirrels) (*see* Appendix C). An important focal group—wide-ranging predators and large-bodied mammals—failed to be represented in this select review, thus, the proportions are skewed to the smaller range relevant to smaller bodied mammals.

Four studies (five citations) provide thresholds for invertebrates, ranging from 20 percent up to 60 percent of required protected habitat. Additionally, four studies base their findings on models predicting response by hypothetical species, which reveal that threshold responses may occur anywhere from as large a range as 20 percent to 90 percent of habitat loss.

As revealed by the diverse range of values offered by scientists, it is clear that no common threshold exists for the amount of habitat needed to support different populations of species or needed to minimize the negative effects of habitat fragmentation in a landscape. The lower range of proportions (e.g., 5 to 30 percent) tend to be habitat fragmentation thresholds, as determined by evidence that species are in some way negatively affected by habitat loss or habitat isolation. A significant proportion of these studies is based on predicted species response to habitat loss and fragmentation by models (at least seven of the citations). The larger proportions (e.g., 60 to 80 percent) tend to be based on models that predict the amount of habitat needed to sustain long-term species persistence or to prevent the consequences of extensive habitat fragmentation in a landscape.

Given the sparse and diverse findings, land use planners should apply these thresholds with great caution. As reported in earlier reviews, most of the habitat fragmentation studies are performed during short time periods (e.g., one or two seasons), and only provide a snap shot of how species may respond to habitat loss and isolation (Andrén 1994). In these studies, the damage to populations resulting from habitat alteration could have occurred previously (Mönkkönen and Reunanen 1999)—particularly for historically modified landscapes like eastern deciduous forests (Meier et al. 1995, Mitchell et al. 2002). Thus, the long-term consequences of fragmentation are likely not revealed in this select review because a time lag often exists between the fragmentation of a landscape and the associated response by species, populations, or systems (Andrén 1994).

CLOSER LOOK AT EDGE INFLUENCE

Twenty-five studies surveyed provide 32 findings on the distance that edges might affect habitats in the United States. Like the other conservation thresholds, the focal species of choice is birds. Sixty-six percent of the findings (21 citations within 12 articles) measure the influence of edges related to bird response, revealing that edge influence for birds extends anywhere from about 16 meters to up to almost 700 meters. Studies measuring bird or bird nest abundance report that edge effects extend between 180 and 687 meters where as those measuring predation and nesting success range from 50 to beyond 600 meters. Bird response (e.g., flushing distance) to disturbances such as roads and human traffic extends from 16.27 meters to 300 meters.

Secondarily, the influence of edges is measured by abiotic responses. Edge effects based on microclimate conditions —such as changes in light, temperature, humidity, nutrients, and moisture—are found to extend from eight meters up to 240 meters based on five studies (six citations) (Ranney et al. 1981, Laurance and Yensen 1991, Brothers and Spingarn 1992, Matlack 1993, and Chen et al. 1995).

To a lesser extent, the scientific literature provides information on the effects of edges on mammals and plants. Three studies have found that mammals avoid edge environments from at least 45 meters to 900 meters. For example, studies reveal that wide-ranging grizzly bears are displaced from 100 to 900 meters due to traffic along roadways (Mills 1996, Miller et al. 2001, and Weaver et al. 1996). One study provides evidence on the influence of edges on plant communities, finding that almost no recruitment of seedlings occurs within 65 meters of forest clear-cut edges in Oregon (Jules 1998).

Within this review, no single study is found to report edge influence in relation to invertebrate communities in the United States. As is true for the other thresholds, research has been conducted more extensively in tropical forests outside of the United States, and may serve to address knowledge gaps. For example, a study in Brazil reveals that edge effects may be more intense for invertebrate groups. Edge effects may penetrate up to 50 meters as measured by bird density; 80 meters as measured by soil moisture; 100 meters as measured by canopy height, foliage density, and leaf-litter invertebrate abundance and richness; 200 meters as measured by leaf-litter invertebrate species composition and invasion of disturbance adapted beetles; and 250 meters for invasion of disturbance-adapted butterflies (Laurance et al. 1997).

To get a better handle on the intensity of edge influence in the United States and, consequently, the amount of habitat needed to reduce the effects of edges and related disturbances, land use planners will need more site-specific guidance from ecologists. Land use planners and land managers

will also need more information on effective measures that can be taken to better "soften" the many different types of edges affecting the large array of habitat types in the United States.

A CLOSER LOOK AT BUFFER WIDTH

Eighty-eight papers (156 citations) are found to provide recommendations on riparian buffer widths.[32] Of all the conservation thresholds surveyed, buffer prescriptions are the most studied and best documented. Substantial research has been conducted on the effective size of buffers, particularly related to water quality considerations, to assist regulatory and land management agencies in developing scientifically sound minimum buffer width (Castelle et al. 1994). Several literature reviews have been conducted to help inform state and local governments in developing riparian protection plans and ordinances (*see* Johnson and Ryba 1992, Furfey et al. 1997, Wenger 1999, Fischer 2000, Fischer et al. 2000, and Metro 2001). In April 2000, the U.S. Army Corp of Engineers released national recommendations for riparian buffer strip and riparian corridor design (Fischer and Fischenich 2000). This baseline research significantly informed the buffer width recommendations in this report.

One review offers the following buffer prescriptions: a three to 10 meter buffer to provide detrital input; 10 to 20 meters for stream stabilization; five to 30 meters for water quality protection; 20 to 150 meters for flood attenuation; and 30 to 500 meters or more for riparian habitat (Fischer and Fischenich 2000). The Institute's review reveals wider buffer ranges to provide a variety of functions, with a range of six to 32 meters to reduce noise and wind damage; 10 to 52 meters to stabilize stream banks; three to 80 meters to provide detrital input; four to 92 meters to remove nutrients and pollutants; three to 122 meters to remove sediments; 20 to 150 meters to provide flood attenuation; 10 to 300 meters to regulate temperature and microclimate; and three to 1600 meters to provide wildlife habitat (*see* Appendix E).

Findings in this review primarily relate to river and stream systems, however, a small number of papers explicitly address wetlands (*see* Buhlmann 1998 and Joyal et al. 2001). Although not all wetlands lie within riparian zones (e.g., isolated wetlands), they serve as vital resources and provide essential functions, such as flood storage, water purification, sediment trapping, and wildlife habitat (Mitsch and Gosselink 1993). Thus, placing buffers around these areas to protect them from nearby development activities is also advised.

Predicting the adequacy of a buffer strip to provide sufficient wildlife habitat and to protect natural species diversity is quite challenging. The width recommendations primarily focus on birds and are based on various methods—ranging from determining species presence or nesting within the area to determining species abundance, diversity, or community assemblages. Few studies attempt to measure species survival over time; thus, it is questionable whether the recommended buffers will ensure persistence of the target species and communities over the long-term.

As mentioned above, the actual effective size and adequacy of any given buffer is determined by the management target, as well as other site-specific factors, such as site and watershed conditions; intensity of adjacent land use; slope steepness; stream order; soil characteristics (depth, texture, erodibility, moisture, pH); floodplain size and frequency of inundation; hydrology; buffer characteristics (e.g., type, density, and structure of vegetation, and buffer length); and landowner/manager objectives (Naiman et al. 1993, Castelle et al. 1994, Wenger 1999, Todd 2000). For example, larger buffers may be necessary when the buffer strip is in poor condition (e.g., comprised of sparse exotic vegetation, disturbed/erodible soils); is located on steep bank slopes (e.g., greater than 10 percent to 15 percent);[33] is surrounded by intense land uses; or is located within watersheds with increased impervious surfaces that results in high nutrient, chemical, and sediment inputs, and runoff (e.g., adjacent to urban/suburban areas or intensive agricultural farmland). Such factors should be considered when evaluating the applicability of the general recommended buffer sizes (*see* Wenger 1999, Fischer and Fischenich 2000, Metro 2001). In addition, management decisions should not only be based on site-specific characteristics but also on basin or watershed level needs to maintain the hydrologic connectivity and natural variability of these systems (Naiman et al. 1993, Pringle 2001). [34]

A CLOSER LOOK AT CORRIDORS

To determine whether or not corridors are effectively enhancing species conservation, scientists evaluate whether (and how) patch occupancy, species abundance and diversity, colonization, and immigration rates change with and without the presence of corridors (Beier and Noss 1998).

Many studies lend support to the premise that corridors retain important species or provide faunal habitat (Bennett 1998). Few studies, however, provide clear evidence that corridors are required for species movement in landscapes (Hobbs 1992). Many species simply do not respond or require corridors (Rosenburg et al. 1997, Bowne et al. 1999, Hannon and Schmiegelow 2002). For example, male-hooded warblers preferentially travel across open areas, even in

[32] Some papers recommend multiple buffer widths, for example, they may suggest different widths for different species or functions of concern. Thus, the number of papers does not equal the number of citations.

[33] Herson-Jones et al. 1995 (found that greater than 10 percent slopes are steep slopes) and Nieswand et al. 1990 (found that greater than 15 percent slopes are steep) (as cited in Wenger 1999).

[34] Hydrologic connectivity refers to water-mediated transfer of matter, energy, or organisms within or between elements of the hydrologic cycle (Pringle 2001).

landscapes with corridors connecting habitat patches (Norris and Stutchbury 2001). For species like the Northern spotted owl, which has been found to disperse randomly, the presence of corridors will likely not enhance its survival (Murphy and Noon 1992 *as cited in* Lindenmayer and Franklin 2002). Because of the complexity of animal behavior, land use planners should not assume that establishing corridors between habitat patches in a region will automatically guarantee enhanced and effective dispersal and recolonization among the separated wildlife populations.

The benefits of corridors should be weighed against their potential repercussions. Scientists warn that corridors may potentially transmit diseases, fires, or other catastrophes among habitats and populations, as well as increase invasions by non-native invasions or exposure to predation (Simberloff and Cox 1987, Noss 1991, Noss and Cooperrider 1994). To add to the complexity of this issue, many corridor studies—both those that claim corridor benefits and those that claim costs—suffer from design flaws that limit their ability to discern the real conservation value of corridors (Beier and Noss 1998).

A recent scientific review is able to shed some light on the corridor controversy; a review by Beier and Noss (1998) presents evidence from well-designed studies that suggest that corridors seem to be providing sufficient connectivity to enhance the viability of wildlife populations. Conversely, a lack of evidence backs the assertion that the presence of corridors actually has a greater adverse impact than their absence (Beier and Noss 1998, Hobbs 1992). Although wildlife corridors should not be automatically assumed to be an essential component of all land conservation strategies (Lindenmayer and Franklin 2002), planners should consider corridors as one potentially valuable conservation tool (Beier and Noss 1998, Hobbs 1992).

APPENDIX B. MINIMUM PATCH AREA

Minimum patch area requirements (in hectares) found within the scientific literature (as of December 2001) to maintain populations or communities of animal or plant species in the United States. One hectare is about 2.5 acres.

TAXA	PATCH AREA	FINDING	STATE	CITATION
Birds				
	≥ 1 ha	Minimum area requirement for breeding wood thrushes is 1 ha, although nesting success on fragments of that size would be extremely low.	MD, PA, VA, WV	Robbins et al. 1989
	> 1	Five species of chaparral-requiring birds were supported by census plots larger than 1 ha.	CA	Soulé et al. 1992
	≥ 2 ha (seed-eating birds) ≥ 40 ha (insect-eating birds)	The minimum area point[1] for insect-eating birds was estimated to be at least 40 ha, in contrast to 2 ha for seed-eating birds. This is interpreted as the habitat size needed to support a representative bird community.	NJ	Forman et al. 1976[2] Galli et al. 1976[2]
	≥ 5 ha (marsh)	Ten of the 25 species did not occur in marshes less than 5 ha.	IA	Brown and Dinsmore 1986
	≥ 5, ≥ 30, ≥ 40, ≥ 50, ≥ 55 ha	Estimates of minimal area requirements for five area-sensitive species ranged from 5 to 55 ha.	IL	Herkert 1994
	≥ 6.5 ha, 15.4 -32.6 ha	Black tern required 6.5 ha in heterogeneous landscapes, but required 15.4 - 32.6 ha in homogeneous landscapes.	SD	Naugle et al. 1999
	≥ 10 ha (forest)	Forest patches ≥ 10 ha had much greater bird diversity than patches < 3.25 ha	GA	McIntyre 1995
	> 80 ha	In fragments < 80 ha, nesting success was low (43%), and nest predation was high (56%).	PA	Hoover et al. 1995
	< 20 ha, >2500 ha	Based on a study of cowbird parasitism and nest predation on 3 large forest tracts (1100 - 2200 ha) in southern Illinois, maintaining wood thrush populations in the midwest might require > 2500 ha reserves. In the east even a small woodlot (< 20ha) may sustain a population.	IL	Trine 1998
Mammals				
	> 1 ha	Control plots larger than 1 ha supported most species of rodents.	CA	Soulé et al. 1992
	≥ 5 ha	Cottontails may become vulnerable to extinction if large patches ≥ 5.0 ha are not maintained.	NH	Barbour and Litvaitis 1993
	≥ 10 ha	Fragments < 10 ha did not support populations of native rodents.	CA	Bolger et al. 1997

TAXA	PATCH AREA	FINDING	STATE	CITATION
	≥ 900 ha (9 km2)	More than 80% of bear sitings occurred in blocks of undisturbed habitat ≥ 9 km^2.	MT	Mace et al. 1996[3]
	≥ 2800 ha (28 km2)	Grizzly bears in the Yellowstone ecosystem should have security blocks 28 km^2 in size.	MT, ID, WY	Mattson 1990[3]
	≥ 220,000 ha (2200 km2)	Model predicts low extinction risk for cougars in areas as small as 2200 km^2, but w/ increasing risk with little immigration.	CA	Beier 1993
Fishes				
	> 2500	Found support that suitable patch size (as defined by watersheds above 1600 m elevation) influences the occurrence of bull trout. Predicted probability of occurrence is 0.5 for patches larger than 2500 ha.	ID	Rieman and McIntyre 1995
Invertebrates				
	≥ .0004 ha (4m2)	Vegetation patches ≥ $4m^2$, as well as open areas, were important to the distribution and abundance of carabid beetles.	OH	Crist and Ahern 1999
	≥ 1 ha	Observed minimum patch size for occupancy by populations of 3 butterfly species is 1 ha.	model	Hanski 1994
Plants				
	≥ 2 ha (5 acres)	Minimum area point[1] for tree communities was estimated to be about 2 ha.	NJ	Elfstrom 1974[2]
	≥ 10, ≥ 100 ha	Conserving an old-growth forest might require 10 ha if surrounded by comparable forest, but 100 ha if surrounded by a clearcut.	—	Harris 1984[4]

— Indicates that the geographic location was not determined because the recommendation was cited secondarily from another review article.

model indicates that the research was conducted through modeling and therefore is not specific to any geographic area.

[1] Minimum area point is the point on a species-area curve, which shows the relationship between species number and habitat area, where there is an abrupt change in the slope. The minimum area point has been considered an index of how large a community must be to representative of the community type (Forman 1995).

[2] *As cited in* Forman 1995

[3] *As cited in* Weaver et al. 1996

[4] *As cited in* Franklin 1993

APPENDIX C. PROPORTION OF SUITABLE HABITAT

Recommended minimum proportions of suitable habitat found within the scientific literature (as of December 2001) to maintain long-term persistence of viable populations or communities of species or to minimize the negative consequences of habitat fragmentation in the United States.

TAXA	PROPORTION OF SUITABLE HABITAT	FINDING	STATE	CITATION
Birds				
	≥ 5%	When < 5% of area was covered by habitat, there was an effect on bird density.	WI	Ambuel and Temple 1983[1]
	≥ 5%	When < 5% of area was covered by habitat, there was an effect on bird community.	—	Howe 1984[1]
	> 8%	When 8% of area was covered by habitat, there was an effect on land bird community.	—	Nilsson 1978[1] Nilsson 1986[1]
	≥ 10%	When < 10% of area was covered by habitat, there was an effect on species richness.	—	Soulé et al. 1988[1] Bolger et al. 1991[1]
	>10-30%	The negative effects of patch size and isolation on native species may not occur until the landscape consists of only 10-30% of the original habitat.	review	Andrén 1994
	> 15%	When 15% of area was covered by habitat, there was an effect on bird density.	—	Askins et al. 1987[1]
	> 20%	When 20% of area was covered by habitat, there was an effect on bird community.	MD	Lynch and Whigham 1984[1]
	> 22%	When 22% of area was covered by habitat, there was an effect on land bird community	—	Whitcomb et al. 1981[1]
	> 50%	Numerous species were more likely to inhabit wetlands in landscapes where less than 50% of the upland matrix was tilled.	SD	Naugle et al. 2001
	≥ 60%	A model assuming 60% suitable habitat suggests a high likelihood for the longterm persistence of Northern spotted owls.	model	Lamberson et al. 1994
	> 80%	Metapopulation model predicted that the Northern spotted owl population would go extinct if the proportion of old-growth forest was reduced to less than 20% of landscape.	model	Lande 1988[4] Lamberson et al. 1992[4]
Mammals				
	> 6%	When 6% of area was covered by habitat, there was an effect on chipmunk density.	—	Henderson et al. 1985[1]
	> 6%	When 6% of area was covered by habitat, there was an effect on pika abundance.	—	Smith 1974[1] Smith 1980[1]
	≥ 10%	When < 10% of area was covered by habitat, there was an effect on mammal species richness.	—	Soulé et al. 1992[1]
	> 10%	When 10% of area was covered by habitat, there was an effect on Columbian ground squirrel presence/absence.	—	Weddell 1991[1]
	> 10-30%	The negative effects of patch size and isolation on the native species may not occur until the landscape consists of only 10–30% of the original habitat.	review	Andrén 1994
	> 15%	When 15% of area was covered by habitat, there was an effect on small mammal presence.	—	Lomolino et al. 1989[1]

TAXA	PROPORTION OF SUITABLE HABITAT	FINDING	STATE	CITATION
Invertebrates				
	≥ 20%	The threshold for changes in movement patterns of beetles occurred at 20% coverage of cells.	CO	Wiens et al. 1997
	≥ 20%	Clover patches became significantly more isolated below 20% habitat, which disrupted the predator foraging behavior of ladybird beetles, decreasing their ability to serve as biocontrol agents of aphids.	model	With et al. 2002
	≥ 40%	Habitat specialists of grasshoppers exhibited limited movement and disjunct populations—which can affect population persistence—when preferred habitat occupied less than 40% of the landscape.	model	With and Crist 1995
	≥ 40, ≥ 60%	Rare species were disproportionately affected by fragmentation and did not occur in patches with less than 40% habitat. Over half of the species were never observed in plots with less than 60% habitat remaining.	OH	Summerville and Crist 2001
Hypothetical Species				
	> 10-30%	As habitat loss continues beyond the threshold (occurring somewhere in the range of 70-90% habitat loss) decline in population performance should become much more severe. But model predicts that habitat fragmentation begins to occur when about 60% of original vegetation remains.	model	Gardner et al. 1987[2]
	≥ 20%	The threshold value of habitat amount is 20% habitat, below which the effects of habitat fragmentation on population persistence may become evident.	—	Andrén 1994[3] Fahrig 1998[3]
	> 70%	Models of forest landscapes forecast that patches of old-growth forest can become fragmented even when about 70% of the landscape cover remains.	model	Franklin and Forman 1987
	> 80%	Terrestrial species with low demographic potential could not persist in landscape even with 80% of suitable habitat in landscape.	model	Lande 1987[4]

— Indicates that the geographic location was not determined because the recommendation was cited secondarily from another review article.

model indicates that the research was conducted through modeling and therefore is not specific to any geographic area. review indicates papers that base recommendation on a survey of the literature.

1 As *cited in* Andrén 1994

2 As *cited in* Dooley and Bowers 1998

3 As *cited in* Fahrig 2001

4 As *cited in* With and Crist 1995

APPENDIX D. EDGE INFLUENCE

Distances (in meters) that edge effects penetrate into habitats in the United States as found within the scientific literature (as of December 2001), according to abiotic, bird, mammal, and plant response.

TAXA/SUBJECT	EDGE INFLUENCE	FINDING	STATE	CITATION
Abiotic				
	8 m	Microclimatic differences ceased to exist beyond 8 m into forest fragments.	IN	Brothers and Spingarn 1992
	13.3 m	Model indicated that elevated soil temperatures may extend up to 13.3 m from edge.	model	Laurance and Yensen 1991
	≥ 15 m	In deciduous forest patches, microclimate changes were estimated to extend at least 15 m from the forest edge to the interior.	WI	Ranney et al. 1981[2]
	50 m	Significant edge effects were detected in light, temperature, litter moisture, vapor pressure deficit, humidity, and shrub cover, affecting the forest microenvironment up to 50 m from the edge.	PA, DE	Matlack 1993
	15-60 m (solar radiation) > 240 m (humidity and wind speed)	Solar radiation gradients extend 15–60 m into upland old-growth forest and humidity and wind speed gradients at > 240 m.	—	Chen et al. 1995[9]
Birds				
	16.27 m, 16.95 m, 37.73 m	Maximum flushing* distance in response to pedestrians and dogs was 16.27 m (American robin), 16.95 m (vesper sparrow), and 37.73 m (western meadowlark).	CO	Miller et al. 2001
	50 m	Predation and parasitism rates are often significantly greater within 50 m of an edge.	—	Paton 1994[3]
	50 m	Murrelet nest success was higher when nests were more than 50 m from the forest edge.	—	Nelson and Hamer 1995[4]
	75 m	Estimated that edge-related nest predation extended 75 m into forested buffer strip.	ME	Vander Haegen and Degraaf 1996
	75 m, 100 m	For the majority of species found to have reduced numbers near trails due to nest predation and brood parasitism by brown-headed cowbirds, the zone of influence of trails appears to be around 75 m; however, Townsend's Solitaires exhibited reduced numbers as far as 100 m away from trail.	CO	Miller et al. 1998
	75 m, 125 m, 140 m, 160 m, 210 m, 300 m	Buffer zones that would prevent flushing by approximately 90% of the wintering individuals of a species are: American kestrel, 75 m; merlin, 125 m; prairie falcon, 160 m; rough-legged hawk, 210 m; ferruginous hawk, 140 m; and golden eagle, 300 m.	CO	Holmes et al. 1993
	100 m	Flushing distances of waterbirds in response to pedestrians, all-terrain vehicles, automobiles, and boats, indicate that human disturbance extends up to 100 m.	FL	Rodgers and Smith 1997

TAXA/SUBJECT	EDGE INFLUENCE	FINDING	STATE	CITATION
	180 m	Avian densities were altered up to 180 m away from homes on the perimeter of ex-urban developments.	CO	Odell and Knight 2001
	200–500 m	The abundance of interior habitat bird species was reduced within 200 to 500 m of an edge.	CA	Bolger et al. 1997b[1]
	≥ 300 m	Nest parasitism by brown-headed cowbirds decreased with distance away from forest edge but extended ≥ 300 m into the forest.	—	Brittingham and Temple 1983[5]
	511 m, 687 m	Most Cooper hawk nests occurred 511 m from paved roads and 687 m from human habitation.	Northeast	Bosakowski et al. 1992
	600 m	Effect of increased predation extends 600 m into habitat.	—	Wilcove et al. 1986[1]
Mammals				
	≥ 45 m	The influence of a clearcut on small mammals (California red-backed vole and deer mouse) extends at least 45 m into the forest from its edge.	—	Mills 1996[6]
	81.92 m	Maximum flushing distance of mule deer in response to pedestrians and dogs was 81.92 meters.	CO	Miller et al. 2001
	100–900 m	Human traffic along open roads displaces most grizzly bears from 100–900 meters.	—	Mattson et al. 1987[7] McLellan and Shackleton 1988[7] Aune and Kasworm 1989[7] Kasworm and Manley 1990[7] Mace et al. 1996[7]
Plants				
	65 m	Populations in forest remnants within 65 m of forest clear-cut edges have almost no recruitment of young plants.	OR	Jules 1998
General				
	5000 m	In different habitats and for different taxa, edge effects may penetrate up to 5 km.	—	Janzen, 1986[8]

* Flushing distance is the distance that an animal may flee in response to a disturbance, such as in response to pedestrian or pets on a trail or vehicular traffic on roads.
— Indicates that the geographic location was not determined because the recommendation was cited secondarily from another review article.
model indicates that the research was conducted through modeling and therefore is not specific to any geographic area.

1 *As cited in* Metro 2001.

2 *As cited in* Collinge 1996

3 *As cited in* Hartley and Hunter 1998

4 *As cited in* Meyer and Miller 2002

5 *As cited in* Robbins et al. 1989

6 *As cited in* Lidicker 1999

7 *As cited in* Weaver et al. 1996

8 *As cited in* Laurance and Yensen 1991

9 *As cited in* Brosofske et al. 1997

APPENDIX E. RIPARIAN BUFFER WIDTH

Recommended minimum riparian and wetland buffer widths (in meters) to maintain water quality and wildlife functions within ecoregions of the United States, as found within the scientific literature (as of December 2001).

FUNCTION	TAXA/SUBJECT	BUFFER WIDTH	CITATION
Miscellaneous			
	Noise	≥ 6 m (mature evergreen)	Harris 1985[3]
	Wind damage prevention	≥ 23 m	Pollock and Kennard 1998[3]
	Noise	≥ 32 m (heavily forested)	Groffman et al. 1990[5]
Detrital Input			
	Organic litterfall	1/2 SPTH	FEMAT 1993[3]
	Large Woody Debris	1 SPTH	FEMAT 1993[3]
	Large Woody Debris	1 SPTH	Spence et al. 1996[3]
	Woody Debris	3–10 m	Fischer and Fischenich 2000
	Woody Debris	10–30 m	Wenger 1999
	Organic litterfall	≥ 30 m	Erman et al. 1977[3]
	Woody Debris	≥ 30 m (forested watersheds)	Pollock and Kennard 1998[3]
	Woody Debris	≥ 31 m	Bottom et al. 1983[4]
	Woody Debris	≥ 46 m	McDade et al. 1990[3]
	Organic litterfall	≥ 52 m	Spence et al. 1996[3]
	Woody Debris	≥ 80 m	May 2000[3]
Temperature and microclimate regulation			
	Microclimate	3 SPTH	FEMAT 1993[3]
	Shade	10–30 m	Osborne and Kovacic 1993[3]
	Temperature control	10–30 m	Wenger 1999
	Water temperature	10–30 m	Castelle et al. 1994
	Shade	11–24 m	Brazier and Brown 1973[5]
	Water temperature	≥ 12 m	Corbett and Lynch 1985[4]
	Water temperature	15–30 m	Hewlett and Fortson 1982[4]
	Shade	23–38 m	Steinblums et al. 1984[5]
	Shade	≥ 30 m	Spence et al. 1996[3]
	Shade	≥ 30 m	FEMAT 1993[3]
	Shade	≥ 30 m	May 2000[3]
	Maintenance of water temperature within 1°C of former mean	≥ 30 m	Lynch, Corbett, and Mussalem 1985[1]
	Water temperature	30–43 m	Jones et al. 1988[4]
	Air temperature, solar radiation, wind, humidity	≥ 45–300 m	Brosofske et al. 1997
	Microclimate regulation	≥ 100 m	May 2000[3]
	Microclimate regulation	61–160 m	Knutson and Naef 1997[3]
Bank Stabilization			
	Bank Stabilization	1/2 SPTH	FEMAT 1993[3]
	Bank Stabilization	10–20 m	Fischer and Fischenich 2000

FUNCTION	TAXA/SUBJECT	BUFFER WIDTH	CITATION
	Stream/channel stabilization	20–30 m	Corbett and Lynch 1985[4]
	Stream stabilization/sediment control	≥ 38 m	Cederholm 1994[3]
	Bank Stabilization	≥ 52 m	Spence et al. 1996[3]
Flood Attenuation			
	Floodplain storage	20–150 m	Fischer and Fischenich 2000
Sediment Removal			
	Sediment removal	≥ 3m (sand), ≥ 15 m (silt), ≥ 122m (clay)	Wilson 1967[5]
	Sediment removal	5–30 m	Fischer and Fischenich 2000
	Sediment removal	8–46 m (depending on slope)	SCS 1982[4]
	Sediment (85% removal)	≥ 9 m (grass filter strips, 7%, 12% slopes)	Ghaffarzadeh et al. 1992[4]
	Suspended solids (84% removal)	≥ 9 m (vegetated filter strip)	Dillaha et al. 1989[1]
	Sediment removal	9–30 m	Wenger 1999
	Sediment removal	10–60 m	Castelle et al. 1994
	Sediment removal	≥ 15 m	Budd et al. 1987[4]
	Sediment removal	≥ 15.6 m	Broderson 1973[4]
	Sediment removal	≥ 23 m	Schellinger and Clausen 1992[4]
	Suspended sediment (92% removal)	≥ 24.4 m (vegetated buffer)	Young et al. 1980[4]
	Sediment removal	≥ 25 m	Desbonnet et al. 1994[4]
	Sediment removal	≥ 30 m	Erman et al. 1977[3]
	Sediment removal	≥ 30m	Moring 1982[3]
	Sediment removal	≥ 30 m	May 2000[3]
	Sediment (75% removal)	30–38 m	Karr and Scholosser 1977[4]
	Sediment (75–80% removal)	≥ 30 m	Lynch, Corbett, and Mussalem 1985[1]
	Sediment (80% removal)	≥ 61 m (grass filter strip and vegeated buffers)	Horner and Mar 1982[1]
	Sediment (50% removal)	≥ 88 m	Gilliam 1988[4]
Nutrient/Pollutant Removal			
	Nitrogen, Phosphorus, Potassium, and Fecal Bacteria	≥ 4 m (grass filter strip and forested buffers)	Doyle et al. 1997[1]
	Nitrates and Phosphates (90% removal)	≥ 5 (grass filter strip)	Madison et al. 1992[1]
	Nutrient removal	5–30 m	Fischer and Fischenich 2000
	Nitrates (almost complete removal)	≥ 7 m	Lowrance 1992[1]
	Removal of Phosphorus (79%) and Nitrogen (73%)	≥ 9 m (vegetated filter strip)	Dillaha et al. 1989[1]
	Nitrogen and Phosphorus	≥ 10 m	Corley et al 1999[1]
	Nutrient and Metal	≥ 10 m	Petersen et al. 1992[4]
	Nutrient removal	10—90 m	Castelle et al. 1994
	Nitrate Concentrations	15–30 m	Wenger 1999

FUNCTION	TAXA/SUBJECT	BUFFER WIDTH	CITATION
	Nutrient and metal	≥ 15 m	Castelle et al. 1992[4]
	Phosphorus	≥ 15 m (hardwood buffer)	Woodard and Rock 1995[1]
	Nutrient and metal	≥ 16 m	Jacobs and Gilliam 1985[4]
	Estradiol (98% decrease)	≥ 18 m (grass filter strip)	Nichols et al. 1998[1]
	Nitrogen and Phosphorus (80 and 89% removal, respectively)	≥ 19 m (riparian forest buffer)	Shisler, Jordan, and Wargo 1987[1]
	Nitrates (up to 100%)	20–30 m	Fennessy and Cronk 1997[3]
	Fecal coliform reduction	23–92 m	SCS 1982[5]
	Pollutant removal	≥ 30 m	May 2000[3]
	Fecal coliform reduction	≥ 30 m	Grismer 1981[5]
	Nutrient reduction to acceptable levals	≥ 30 m	Lynch, Corbett, and Mussalem 1985[1]
	Nutrient and metal removal	30–43 m	Jones et al. 1988[5]
	Nutrient and metal removal	≥ 36 m	Young et al. 1980[4]
Wildlife and Plant Species			
	General wildlife	3–183 m	FEMAT 1993[3]
	General wildlife habitat	≥ 10 m	Petersen et al. 1992[5]
	General species diversity	10–100 m	Castelle et al. 1994
	General bird habitat	≥ 15 m	Milligan 1985[5]
	Fish (Cutthroat trout, rainbow trout, and steelhead)	15–61 m	Knutson and Naef 1997[3]
	Birds	≥ 15–200 m	Stauffer and Best 1980
	Aquatic wildlife habitat	20–150 m	Fischer and Fischenich 2000
	General wildlife habitat	≥ 23 m	Mudd 1975[5]
	General wildlife habitat	≥ 27 m	WDOE 1981[5]
	Invertebrates (aquatic insects)	≥ 30 m	Erman et al. 1977[3]
	Invertebrates (macroinvertebrate diversity)	≥ 30 m	Gregory et al. 1987[3]
	Fish (cutthroat trout)	≥ 30 m	Hickman and Raleigh 1982[3]
	Invertebrates (benthic communities)	≥ 30 m	Newbold et al. 1980[5]
	Amphibians (frogs and salamanders)	≥ 30 m (riparian forest buffer)	NRCS 1995[3]
	Fish (brook trout)	≥ 30 m	Raleigh 1982[5]
	Fish (rainbow trout)	≥ 30 m	Raleigh et al. 1984[3]
	Fish (chinook salmon)	≥ 30 m	Raleigh et al. 1986[5]
	Invertebrates (benthic communities)	≥ 30 m	Roby et al. 1977[5]
	Amphibians, Reptiles, Vertebrates	≥ 30 m (riparian forest buffer)	Rudolph and Dickson 1990[1]
	Fish (salmonid egg development)	≥ 30 m	Spackman and Hughes 1995[1]
	Plants (vascular plant diversity)	≥ 30 m	Spackman and Hughes 1995[1]
	Fish (fish diversity and densities)	≥ 30 m	Stewart et al. 2000
	Mammals (beavers)	30–100 m	Jenkins 1980[9]
	General wildlife habitat	≥ 32 m	Groffman et al. 1990[5]
	Birds (Willow flycatcher nesting)	≥ 37.5 m	Knutson and Naef 1997[3]

FUNCTION	TAXA/SUBJECT	BUFFER WIDTH	CITATION
	Birds (diversity and assemblages)	≥ 40 m	Hagar 1999
	Birds (assemblages and persistence)	≥ 45 m	Pearson and Manuwal 2001
	Mammal (gray squirrel)	≥ 50 m	Dickson 1989[1]
	Birds (neotropical migrants, interior species)	≥ 50 m	Tassone 1981[3]
	Birds (raptors)	50–1600 m	Richardson and Miller 1997[7]
	Fish (trout, salmon)	≥ 61 m	Castelle et al. 1992[3]
	Mammals (deer)	≥ 61 m	NRCS 1995[3]
	General wildlife	≥ 61 m	Zeigler 1988[5]
	Mammals (small)	67–93 m	Jones et al. 1988[5]
	Reptiles (gravid mud turtles, Florida cooters, slider turtles)	≥ 73 m (90% protection)	Burke and Gibbons 1995
	Birds	75–200 m	Jones et al. 1988[3]
	Mammal (beaver)	≥ 91 m	NRCS 1995[3]
	Mammals (large)	≥ 100 m	Jones et al. 1988[5]
	Birds (neotropical migrants)	≥ 100 m	Fischer 2000
	Wildlife habitat	≥ 100 m	Fischer, Martin, and Fischenich 2000; and Fischer and Fischenich 2000
	Birds (yellow-billed cuckoo breeding habitat)	≥ 100 m	Gaines 1974[2]
	Birds (neotropical migrant diversity and functional assemblages)	≥ 100 m	Hodges and Krementz 1996
	Birds (forest bird nesting habitat)	≥ 100 m	Keller et al. 1993
	Reptiles (Western pond turtle nesting habitat)	≥ 100 m (stream buffer)	Knutson and Naef 1997[3]
	Aquatic wildlife	≥ 100 m	May 2000[3]
	Birds (red-shouldered hawk and forest bird breeding habitat)	≥ 100 m	Mitchell 1996[2]
	Birds (pileated woodpecker nesting habitat)	≥ 100 m	Small 1982[3]
	Birds (neotropical migrant abundance)	≥ 100 m	Triquet, McPeek, and McComb 1990[2]
	Terrestrial riparian wildlife communities	100–300 m (300 m for forest interior species)	Wenger 1999
	Reptiles (spotted turtles nesting habitat)	120 m (wetland buffer)	Joyal et al. 2001
	Reptiles (turtles)	≥ 135 m (wetland buffer)	Buhlmann 1998[1]
	Birds (Pileated woodpecker)	≥ 137 m	Castelle et al. 1992[3]
	Birds (species diversity)	≥ 150 m	Spackman and Hughes 1995[2]
	Birds (reduce edge-related nest predation)	≥ 150 m	Vander Haegen and DeGraaf 1996
	Amphibians (salamanders)	≥ 165 m	Semlitsch 1998
	Birds (Bald eagle, nesting ducks, herons, sandhill cranes)	≥ 183 m	Knutson and Naef 1997[3]
	Mammals (fawning of mule deer)	≥ 183 m	Knutson and Naef 1997[3]

FUNCTION	TAXA/SUBJECT	BUFFER WIDTH	CITATION
	Plants (minimize non-native vegetation)	≥ 198 m	Hennings 2001[3]
	Birds (Rufous-sided towhee)	≥ 200 m	Knutson and Naef 1997[3]
	Reptiles (Blanding's turtles nesting habitat	≥ 410 m (wetland buffer)	Joyal et al. 2001
	Reptiles (False map turtles, slider turtles, lotic turtles dispersal)	≥ 449 m	Bodie and Semlitsch 2000
	Birds (complete assemblages)	≥ 500 m	Kilgo et al. 1998[1]
General Protection of Aquatic Systems			
	Multiple functions	1–90 m	Todd 2000
	Multiple functions	≥ 10 m	Fischer and Fischenich 2000
	Multiple functions	≥ 15 m	Fischer, Martin, and Fischenich 2000
	Multiple functions	30 m	Furfey et al. 1997
	Sediment/contaminant control, general water quality maintenance	30.5 m (+0.61 m per 1% slope)	Wenger 1999
	Wetland and river integrity	≥ 335 m	Schaefer et al. 1991[6]

SPTH, or site potential tree height, is used as a standard measurement to allow for multiple riparian functions. SPTH is measured in various ways. FEMAT (1993) defines SPTH the height of a site potential tree as the average maximum height of the tallest dominant trees of 200 years or more of age for a given site class (*For further discussion, refer to Metro 2001*).

1 *As cited in* Fischer and Fischenich 2000.

2 *As cited in* Fischer 2000.

3 *As cited in* Metro 2001.

4 *As cited in* Furfey et al. 1997

5 *As cited in* Johnson and Ryba 1992

6 *As cited in* Burke and Gibbons 1995

7 *As cited in* Fischer, Martin, and Fischenich 2000

8 *As cited in* Hagar 1999

9 *As cited in* Allen 1983

THE ENVIRONMENTAL LAW INSTITUTE®

For more than three decades, the Environmental Law Institute has played a pivotal role in shaping the fields of environmental law, management, and policy domestically and abroad. Today, ELI is an internationally recognized, independent research and education center.

Through its information services, training courses and seminars, research programs, and policy recommendations, the Institute activates a broad constituency of environmental professionals in government, industry, the private bar, public interest groups, and academia. Central to ELI's mission is convening this diverse constituency to work cooperatively in developing effective solutions to pressing environmental problems.

The Institute is governed by a board of directors who represent a balanced mix of leaders within the environmental profession. Support for the Institute comes from individuals, foundations, goverment, corporations, law firms, and other sources.

1616 P Street, N.W., Suite 200
Washington, D.C. 20036
Telephone: (202) 939-3800
Fax: (202) 939-3868
www.eli.org

Julia Descoteaux

From: Williams, Edd <Edd.Williams@mvc.edu>
Sent: Monday, May 11, 2020 8:54 PM
To: Julia Descoteaux
Cc: City Clerk
Subject: Citizen comments

I have been working at Moreno Valley College since 1994 and live in Moreno Valley; 26 years of driving in Moval gives me good insight into how Moval has evolved as a city. I can understand growth; home ownership, businesses such as the shopping center off Moreno Beach and the 60, west to Nasson; the car dealerships seem well-located; Sketchers off Theordore Dr.; even the other huge "tilt-ups" off Redlands and the 60 are tolerable. Growth is inevitable.

But count me among the MVC residents and workers **who object to the developments of the 2020 WLC**.

How might I someday, somehow support this major development?
(1) Make the builders pay for extensive expanded roadways for the surrounding areas affected by massive increases in diesel trucks and autos.
(2) Make the builders pay for extensive EPA protections of the air quality, wildlife environs, and noise pollution that will result from such a massive development -- and NOT through carbon imprint payments that do nothing to protect Moval, but through sincere, relevant, well-considered LOCAL policies that will protect Moval and its surrounding communities.
(3) Make the builders pay for Annual growth impact assessments that allow for adjusted *direct* costs to the builders, payable within 30 days, if those impact reports provide EIR evidence of inadequate policies to-date for environmental concerns noted in item 2; along with a required physical/actual adjustment within 90 days of the report's release.

At this time, I cannot support the WLC, not with little meaningful and almost no changes to prior environmental impact reports. There is something fishy in the state of Moval if this WLC moves forward without meaningful assessments and adjustments, particularly the expansion of roadways plus extensively increased environmental protections at the exclusive cost of the builders -- assuming their project moves forward.

Thank you for your time.
Edward A. Williams
Professor of English, MVC
Resident, Moreno Valley

From: Esteban Hernandez <hernandezesteban1@yahoo.com>
Sent: Tuesday, May 12, 2020 6:46 PM
To: City Clerk <cityclerk@moval.org>
Subject: Recertification for the WLC

Hello, my name is Esteban Hernandez and I am a resident of Moreno Valley California. The planning commission and the city council should move quickly to re-certify the environmental impact report for the work logistics center.

Sincerely: Esteban Hernandez
Hernandezesteban1@yahoo.com

Julia Descoteaux

From: Julia Descoteaux
Sent: Thursday, May 14, 2020 9:53 AM
To: Julia Descoteaux

Julia Descoteaux
Associate Planner
Community Development
City of Moreno Valley
p: 951.413.3209 | e: juliad@moval.org w: www.moval.org
14177 Frederick St., Moreno Valley, CA 92553

-----Original Message-----
From: Eunice Kang <eunice4kang@gmail.com>
Sent: Wednesday, May 13, 2020 12:34 PM
To: City Clerk <cityclerk@moval.org>
Subject: Recertification of the world logistics center

Warning: External Email – Watch for Email Red Flags!

Dear Planning Commission and City Council members,

I have been a resident of Moreno Valley for 20 years and have been on the Board of Directors for the Mountain View community in Moreno Valley for 4 years.

I am asking that you move quickly to re-certify The Environmental Impact Report for the World Logistics Center so that our city and the people who live here can begin to reap the benefits of this project in terms of additional jobs, city revenue, and reduction of freeway traffic.

Sincerely,
Eunice Kang,
28550 Grandview Dr.,
Moreno Valley, CA 92555
951-500-3835

Sent from my iPhone

Julia Descoteaux

From: Frank Huddleston <fhuddleston52@gmail.com>
Sent: Thursday, May 7, 2020 11:28 AM
To: Julia Descoteaux
Subject: WLC

We are going to need JOBS. Let's start building

Julia Descoteaux

From: Julia Descoteaux
Sent: Wednesday, May 13, 2020 5:46 PM
To: Julia Descoteaux
Subject: WLC

From: Frank Wright <railroad8@yahoo.com>
Sent: Monday, May 11, 2020 10:37 AM
To: City Clerk <cityclerk@moval.org>
Subject: WLC

Warning: External Email – Watch for Email Red Flags!

Dear Planning Commission and City Council,
It is imperative that all issues of environmental control, air pollution and any forms related to be adjusted, recommended and accepted in the quickest time possible; further delays results to more problems and higher expenses. The WLC construction has proved itself of high values of utmost concern for the residences of
Moreno Valley and the foundation for the influx of multiple business companies now in place and of the desire for future development .
The people have longed for the this change for better living conditions,…..so it is urgent that you act now in making MV a historical location so well deserved.
Most sincerely, Frank Wright

Julia Descoteaux

From: George Hague <gbhague@gmail.com>
Sent: Thursday, May 7, 2020 5:22 PM
To: Julia Descoteaux
Cc: City Clerk
Subject: Comments on the World Logistic Center (WLC) Revised Final Environmental Impact Report for the Planning Commission

Good afternoon/evening Moreno Valley Planning Commissioner,

RE: World Logistic Center Revised Final Environmental Impact Report (RFEIR)

A clean and healthy environment is a fundamental right for all California residents. To that end, more can be done to reduce exposure to pollutants and improve the quality of life in California communities facing environmental and economic challenges. This project will prejudice the current Moreno Valley General Plan Update and especially the Environmental Justice Element. The RFEIR fails to analyze how the WLC will reduce its impact on Moreno Valley's Disadvantaged Community to less than significant.

You must ask for the Moreno Valley map that shows what parts of our town are considered Disadvantaged by the state in large part because of the significant pollution — they are largely near where warehouse projects have been approved and where their trucks use city streets.

The closer people are to particulate Diesel Pollution the more health impacts they are subjected. If we did not have so many warehouses, most trucks would use I-10 and not SR-60. We as part of the SCAQMD also must significantly help reduce our particulate pollution or we will very likely be subject to fines, penalties, and major federal regulation — as written below.

Even COVID-19 is more deadly because of the pollution produced with each warehouse and their 1000,s of diesel trucks you approve as can be read below.

Sincerely,

George Hague

California Natural Gas Vehicle Partnership

By **Todd Campbell**

Facebook Twitter LinkedIn

California has the worst air pollution in the nation and diesel trucks are largely to blame.

#1 Source of Emissions: Diesel Trucks – Emissions are increasing, despite California's progressive vehicle emissions policy.

Heavy-duty (HD) diesel trucks are the backbone of California's thriving goods movement economy, but they also deliver a lot of negative impacts to the state. A the largest single source of emissions in California, HD diesel trucks cause smog and unhealthy air for 90% of Californians[1]. HD diesel trucks emit NOx (oxid of nitrogen) and diesel particulate matter (DPM), **which can cause a range of health issues including asthma, cancer, heart disease, and premature death.** These impacts are particularly pronounced in California's many disadvantaged communities (DACs) which are already overburdened by HD diesel truck emissions. In addition, HD diesel trucks are one of North America's largest and most rapidly growing sources of climate-altering greenhouse gas (GHG) emissions which are detrimental to clean air.

California is facing several near-term deadlines to meet the minimum standards set by the federal government for clean and healthy air. **Southern California only has until the end of 2022 to significantly cut smog-forming ozone emissions in order to reach these minimum federal requirements. Failure to meet these federal regulations can trigger fines and penalties, including**

withholding billions of dollars of federal highway funds. Of course, this is all in addition to the deadly toll diesel truck exhaust continues to take on the health of thousands of Californians on a daily basis.

Los Angeles Times

Exposure to air pollution linked to higher coronavirus-related death rates

2019 image of the downtown Los Angeles skyline is seen from Griffith Observatory.
(Christina House / Los Angeles Times)

By TONY BARBOZASTAFF WRITER

APRIL 8, 2020
6:24 AM

Americans in communities with higher smog levels are at greater risk of dying from COVID-19, according to a new study that suggests the health damage from the novel coronavirus has been worsened by long-term exposure to air pollution.

Scientists at Harvard T.H. Chan School of Public Health analyzed data on more than 3,000 U.S. counties to link small increases in long-term exposure to fine-particle pollution to substantially higher death rates from the coronavirus.

Researchers calculated long-term average levels of fine-particle pollution — lung-damaging soot also known as PM2.5 — from 2000 to 2016 and compared it to the more than 7,000 COVID-19 deaths that had occurred through April 4. They found that an increase of only one microgram per cubic meter of PM2.5 was associated with a 15% rise in the coronavirus death rate.

Francesca Dominici, a professor of biostatistics at Harvard and coauthor of the study, said her team fast-tracked its research in response to the surge in coronavirus deaths out of a “moral obligation” to help inform the response to the health crisis. The scientists released their manuscript before publication, while it undergoes peer review, and made public their data and code, hoping that it can be used worldwide to help focus research and prevent deaths.

Dominici said it was, to her knowledge, the first nationwide study to quantify the relationship between coronavirus death rates and exposure to one of the most widespread types of air pollution. She said she wanted to get the information out as soon as possible because it suggests health officials should pay closer attention to limiting the damage in the worst-polluted communities, including many in California, where people’s health has long suffered from poor air quality.

“These are the places where we should really be careful about social distancing measures and they should be even more enforced,” she said. “If COVID infects you, because you have lungs that are already inflamed because you’ve been breathing polluted air for so long, you might experience a worse health outcome than somewhere else.”

The findings come as the Trump administration plows ahead with major environmental rollbacks even as the coronavirus crisis widens. In recent weeks the U.S. Environmental Protection Agency finalized a major rollback of auto emission standards and announced a sweeping decision to suspend enforcement on a range of health and environmental protections in response to the pandemic.

The Harvard scientists said their results “underscore the importance of continuing to enforce existing air pollution regulations to protect human health both during and after the COVID-19 crisis,” adding that “we anticipate a failure to do so can potentially increase the COVID-19 death toll and hospitalizations, further burdening our healthcare system and drawing resources away from COVID-19 patients.”

Environmentalists and health groups said the study provides stark new evidence of the shortsightedness of weakening or delaying pollution safeguards during the pandemic.

“These findings illustrate that far too many Americans are facing multiple threats to their lung health at once, and when taken together, these different threats to lung health impacts can amplify each other,” American Lung Assn. President Harold Wimmer said in a statement."We cannot afford to delay cleanup of dangerous air pollution. In fact, it is more important than ever.”

Dominici said her research was sparked by observations that many of the same underlying health problems that increase risk of death from COVID-19, such as heart and lung disease, are also made worse by long-term exposure to air pollution. The researchers adjusted for other factors such as income, obesity and smoking that are also likely to increase risk of death.

The research team is automating its analysis to rerun as the pandemic continues, Dominici said, “unfortunately, as we expect the number of deaths to increase.”

Many scientists have suspected that bad air makes people more susceptible to the coronavirus, based on past research into similar viruses that showed it increases people’s risk of contracting pneumonia and of developing more severe symptoms once they have it. Research into the SARS coronavirus outbreak in 2003 found that infected patients from regions with higher air pollution were 84% more likely to die than those in less polluted areas.

The results from the Harvard study are “consistent with the limited data that we have on this family of viruses: that it could be a potentially important determinant of severity of the infection,” said Frank Gilliland, a professor of preventive medicine at USC who was not involved in the research. “We know that PM2.5 increases a spectrum of respiratory diseases ... so it wouldn’t be too surprising that it actually has adverse effects on COVID-19.”

Gilliland emphasized the study should be interpreted with caution because it looked at data at the county, rather than the individual level, so the higher death rates in more polluted areas could also reflect other population characteristics unrelated to air pollution.

“This is very early research, but it does suggest that people who live in high-pollution areas really need to follow the recommendations for social distancing and do as much as they can to avoid getting infected and infecting other people,” Gilliland said.

Michael Jerrett, a professor of environmental health science at the UCLA Fielding School of Public Health who read the study, called it “a good first look” and “a potentially important finding given that so many Americans and people all over the world live in areas with unhealthy pollution levels.”

“The main concern is with the likely huge uncertainty with the findings due to undercounting of the deaths in many places,” Jerrett said. “Because testing capacity is still very low, many deaths that were likely due to COVID have not been counted as such, and this has the potential to bias the results.”

The study, he added, “merits replication in other areas, particularly in places like Germany and South Korea, where they have been testing a lot more than we have here.”

Julia Descoteaux

From: Janet Giles <janetegiles@gmail.com>
Sent: Tuesday, May 5, 2020 1:58 PM
To: Julia Descoteaux; City Clerk
Subject: WLC

Please no WLC. We have too many warehouse and too much truck traffic already. Moreno Valley needs high paying jobs, not more warehouses. Do the right thing. Do not allow the building of the WLC.
Sincerely,
Janet Giles

--
Janet Giles

Julia Descoteaux

From: Melody <malardner@aol.com>
Sent: Tuesday, May 5, 2020 6:49 PM
To: Julia Descoteaux
Subject: WLC project/EIR

I would like to be on the email list for any notices/meetings/hearings for this project. My home address is:
Melody Lardner
28201 War Admiral St.
Moreno Valley, CA 92555
Email: malardner@aol.com

Sent from my iPhone

Julia Descoteaux

From: Julia Descoteaux
Sent: Wednesday, May 13, 2020 5:58 PM
To: Julia Descoteaux
Subject: FW: Recentrification for the WLC

From: Monica Esparza <monicaesparza601@gmail.com>
Sent: Tuesday, May 12, 2020 6:57 PM
To: City Clerk <cityclerk@moval.org>
Subject: Recentrification for the WLC

Warning: External Email – Watch for Email Red Flags!

Hello, my name is Monica Esparza and I have lived in Moreno Valley California for 18 years. Since January, unemployment is up 26.38% in Moreno Valley. Thousands of Moreno Valley residents are now out of work . Local small businesses are closing. The World Logistics Center will turn this around.

Sincerely: Monica Esparza
Monicaesparza601@gmail.com

Julia Descoteaux
Associate Planner
Community Development
City of Moreno Valley
p: 951.413.3209 | e: juliad@moval.org w: www.moval.org
14177 Frederick St., Moreno Valley, CA 92553

Julia Descoteaux

From: Rosemary <maestrarose13@aol.com>
Sent: Wednesday, May 13, 2020 7:31 AM
To: Julia Descoteaux
Cc: City Clerk
Subject: WLC

Warning: External Email – Watch for Email Red Flags!

Once again, I would like to voice my comments on this project. This is definitely not what Moreno Valley needs at this time. I cannot comprehend how this project is still under consideration with so man buildings still standing empty. The negative impacts on our community do not erase the few low paying jobs it will bring.
Also, I am wondering why this has not been put on hold so residents may have the opportunity to voice their opinions in person. Why the rush forward at this time?
Thank you.

-----Original Message-----
From: Susan Nash
Sent: Tuesday, May 12, 2020 9:50 AM
To: Patty Nevins ; Planning Email_DG
Subject: Planning Commission May 14, 2020 item #2 comment letter

Warning: External Email – Watch for Email Red Flags!

Attached is our comment letter on Item #2 for the May 14, 2020 Planning Commission Hearing: World Logistics Center Project Development Agreement, tentative parcel map for finance and conveyance purposes only with certification of the Recirculated Revised Final Environmental Impact Report.

Please deliver this document to all the Planning Commissioners prior to the May, 14 meeting.

Susan Nash
President
Friends of the Northern San Jacinto Valley

FRIENDS OF THE NORTHERN SAN JACINTO VALLEY
1610 Sams Canyon
Beaumont CA 92223 (new address)

May 12, 2020

Patty Nevins, Planning Official
pattyn@moval.org
City of Moreno Valley Planning Division
PlanningEmail@moval.org
14177 Frederick Street
PO Box 88005
Moreno Valley CA 92552

Re: Planning Commission May 14, 2020, Public Hearing Agenda Item 2:
WORLD LOGISTICS CENTER PROJECT DEVELOPMENT AGREEMENT, TENTATIVE PARCEL MAP FOR FINANCE AND CONVEYANCE PURPOSES ONLY WITH CERTIFICATION OF THE RECIRCULATED REVISED FINAL ENVIRONMENTAL IMPACTS REPORT.

Ms. Nevins:

Please ensure the Planning Commission is in receipt of these comments prior to the May 14, 2020, public hearing.

The FRIENDS OF THE NORTHERN SAN JACINTO VALLEY strongly object to any further action by the City of Moreno Valley regarding the RECIRCULATED REVISED FINAL ENVIRONMENTAL IMPACT REPORT (hereinafter the RR-FEIR) for a number of procedural and substantive reasons.

THE WLC SPECIFIC PLAN MUST BE REVISED TO COMPLY WITH THE COURT'S FEBRUARY 8, 2018 ORDER.

The City's RR-FEIR is a legal absurdity and a clear violation of CEQA. The City is putting the cart (EIR) before the horse (Specific Plan). In the same way the City cannot first prepare an EIR and then prepare a Specific Plan, the City cannot revise the Specific Plan by revising the EIR. The court ordered the Specific Plan be amended/revised to exclude all references to the California Department of Fish and Game Wildlife Conservation Buffer Area (hereinafter the CDFWCBA). The WLC Specific Plan was not revised/amended. The court then ordered that based on the removal of the CDFWBA from the Specific Plan, the "potential environmental impacts on biological resources should be re-analyzed without any consideration of said buffer area" in an EIR.

The WLC Specific Plan must be amended and then an EIR prepared for the new/revised Specific Plan. The alleged RR-FEIR is not based on any existing Specific Plan and therefore is a meaningless document. When the Court's judgment stated that "All references to the 'CDFW Conservation Buffer Area' should be removed and the potential environmental impacts should be re-analyzed without any consideration of said buffer area", the Court was first referring to

the revising Specific Plan and then to preparing an EIR to reflect the changes in the Specific Plan. There is zero legal authority for the proposition that a revised EIR is a legally adequate document for an unrevised Specific Plan.

THE APPEAL BY PETITIONERS AND THE CROSS APPEAL BY RESPONDENTS MUST BE FINAL BEFORE THE SPECIFIC PLAN/ENVIRONMENTAL IMPACT REPORT CAN BE REVISED.

As stated above, any and all revisions must first be made to the Specific Plan and then, and only then, can those revisions can be reflected in an EIR. However, revisions to the Specific Plan are meaningless until all appeals are final. The judgment is not final until all appeals are final.

The RR-FEIR correctly states that Petitioners appealed the February 8, 2018 Judgment, but omits the fact that Respondents also appealed the February 8, 2018 Judgment. Even after the Court of Appeal Fourth District, Division two issues its opinion, any party may petition the California Supreme Court for review.

Even if a revised Specific Plan had been prepared, this RR-FEIR cannot simply assert that "MITIGATION MEASURE CONDITIONED ON THE OUTCOME OF THE APPEAL IN PAULEK V. MORENO VALLEY." Mitigation Measures cannot be deferred to an indefinite time in the future because no one has a crystal ball.

The contents of the Appeal Courts' future opinions/orders are mere speculation. The court rarely grants exactly the requests of the appealing parties. Even if it were permissible to defer mitigation, the courts' orders as to each of the issues raised in the appeal and cross-appeal cannot be known. The attempt to do so in any revisions to the Specific Plan is magical thinking and has no basis in fact or law.

Please acknowledge receipt of this public comment letter and keep the undersigned informed of any actions taken by the City regarding the World Logistics Center Project by addressing such notices to the above address.

Susan Nash, President
Friends of the Northern San Jacinto Valley

FRIENDS OF THE NORTHERN SAN JACINTO VALLEY
1610 Sams Canyon
Beaumont CA 92223 (new address)

May 13, 2020

Patty Nevins, Planning Official
pattyn@moval.org
City of Moreno Valley Planning Division
PlanningEmail@moval.org
14177 Frederick Street
PO Box 88005
Moreno Valley CA 92552

Re: Planning Commission May 14, 2020, Public Hearing Agenda Item 2:
WORLD LOGISTICS CENTER PROJECT DEVELOPMENT AGREEMENT, TENTATIVE PARCEL MAP FOR FINANCE AND CONVEYANCE PURPOSES ONLY WITH CERTIFICATION OF THE RECIRCULATED REVISED FINAL ENVIRONMENTAL IMPACTS REPORT.

Ms. Nevins:

Please ensure the Planning Commission is in receipt of these **additional** comments prior to the May 14, 2020, public hearing.

The RR-FEIR must comply with the requirements of CEQA Guidelines § 15130(a)(3).

CEQA Guidelines 15130(a)(3) states in full:

"An EIR may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant. A project's contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of mitigation measure or measures designed to alleviate the cumulative impact. **The lead agency [in the EIR] shall identify facts and analysis supporting its conclusion that the contribution will be rendered less than cumulatively considerable."** (CEQA Guidelines, § 15130(a)(3).

The RR-FEIR, in stating that MSHCP compliance is automatically CEQA compliance, provided **zero facts and analysis** to show that the contribution of the Project to the cumulative impacts on all wildlife including endangered, rare or threatened species will be rendered less than cumulatively considerable by the payment of mitigation fees to the MSHCP. (*see City of*

Marina v. Board of Trustees of California State University (2006) 39 Cal.4th 341, 346; Anderson First Coalition v. City of Anderson (2005) 130 Cal. App. 4th 1173,1187; Gray v. County of Madera (2008) 167 Cal. App. 1099, 1122).

The RR-FEIR fails to comply with CEQA because it fails to show the **facts and analysis** required by Guidelines § 15130(a)(3) that the Project's contribution **will be rendered less than cumulatively considerable.**

Please acknowledge receipt of this public comment letter and keep the undersigned informed of any actions taken by the City regarding the World Logistics Center Project by addressing such notices to the above address.

Susan Nash, President

Friends of the Northern San Jacinto Valley

Julia Descoteaux

From: Julia Descoteaux
Sent: Thursday, May 14, 2020 9:50 AM
To: Julia Descoteaux
Attachments: MVJobsCoalition410-051216-hf-OFFICERS-ROBT-HARRIS-joann-raphael.pdf; Iddo_Rafael_Robert.jpg

From: ANGEL LOPEZ <CaliSSAV@hotmail.com>
Sent: Tuesday, May 12, 2020 5:56 PM
To: Dr. Yxstian A. Gutierrez <yxstiang@moval.org>; Victoria Baca <victoriab@moval.org>; Ulises Cabrera <ulisesc@moval.org>; Dr. Carla J. Thornton <carlat@moval.org>; David Marquez <davidma@moval.org>
Cc: City Clerk <cityclerk@moval.org>; City Manager's Office_DG <cmoffice@moval.org>; City Attorney <cityattorney@moval.org>; byarbrough@scng.com
Subject: Planning Commission Regular Meeting 05/14/2020 7pm

Warning: External Email – Watch for Email Red Flags!

Good evening City Council Members,

I am writing to convey my objections to the Planning Commission Regular meeting scheduled 05/14/2020 at 7pm. The meeting must not go forward with certain Planning Commissioners who are not fit to legislate Public Hearing Item #2. In addition, I request the City Clerk submit comments in their entirety to the public record and I have included Mr. Beau Yarbrough of The Press Enterprise.

My objections are for Public Hearing Item #2:

#2 Case: PEN18-0050 Revised Final EIR (RFEIR)
PEN20-0017 Tentative Parcel Map 36457 (Finance)
PEN20-0018 Development Agreement

Applicant: Highland Fairview
Property Owner:Highland Fairview

Planning Commissioners Alvin Dejohnette, Joann Stephan, Robert Harris and Rafael Brugueras are not fit to convene at the Public Hearing item #2 due to their connections to both the Mayor of Moreno Valley, Dr. Yxstian Gutierrez and Iddo Benzeevi of Highland Fairview.

The Planning Commission Agenda was posted in accordance with the Ralph M. Brown Act:

54954.2.

(a) (1) At least 72 hours before a regular meeting, the legislative body of the local agency, or its designee, shall post an agenda containing a brief general description of each item of business to be transacted or discussed at the meeting, including items to be discussed in closed session. A brief general description of an item generally need not exceed 20 words. The agenda shall specify the time and location of the regular meeting and shall be posted in a location that is freely accessible to members of the public and on the local agency's Internet Web site, if the local agency has one. If requested, the agenda shall be made available in appropriate alternative formats to persons with a disability, as required by Section 202 of the Americans with Disabilities Act of 1990 (42 U.S.C. Sec. 12132), and the federal rules and regulations adopted in implementation thereof. The agenda shall include information regarding how, to whom, and when a request for disability-related modification or accommodation, including auxiliary aids or services, may be made by a person with a disability who requires a modification or accommodation in order to participate in the public meeting.

As such, I am now exercising my rights under the Ralph M. Brown Act to submit my public comments and raise my objections due to prejudice and bias by the four named Planning Commissioners, further that they must recuse their votes to the matter:

54954.3.

(a) Every agenda for regular meetings shall provide an opportunity for members of the public to directly address the legislative body on any item of interest to the public, before or during the legislative body's consideration of the item, that is within the subject matter jurisdiction of the legislative body, provided that no action shall be taken on any item not appearing on the agenda unless the action is otherwise authorized by subdivision (b) of Section 54954.2. However, the agenda need not provide an opportunity for members of the public to address the legislative body on any item that has already been considered by a committee, composed exclusively of members of the legislative body, at a public meeting wherein all interested members of the public were afforded the opportunity to address the committee on the item, before or during the committee's consideration of the item, unless the item has been substantially changed since the committee heard the item, as determined by the legislative body. Every notice for a special meeting shall provide an opportunity for members of the public to directly address the legislative body concerning any item that has been described in the notice for the meeting before or during consideration of that item.

Prejudice is defined in The Free Dictionary as follows:

"A forejudgment; bias; partiality; preconceived opinion. A leaning toward one side of a cause for some reason other than a conviction of its justice.

A juror can be disqualified from a case for being prejudiced, if his or her views on a subject or attitude toward a party will unduly influence the final decision."

Source: https://legal-dictionary.thefreedictionary.com/prejudice

Bias is defined in The Legal Dictionary as follows:

"The term *bias* refers to the tendency of a person to favor one thing, idea, or person over another. In a legal context, bias can lead an individual, such as a judge or juror, to treat someone unfairly, in spite of the fact that hearings and trials are designed to be *unbiased* assessments of the facts

of a case. Bias may also affect such issues as applications for jobs or entry into the country, and recruitment of individuals for other purposes. To explore this concept, consider the following bias definition."

Source: https://legaldictionary.net/bias/

Alvin Dejohnette is a Special Education Teacher with the Moreno Valley Unified School District. As such, I am submitting a link to Transparent California which shows his perceived connection to Mayor Yxstian Gutierrez as Special Ed Teachers. Based on this connection, Alvin Dejohnette must recuse himself due to the prejudice of "leaning toward one side of a cause" from the perceived connection to the Mayor; further, from bias favoring the outcome for a "Yes" vote on Public Hearing Item #2.

Alvin Dejohnette Employment with Moreno Valley Unified School District: https://transparentcalifornia.com/salaries/2018/school-districts/riverside/moreno-valley-unified/alvin-d-dejohnette/

Mayor Yxstian Gutierrez Employment with Moreno Valley Unified School District: https://transparentcalifornia.com/salaries/2018/school-districts/riverside/moreno-valley-unified/yxstian-a-gutierrez/

Joann Stephan, Robert Harris and Rafael Brugueras are listed as Principal Officers with the Political Action Committee "Moreno Valley Jobs Coalition, Supporting Jobs Creation and Workforce Training Initiatives and The World Logistics Center Development, Major Funding by Highland Fairview." As filed with The Moreno Valley City Clerk on 05/12/2016 on California Form 410 (attached).

Joann Stephan, in addition has openly supported the World Logistics Center as an advocate for them from this video posted on YouTube October 7, 2013. Joann Stephan from her comments, presents prejudice and bias. Further Joann Stephan must recuse herself due to the prejudice of "leaning toward one side of a cause" from YouTube video; further, from bias favoring the outcome for a "Yes" vote on Public Hearing Item #2.

Source: https://www.youtube.com/watch?v=XygdpNfohiw

A second video of Joann Stephan openly advocating for the World Logistics Center can be seen on YouTube, posted 08/05/2015 with video evidence from 06/11/2015. In the video, from the 1 minute, 40 second mark you will find Joann Stephan advocating, and turning her head directly toward Iddo Benzeevi of Highland Fairview. This video footage presents clear and convincing evidence for a "conflict of interest" with prejudice and bias that Joann Stephan must recuse herself.

Source:
https://www.youtube.com/watch?v=Ou6_Gc1rQZY&feature=youtu.be&fbclid=IwAR0ZOpAOdDFT9NTjrj1yL7skym99jCCv2eSe20RbGMInI1FWapxq71pibZU

The following link I am presenting was brought to my attention, which was a Photo taken with Iddo Benzeevi, Robert Harris and Rafael Brugueras on 04/15/2019 by a Real Estate seller on Facebook with her page made public. And I may add was a celebration before a City Council Vote the next day on 04/16/2019 to vote on the Skechers Building Expansion project.

Because of the photo taken with Iddo Benzeevi. There is clear and convincing evidence Robert Harris and Rafael Brugueras must recuse their selves for a "conflict of interest" with prejudice and bias favoring the outcome for a "Yes" vote on Public Hearing Item #2.

Source: https://www.facebook.com/233736366829261/photos/a.415890128613883/968618826674341/?type=3&theater

The photo itself is attached.

For my City Council members. I have presented clear and convincing evidence the Planning Commissioners named. Alvin Dejohnette, Joann Stephan, Robert Harris and Rafael Brugueras must recuse their selves from Public Hearing Item #2.

Very respectfully,

Angel Lopez-Ramirez
Combat Veteran, Wounded Warrior and Public Servant
Cell: 818-388-1231

Julia Descoteaux
Associate Planner
Community Development
City of Moreno Valley
p: 951.413.3209 | e: juliad@moval.org w: www.moval.org
14177 Frederick St., Moreno Valley, CA 92553

Statement of Organization
Recipient Committee

CITY CLERK
MORENO VALLEY
RECEIVED
Date Stamp
16 MAY 12 PM 12:33

CALIFORNIA FORM **410**
For Official Use Only

Statement Type ☐ Initial Not yet qualified ☐ or ☐ Amendment List I.D. number: # _____ ☒ Termination – See Part List I.D. number: # 1379766

_____/_____/_____ Date qualified as committee

_____/_____/_____ Date qualified as committee (If applicable)

04 / 30 / 2016 Date of Termination

1. Committee Information

NAME OF COMMITTEE MORENO VALLEY JOBS COALITION, SUPPORTING JOBS CREATION AND WORKFORCE TRAINING INITIATIVES AND THE WORLD LOGISTICS CENTER DEVELOPMENT, MAJOR FUNDING BY HIGHLAND FAIRVIEW

STREET ADDRESS (NO P.O. BOX) [redacted]

CITY	STATE	ZIP CODE	AREA CODE/PHONE
SAN RAFAEL	CA	94901	[redacted]

MAILING ADDRESS (IF DIFFERENT)

FAX / E-MAIL ADDRESS [redacted]

COUNTY OF DOMICILE	JURISDICTION WHERE COMMITTEE IS ACTIVE
MARIN	MORENO VALLEY

Attach additional information on appropriately labeled continuation sheets.

2. Treasurer and Other Principal Officers

NAME OF TREASURER
JASON D. KAUNE
STREET ADDRESS (NO P.O. BOX) [redacted]

CITY	STATE	ZIP CODE	AREA CODE/PHONE
SAN RAFAEL	CA	94901	[redacted]

NAME OF ASSISTANT TREASURER, IF ANY
JAMES W. CARSON
STREET ADDRESS (NO P.O. BOX) [redacted]

CITY	STATE	ZIP CODE	AREA CODE/PHONE
SAN RAFAEL	CA	94901	[redacted]

NAME OF PRINCIPAL OFFICER(S)
LEONARDO DANIEL GONZALEZ
STREET ADDRESS (NO P.O. BOX) [redacted]

CITY	STATE	ZIP CODE	AREA CODE/PHONE
MORENO VALLEY	CA	92557	[redacted]

3. Verification

I have used all reasonable diligence in preparing this statement and to the best of my knowledge the information contained herein is true and complete. I certify under penalty of perjury under the laws of the State of [redacted] and correct.

Executed on 5/6/2016 DATE By [redacted] SIGNATURE OF TREASURER OR ASSISTANT TREASURER

Executed on _____ DATE By _____ SIGNATURE OF CONTROLLING OFFICEHOLDER, CANDIDATE, OR STATE MEASURE PROPONENT

Executed on _____ DATE By _____ SIGNATURE OF CONTROLLING OFFICEHOLDER, CANDIDATE, OR STATE MEASURE PROPONENT

Executed on _____ DATE By _____ SIGNATURE OF CONTROLLING OFFICEHOLDER, CANDIDATE, OR STATE MEASURE PROPONENT

Statement of Organization
Recipient Committee

INSTRUCTIONS ON REVERSE

CALIFORNIA FORM 410

COMMITTEE NAME
MORENO VALLEY JOBS COALITION, SUPPORTING JOBS CREATION AND WORKFORCE TRAINING INITIATIVES AND THE WORLD LOGISTICS CENTER DEVELOPMENT, MAJOR FUNDING BY HIGHLAND FAIRVIEW

I.D. NUMBER
1379766

2a. Additional Officers

NAME OF OTHER PRINCIPAL OFFICER(S)
MARSHALL SCOTT
MAILING ADDRESS
[redacted]
CITY: MORENO VALLEY | STATE: CA | ZIP CODE: 92557 | AREA CODE/PHONE: [redacted]

NAME OF OTHER PRINCIPAL OFFICER(S)
JOANN STEPHAN
MAILING ADDRESS
[redacted]
CITY: MORENO VALLEY | STATE: CA | ZIP CODE: 92557 | AREA CODE/PHONE: [redacted]

NAME OF OTHER PRINCIPAL OFFICER(S)
GABRIEL COLANGELO
MAILING ADDRESS
[redacted]
CITY: MORENO VALLEY | STATE: CA | ZIP CODE: 92557 | AREA CODE/PHONE: [redacted]

NAME OF OTHER PRINCIPAL OFFICER(S)
DANNY SCHWIER
MAILING ADDRESS
[redacted]
CITY: MORENO VALLEY | STATE: CA | ZIP CODE: 92557 | AREA CODE/PHONE: [redacted]

NAME OF OTHER PRINCIPAL OFFICER(S)
ROBERT HARRIS
MAILING ADDRESS
[redacted]
CITY: MORENO VALLEY | STATE: CA | ZIP CODE: 92557 | AREA CODE/PHONE: [redacted]

NAME OF OTHER PRINCIPAL OFFICER(S)
PEDRO HURTADO
MAILING ADDRESS
[redacted]
CITY: MORENO VALLEY | STATE: CA | ZIP CODE: 92555 | AREA CODE/PHONE: [redacted]

NAME OF OTHER PRINCIPAL OFFICER(S)
LANCE MARTIN
MAILING ADDRESS
[redacted]
CITY: MORENO VALLEY | STATE: CA | ZIP CODE: 92553 | AREA CODE/PHONE: [redacted]

NAME OF OTHER PRINCIPAL OFFICER(S)
JOE CHACKO
MAILING ADDRESS
[redacted]
CITY: MORENO VALLEY | STATE: CA | ZIP CODE: 92555 | AREA CODE/PHONE: [redacted]

Statement of Organization
Recipient Committee

INSTRUCTIONS ON REVERSE

CALIFORNIA FORM **410**

COMMITTEE NAME
MORENO VALLEY JOBS COALITION, SUPPORTING JOBS CREATION AND WORKFORCE TRAINING INITIATIVES AND THE WORLD LOGISTICS CENTER DEVELOPMENT, MAJOR FUNDING BY HIGHLAND FAIRVIEW

I.D. NUMBER
1379766

2a. Additional Officers

NAME OF OTHER PRINCIPAL OFFICER(S)
DAVID LARA-TELLEZ
MAILING ADDRESS
[redacted]
CITY: MORENO VALLEY | STATE: CA | ZIP CODE: 92555 | AREA CODE/PHONE: [redacted]

NAME OF OTHER PRINCIPAL OFFICER(S)
ANTONIO REZA
MAILING ADDRESS
[redacted]
CITY: MORENO VALLEY | STATE: CA | ZIP CODE: 92553 | AREA CODE/PHONE: [redacted]

NAME OF OTHER PRINCIPAL OFFICER(S)
IDDO BENZEEVI
MAILING ADDRESS
[redacted]
CITY: MORENO VALLEY | STATE: CA | ZIP CODE: 92553 | AREA CODE/PHONE: [redacted]

NAME OF OTHER PRINCIPAL OFFICER(S)
RAFAEL BRUGUERAS
MAILING ADDRESS
[redacted]
CITY: MORENO VALLEY | STATE: CA | ZIP CODE: 92555 | AREA CODE/PHONE: [redacted]

NAME OF OTHER PRINCIPAL OFFICER(S)
TOM R. GERELE, SR.
MAILING ADDRESS
[redacted]
CITY: MORENO VALLEY | STATE: CA | ZIP CODE: 92557 | AREA CODE/PHONE: [redacted]

NAME OF OTHER PRINCIPAL OFFICER(S)
TED BOECKER
MAILING ADDRESS
[redacted]
CITY: MORENO VALLEY | STATE: CA | ZIP CODE: 92553 | AREA CODE/PHONE: [redacted]

NAME OF OTHER PRINCIPAL OFFICER(S)

MAILING ADDRESS

CITY | STATE | ZIP CODE | AREA CODE/PHONE

NAME OF OTHER PRINCIPAL OFFICER(S)

MAILING ADDRESS

CITY | STATE | ZIP CODE | AREA CODE/PHONE

Statement of Organization
Recipient Committee

CALIFORNIA FORM **410**

INSTRUCTIONS ON REVERSE

COMMITTEE NAME	I.D. NUMBER
MORENO VALLEY JOBS COALITION, SUPPORTING JOBS CREATION AND WORKFORCE TRAINING INITIATIVES AND THE WORLD LOGISTICS CENTER DEVELOPMENT, MAJOR FUNDING BY HIGHLAND FAIRVIEW	1379766

- All committees must list the financial institution where the campaign bank account is located.

NAME OF FINANCIAL INSTITUTION	AREA CODE/PHONE	BANK ACCOUNT NUMBER	
BANK OF MARIN	(415)927-8905	[redacted]	
ADDRESS	**CITY**	**STATE**	**ZIP CODE**
504 TAMALPAIS DRIVE	CORTE MADERA	CA	94925

4. Type of Committee Complete the applicable sections.

Controlled Committee

- List the name of each controlling officeholder, candidate, or state measure proponent. If candidate or officeholder controlled, also list the elective office sought or held, and district number, if any, and the year of the election.
- List the political party with which each officeholder or candidate is affiliated or check "nonpartisan."
- If this committee acts jointly with another controlled committee, list the name and identification number of the other controlled committee.

NAME OF CANDIDATE/OFFICEHOLDER/STATE MEASURE PROPONENT	ELECTIVE OFFICE SOUGHT OR HELD (INCLUDE DISTRICT NUMBER IF APPLICABLE)	YEAR OF ELECTION	PARTY
			☐ Nonpartisan
			☐ Nonpartisan

Primarily Formed Committee Primarily formed to support or oppose specific candidates or measures in a single election. List below:

CANDIDATE(S) NAME OR MEASURE(S) FULL TITLE (INCLUDE BALLOT NO. OR LETTER)	CANDIDATE(S) OFFICE SOUGHT OR HELD OR MEASURE(S) JURISDICTION (INCLUDE DISTRICT NO., CITY OR COUNTY, AS APPLICABLE)	CHECK ONE	
		SUPPORT	OPPOSE
MORENO VALLEY JOBS INITIATIVE	CITY OF MORENO VALLEY	X	
MORENO VALLEY WORKFORCE TRAINING INITIATIVE : .	CITY OF MORENO VALLEY	X	

Statement of Organization
Recipient Committee

INSTRUCTIONS ON REVERSE

CALIFORNIA FORM **410**

COMMITTEE NAME

MORENO VALLEY JOBS COALITION, SUPPORTING JOBS CREATION AND WORKFORCE TRAINING INITIATIVES AND THE WORLD LOGISTICS CENTER DEVELOPMENT; MAJOR FUNDING BY HIGHLAND FAIRVIEW

I.D. NUMBER

1377766

Primarily Formed Committee Primarily formed to support or oppose specific candidates or measures in a single election. List below

CANDIDATE(S) NAME OR MEASURE(S) FULL TITLE (INCLUDE BALLOT NO. OR LETTER)	CANDIDATE(S) OFFICE SOUGHT OR HELD OR MEASURE(S) JURISDICTION (INCLUDE DISTRICT NO., CITY OR COUNTY, AS APPLICABLE)	CHECK ONE SUPPORT	CHECK ONE OPPOSE
WLC LAND BENEFIT INITIATIVE : .	CITY OF MORENO VALLEY	X	

Statement of Organization
Recipient Committee

CALIFORNIA FORM **410**

INSTRUCTIONS ON REVERSE

COMMITTEE NAME	I.D. NUMBER
MORENO VALLEY JOBS COALITION, SUPPORTING JOBS CREATION AND WORKFORCE TRAINING INITIATIVES AND THE WORLD LOGISTICS CENTER DEVELOPMENT, MAJOR FUNDING BY HIGHLAND FAIRVIEW	1379766

4. Type of Committee (Continued)

General Purpose Committee Not formed to support or oppose specific candidates or measures in a single election. Check only one box:

☐ CITY Committee ☐ COUNTY Committee ☐ STATE Committee

PROVIDE BRIEF DESCRIPTION OF ACTIVITY

Sponsored Committee List additional sponsors on an attachment.

NAME OF SPONSOR	INDUSTRY GROUP OR AFFILIATION OF SPONSOR
HIGHLAND FAIRVIEW OPERATING CO.	LOGISTICS FACILITY BUILDER/DEVELOPER

STREET ADDRESS NO. AND STREET	CITY	STATE	ZIP CODE
[redacted]	MORENO VALLEY	CA	92553

Small Contributor Committee ☐ ____/____/____ Date qualified

5. Termination Requirements

By signing the verification, the treasurer, assistant treasurer and/or candidate, officeholder, or proponent certify that all of the following conditions have been met:

- This committee has ceased to receive contributions and make expenditures;
- This committee does not anticipate receiving contributions or making expenditures in the future;
- This committee has eliminated or has no intention or ability to discharge all debts, loans received, and other obligations;
- This committee has no surplus funds; and
- This committee has filed all campaign statements required by the Political Reform Act disclosing all reportable transactions.
  - -- There are restrictions on the disposition of surplus campaign funds held by elected officers who are leaving office and by defeated candidates. Refer to Government Code Section 89519.
  - -- Leftover funds of ballot measure committees may be used for political, legislative or governmental purposes under Government Code Sections 89511 - 89518, and are subject to Elections Code Section 18680 and FPPC Regulation 18521.5.

facebook.com/233736366829261/photos/a.415890128613883/968618826674341/?type=3&theater

Patricia Hillman Sells Real Estate

Like This Page · April 15, 2019 ·

Dinner at Iddo Benzeevi's Home, Supporting his new Skechers Building Project Coming to Moreno Valley Soon. Realtor Patricia, supporting her Community 👍 Highland Fairview Community

2 2 Comments

Like Comment Share

Most Relevant

Amado Hernandez Proud of You

Like · Reply · 1y 2

Amado Hernandez Patricia Campos Congratulations

Like · Reply · 1y 2

Write a comment...

Julia Descoteaux

From: Heather Leslie <Heather.Leslie@doj.ca.gov>
Sent: Thursday, May 14, 2020 12:17 PM
To: Julia Descoteaux
Cc: Patty Nevins; kbley@coxcastle.com
Subject: World Logistics Center Revised Final Environmental Impact Report - SCH # 2012021045
Attachments: May 14 2020 Comment re World Logistics Center Revised Final Environmental Impact Report - SCH # 2012021045.pdf

Ms. Descoteaux,

Attached please find comments from the California Department of Justice, Office of the Attorney General and the California Air Resources Board regarding the Revised Final Environmental Impact Report for the World Logistics Center.

Thank you,
Heather

Heather Leslie
Deputy Attorney General | Environment Section
California Department of Justice
1300 I Street, Sacramento, CA 95814
Tel.: 916-210-7832
Email: Heather.Leslie@doj.ca.gov

CONFIDENTIALITY NOTICE: This communication with its contents may contain confidential and/or legally privileged information. It is solely for the use of the intended recipient(s). Unauthorized interception, review, use or disclosure is prohibited and may violate applicable laws including the Electronic Communications Privacy Act. If you are not the intended recipient, please contact the sender and destroy all copies of the communication.

XAVIER BECERRA
Attorney General

State of California
DEPARTMENT OF JUSTICE

1300 I STREET, SUITE 125
P.O. BOX 944255
SACRAMENTO, CA 94244-2550

Telephone: (916) 210-7832
Facsimile: (916) 327-2319
E-Mail: Heather.Leslie@doj.ca.gov

May 14, 2020

VIA E-MAIL ONLY

Julia Descoteaux, Associate Planner
City of Moreno Valley
14177 Frederick Street
Post Office Box 88005
Moreno Valley, California 92552
Phone: (951) 413-3209
Email: juliad@moval.org

RE: **World Logistics Center Revised Final Environmental Impact Report (SCH # 2012021045)**

Dear Ms. Descoteaux:

Attorney General Xavier Becerra, in his independent capacity,[1] and the California Air Resources Board (CARB) jointly submit the following comments on the April 2020 Final Environmental Impact Report (FEIR) prepared for the World Logistics Center (the Project) in advance of the Project's May 14, 2020 Moreno Valley (City) Planning Commission hearing.

The Attorney General and CARB have the following concerns regarding the FEIR, as explained in detail below:

1. The FEIR does not correct the improper GHG analysis the Attorney General and CARB critiqued in multiple comment letters on prior versions of the Project's environmental impact report.[2]

[1] The Attorney General's Office submits these comments pursuant to his independent power and duty to protect the environment and natural resources of the State from pollution, impairment, or destruction, and in furtherance of the public interest. (See Cal. Const., art. V, § 13; Gov. Code, §§ 12511, 12600–12612; *D'Amico v. Bd. of Medical Examiners* (1974) 11 Cal.3d 1, 14–15.) This letter is not intended, and should not be construed, as an exhaustive discussion of the FEIR's compliance with the California Environmental Quality Act (CEQA).

[2] The Attorney General and CARB previously reviewed the City's July 2018 Revised Final Environmental Impact Report (RFEIR) and submitted comments regarding the RFEIR on September 7, 2018. As noted in those comment letters, the RFEIR's analysis of greenhouse gas (GHG) related impacts does not meet CEQA's requirements. On January 30, 2020, CARB also

2. The FEIR also continues to misrepresent CARB's positions.
3. The FEIR's new GHG Mitigation Measure 4.7.7.1 is inadequate.
4. The FEIR fails to adopt feasible mitigation measures that would substantially lessen the Project's significant adverse effects.
5. The addition of Mitigation Measure 4.7.7.1 is "significant information" that requires recirculation of the FEIR.

Until these shortcomings are corrected, the FEIR should not be certified by the City.

I. THE FEIR CONTINUES TO RELY ON ENVIRONMENTALLY IRRESPONSIBLE AND LEGALLY FLAWED ARGUMENTS TO AVOID PROPERLY ANALYZING AND MITIGATING THE PROJECT'S ENORMOUS GREENHOUSE GAS IMPACTS.

Under CEQA, a project's significant GHG impacts must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact. 14 Cal. Code Regs. (CEQA Guidelines) § 15064.4. Yet, the FEIR continues to improperly divide the Project's GHG emissions into two categories, which it terms "capped" and "uncapped"; classifications that are created by the FEIR and have no relevance under CEQA. The FEIR asserts that "capped" emissions are "covered" by CARB's Cap-and-Trade Program, and therefore claims that they are exempt from any further CEQA analysis or mitigation.[3]

To purportedly support its improper approach to GHG analysis and mitigation, the FEIR relies on a few weak, misguided bases: (1) two mitigated negative declarations (MND); (2) an outdated guidance document from an air district with no jurisdiction in the South Coast Air Basin; (3) an inapposite appellate court decision that did not benefit from the input of California's expert agencies and other key stakeholders, and (4) unsupported arguments about indirect costs.

The FEIR does not, and cannot, explain why its GHG analysis and mitigation approach did not comply with the CEQA Guidelines, applicable case law, and other relevant guidance regarding GHG analysis and mitigation. In addition, the FEIR ignores the objections in our previous comment letters.

---

filed comments on the Draft Recirculated Revised Sections of the Final Environmental Impact Report (RRSFEIR). These three comment letters are attached to this letter as Exhibits A-C. Further, the Attorney General and CARB's amicus brief in *Paulek et al. v. Moreno Valley Community Services District et al*. (E071184) (*Paulek*), which further discusses the legal inadequacies of the GHG analysis, is attached hereto as Exhibit D.

[3] Though Mitigation Measure 4.7.7.1 agrees to offset "capped" emissions in the event the City's GHG analysis is invalidated in *Paulek*, the improper legal arguments regarding the distinction between "capped" and "uncapped" emissions will remain.

The City cites the San Joaquin Valley Air Pollution Control District (SJVAPCD) Policy APR-2025, issued in 2014, and two MNDs approved by SCAQMD in 2014. The City states that its approach has been applied "for years" in light of those same documents. (FEIR at 23.) However, as the California Supreme Court has repeatedly held in more recent years, GHG law continues to evolve, and lead agencies have an obligation under CEQA to "stay in step." *Cleveland National Forest Foundation v. San Diego Assn. of Governments* (2017) 3 Cal.5th 497, 504 (*SANDAG*).[4] The documents the City relied on are out of date and not the appropriate guidance for analyzing GHG impacts under CEQA.

Note that in 2014, the California Supreme Court had not yet issued its seminal *Newhall* decision, which was published on November 30, 2015. *Center for Biological Diversity v. Dept. of Fish & Wildlife* (2015) 62 Cal.4th 204, 230 (*Newhall*). The Court then issued the *SANDAG* decision on July 13, 2017. (*SANDAG*, *supra*, (2017) 3 Cal.5th 497.) The FEIR ignores post-2014 materials that establish its approach is unlawful, including the *SANDAG* California Supreme Court decision referenced above, as well as CARB's 2017 Scoping Plan.[5]

The City also relies on *Association of Irritated Residents v. Kern County Board of Supervisors* (2017) 17 Cal.App.5th 708 (*AIR*). However, as previously noted, *AIR* did not broadly validate the City's approach of excluding all fuel and electricity related emissions from its GHG analysis, particularly for a project that is not regulated by the Cap-and-Trade Regulation. (See FEIR at 22, 23.) That issue simply was not before the court, and was not given due consideration as a result. (See Exhibit A at 6; Exhibit B at 11-12; Exhibit D at 30-31.) *AIR* is thus inapposite.

Finally, the City also attempts to argue that the Project would effectively be paying for GHG mitigation through fuel and electrical costs passed down to the end consumer. (FEIR at 18-19.) It still remains unclear how there would be any price signal to Project proponents in this situation, given that any fuel-related costs would be paid by the fuel suppliers, and potentially passed down to the Project's tenant logistics companies. Regardless, these fuel costs would not be paid by the Project proponents.

---

[4] As the California Supreme Court has held, "CEQA requires public agencies ... to ensure that such analysis stay in step with evolving scientific knowledge and state regulatory schemes." (*SANDAG* at 504.) The Court viewed the Scoping Plan as a particularly useful source of information, given the extensive study and public participation involved in its preparation. (*Ibid.*) A recent article provides a useful primer on this body of law. (See Janill Richards, *The SANDAG Decision: How Lead Agencies Can "Stay in Step" with Law and Science in Addressing the Climate Impacts of Large-Scale Planning and Infrastructure Projects* (2017) 26:2 Environmental Law News 17.)

[5] Available at https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf. See, in particular, the "Climate Action through Local Planning and Permitting" chapter beginning at page 99, which describes the critical role played by local government contributions to CEQA reductions, including through the CEQA review process. See also CARB's 2018 comment letter for more information on this point.

In sum, the City's weak attempts to support the FEIR's unlawful GHG analysis and mitigation approach are without merit. Thus, the FEIR violates CEQA by failing to fully analyze and mitigate the significant GHG impacts of the Project.

II. THE FEIR CONTINUES TO INCORRECTLY CLAIM THAT CARB SUPPORTS THE WLC'S GHG APPROACH.

The FEIR continues to misrepresent CARB's views on GHG analysis and mitigation.[6] As noted in CARB's September 7, 2018 letter and in its *Paulek* amicus brief, CARB does not support the approach proposed; the approach is unlawful, inconsistent with relevant climate plans and regulations, and likely to set back the state's climate mitigation efforts if applied. Once again, the Cap-and-Trade Program was not designed to mitigate all GHG impacts associated with land use planning decisions. Rather, it was designed with responsible local CEQA compliance in mind as a complementary strategy. (See, e.g., 2017 Scoping Plan at 99-102.) Cap-and-Trade, which is neither tailored to nor affected by the Project, simply does not provide project-level mitigation in this case.

The FEIR points to several cherry-picked provisions from the 2011 Final Statement of Reasons for the Cap-and-Trade Project. (FEIR at 18-19.) Yet it fails to explain why there is not a single provision, from any point in time, indicating that CARB intended Cap-and-Trade compliance to constitute CEQA mitigation for unregulated entities and projects, or that it excuses land use projects wholesale from evaluating or mitigating their GHG emissions. Cap-and-Trade does not and CARB plainly never intended Cap-and-Trade to obviate CEQA mitigation requirements; that is a much bigger change that CARB would have expressly addressed had that been the intent. While the FEIR points out selected Scoping Plan provisions (FEIR at 25), it conveniently omits the directly applicable "Climate Action through Local Planning and Permitting" chapter describing how CARB relies on complimentary local planning actions (including robust CEQA analysis and mitigation) to accomplish the state's GHG mandates and goals. (See 2017 Scoping Plan at 99-102.) The City's approach would effectively render superfluous the CEQA mitigation recommendations in CARB's Scoping Plan, as there would be essentially nothing left to mitigate if agencies took the City's approach. It would also allow lead agencies to disregard their CEQA obligations and make less informed decisions. (See, e.g.,

[6] In the *Paulek* litigation, attorneys for the developer argued that because CARB did not specifically object to the project's GHG significance methodology in its early comment letters, CARB "apparently had no problem with the EIRs not counting capped emissions against the [WLC] in order to determine the significance of greenhouse gas emissions." (Transcript of January 22, 2018 hearing in *Paulek* case, before Hon. Sharon J. Waters, p. 18, lines 3–7.) The City has failed to address this issue or otherwise correct this clear and consequential misrepresentation in its responses to comments.

SANDAG, *supra*, 3 Cal.5th at p. 519 ["nothing we say today invites regional planners to 'shirk their responsibilities' under CEQA"].)

Despite failing to mitigate 95% of the Project's emissions, the FEIR appears to claim that the Project would be consistent with the "Climate Action through Local Planning and Permitting" chapter of the Scoping Plan mentioned above. (FEIR at 29.) This is incorrect. As noted above, that chapter of the Scoping Plan discusses how the State needs more, not less, responsible GHG planning and mitigation from project developers and lead agencies. Here, the City seeks to avoid almost entirely its obligation to mitigate its GHG emissions.

III. THE NEW GHG MITIGATION MEASURE 4.7.7.1 IS INADEQUATE.

As stated in our previous comments, under CEQA, the City must revise the FEIR to analyze all of the Project's significant impacts relating to GHG emissions, including capped emissions. The FEIR must also adopt all feasible mitigation to address the Project's significant GHG impacts. (*Newhall*, *supra*, 62 Cal.4th at p. 231.) Instead, the City revised the FEIR to add a mitigation measure for the Project, but this measure does not correct the FEIR's CEQA violations. The new GHG mitigation measure would require the Project to purchase GHG offsets to mitigate its emissions, but only if the City loses the *Paulek* appellate litigation. (Measure 4.7.7.1.) This measure is inadequate for multiple reasons.

First, the City should adopt meaningful GHG mitigation measures in the FEIR, rather than continuing to avoid its responsibility to require mitigation unless specifically so ordered by a court. The City has conceded that such a measure is feasible by including its contingent GHG mitigation measure in the FEIR. (CEQA Guidelines, § 15092, subd. (b)(2)(A) ["A public agency shall not decide to approve or carry out a project for which an EIR was prepared unless . . . [t]he agency has . . . [e]liminated or substantially lessened all significant effects on the environment where feasible."].) Indeed, more beneficial mitigation measures are feasible – including the use, for instance, of electrified trucks for the Project, which would reduce both GHGs and air pollution risk, as CARB has long recommended. Yet, the Project has not even adopted its inadequate offset measure, much less failed to explained why it has not adopted ostensibly feasible measures presented by CARB regarding design changes to favor zero emission vehicles. There is no indication in the record that even a more robust, legally-adequate GHG mitigation measure would be infeasible for the Project.

Second, the proposed measure, if it ever becomes effective, may not actually reduce the Project's GHG emissions. Mitigation Measure 4.7.7.1 uses similar language to CARB's offsets program, it lacks the essential safeguards that make CARB's program successful. For example, the measure states that any offsets used must be "real, permanent, additional, quantifiable, verifiable, and enforceable by an appropriate agency." (FEIR at 36.) However, these terms are not defined in the mitigation measure. They are left to the sole interpretation and discretion of the City's Planning Official and thus not enforceable as CEQA requires. (See Pub. Resources Code, § 21081.6, subd. (b); CEQA Guidelines, § 15126.4, subd. (a)(2).) There is a broad continuum of voluntary-market offsets available for purchase by project proponents, ranging

from ineffective and unenforceable to rigorous. It remains unclear which types of offsets would be deemed by the City's Planning Official to meet these undefined criteria.

In the land-use planning context, offsets—particularly offsets that are not tied to local projects—have distinct disadvantages as compared to on-site mitigation or other direct emission reduction measures. Offsets do not provide the important co-benefits of on-site mitigation such as local jobs, reduced local air pollution, local infrastructure and efficiency improvements. (See e.g. 2017 Scoping Plan at 102 ("CARB recommends that lead agencies prioritize on-site design features that reduce emissions, especially from [vehicle miles traveled], and direct investments in GHG reductions within the project's region that contribute potential air quality, health, and economic co-benefits locally.") This is why the 2017 Scoping Plan prioritizes local direct investments, and recommends turning to offset credits "[w]here further project design or regional investments are infeasible or not proven to be effective." (2017 Scoping Plan at 102.) The proposed measure, by contrast, does not obligate the Project to first consider additional direct reductions, or other local or regional GHG emissions reductions, before deciding to purchase offsets. Such direct or local measures could otherwise benefit those in the Project vicinity. Furthermore, the measure does not in any way limit the percentage of offsets which may be used to mitigate the Project's GHG emissions, as compared to more direct methods of GHG reduction. California's Cap-and-Trade Program, for its part, sets a quantitative usage limit, which allows only 4-8% (depending on the calendar year) of an entity's compliance obligation to be met through surrendering offsets. (See 17 Cal. Code Regs., § 95854.) This helps ensure that offsets are a relatively small part of the overall Cap-and-Trade Program, ensuring that the majority of GHG reductions come from reductions by regulated entities rather than from non-covered sectors.

The FEIR's proposed measure entirely lacks this protection, instead allowing offsets (even ones that may not actually result in GHG reductions, as described above) as the sole GHG mitigation mechanism. These disadvantages, combined with the lack of any adequate criteria to ensure quality or enforceability of the offsets that may be purchased in this case, make the mitigation measure ineffective and unreliable.

Mitigation Measure 4.7.7.1 also seems to imply that CARB has broadly "approved" the offset registries it lists. The measure's text states: "Credits registered by a carbon registry approved by the California Air Resources Board, such as, but not limited to, the Climate Action Reserve, American Carbon Registry, Verra (formerly Verified Carbon Standard) or GHG Reduction Exchange (GHG RX), shall be conclusively presumed to meet all of the criteria set forth above." (FEIR at 36). CARB has approved only the American Carbon Registry, Climate Action Reserve, and Verra for the limited purpose of participation as Offset Project Registries in CARB's Cap-and-Trade Program, pursuant to the process set forth in section 95986 of Title 17 of the California Code of Regulations. This approval only pertains to the registry's participation in the Cap-and-Trade Regulation, in connection with issuing CARB offset credits. By contrast, the offsets contemplated by Mitigation Measure 4.7.7.1 are known as "voluntary market" offsets, which are generated under separate protocols adopted by the registries. CARB does not review

these voluntary market protocols. CARB's "approval" of a registry as an Offset Project Registry under the Cap-and-Trade Program does not mean CARB has reviewed or approved that registry's voluntary market offset protocols.

Mitigation Measure 4.7.7.1 improperly bypasses onsite and local mitigation and violates CEQA because of its unenforceability and thus must be revised.

IV. THE FEIR IMPROPERLY DECLINES TO ADOPT FEASIBLE MITIGATION MEASURES THAT WOULD SUBSTANTIALLY LESSEN THE PROJECT'S SIGNIFICANT ADVERSE EFFECTS.

The FEIR simultaneously argues the proposed use of offsets and credits is a feasible mitigation measure, and yet refuses to adopt such a measure now by conditioning it on the outcome of the *Paulek* litigation. This approach violates CEQA, which instructs that "public agencies should not approve projects as proposed if there are… feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects." (Pub. Res. Code 21002). The FEIR recognizes it is possible to offset the entire 232,402 metric tons of GHG from this Project but only guarantees the offset of 8,563 metric tons of GHG emissions. (See FEIR at page 39.) The entire 232,403 metric tons of GHGs will *not* be offset if the "trial court's judgment in *Paulek* is affirmed after the appellate process is completed or if the appeal is dismissed." However, if the appeal is dismissed, an appellate court will not have upheld the City's GHG analysis and, as described above, the City's misleadingly-named "capped" emissions would be considered a significant environmental effect. These emissions would need to be mitigated, and could be via a feasible and rigorous GHG mitigation measure (as described above). By refusing to adopt such a feasible mitigation measure here, the FEIR violates CEQA. (See CEQA Guidelines, § 15092.)

V. MITIGATION MEASURE 4.7.7.1 IS "SIGNIFICANT NEW INFORMATION" THAT REQUIRES RECIRCULATION OF THE FINAL EIR.

Pursuant to Public Resources Code section 21092.1, Mitigation Measure 4.7.7.1 is "significant new information" that requires a new opportunity for public comment. "Significant new information" includes a new "feasible way to mitigate or avoid [a substantial adverse environmental effect]… that the project's proponents have declined to implement." (*Laurel Heights Improvement Assn. v. Regents of University of California* (1993) 6 Cal.4th 1112, 1129, as modified on denial of rehg. (Feb. 24, 1994)). As described above, Mitigation Measure 4.7.7.1 identifies a feasible, although not necessarily proper, way to mitigate the Project's greenhouse gas emissions, yet declines to adopt such mitigation unconditionally.

When "significant new information… is added to an environmental impact report after notice… but prior to certification" the public agency must "give notice again pursuant to Section 21092… before certifying the environmental impact report." (Pub. Resources Code, § 21092.1). Notice pursuant to Public Resources Code Section 21092(b)(2) requires a comment period.

However, Mitigation Measure 4.7.7.1 was added to the FEIR through a "Response to Comments on the Revised Sections of the Final EIR and Draft Recirculated Revised Sections of the Final EIR" without any such comment period. Instead, the City simultaneously released that document and a Notice of Completion informing the public that the Moreno Valley Planning Commission would review the Revised FEIR at a public hearing on May 14, 2020. Moreno Valley should have recirculated the EIR and provided an opportunity for public comment on the EIR with the addition of Mitigation Measure 4.7.7.1.[7]

VI. CONCLUSION

The Attorney General and CARB urge the City of Moreno Valley not to certify the FEIR without further revisions to the GHG analysis as described above. As stated in our previous comments, the City must take its obligations as a local government to mitigate climate change impacts seriously. The addition of a weak GHG measure that would apply only if the City's approach is invalidated on appeal is not enough. However, if the City implements the actions that the state's expert agencies have requested for years, the Project could be an important environmental leadership project. Indeed, the Project could create jobs by building a world-leading clean logistics project, protecting communities all along its supply chains. We encourage the City to take this opportunity to innovate and to lead. As always, we would be happy to work with the City to take the additional steps needed to fully comply with CEQA's GHG analysis and proper mitigation requirements for the Project. We appreciate your consideration of our comments.

Sincerely,

HEATHER LESLIE
Deputy Attorney General

For XAVIER BECERRA
Attorney General

[7] In its January 30, 2020 comments, CARB informed the City of its concerns with not being able to review the new GHG-related mitigation measure. (See January 30, 2020 CARB comment letter at page 1.) When CARB reached out to a City representative at that time, CARB was informed that the reference to the new GHG mitigation measure was included in the RRSFEIR in error, and it would be removed in the FEIR. Rather than remove that measure, the FEIR now includes a new GHG mitigation measure that has never before been circulated for public review, and which the City had previously indicated would not be part of the FEIR. The City only now has decided to release this measure as part of a vast FEIR package, just 14 days prior to the Project approval hearing.

Richard W. Corey
Executive Officer, CARB

cc: Albert Armijo, Interim Planning Manager, alberta@moval.org
Kenneth B. Bley, Attorney for Project Proponents, kbley@coxcastle.com

EXHIBIT A

XAVIER BECERRA
Attorney General

State of Californ
DEPARTMENT OF JUSTICE

1300 I STREET, SUITE 125
P.O. BOX 944255
SACRAMENTO, CA 94244-2550

Public: (916) 445-9555
Telephone: (916) 210-7832
Facsimile: (916) 327-2319
E-Mail: Heather.Leslie@doj.ca.gov

September 7, 2018

Albert Armijo, Interim Planning Manager
City of Moreno Valley
14177 Frederick Street
Post Office Box 88005
Moreno Valley, California 92552
Phone: (951) 413-3206
Email: alberta@moval.org

RE: **Revised Sections of the Final Environmental Impact Report for the World Logistics Center Project**

Dear Mr. Armijo:

Attorney General Xavier Becerra submits the following comments on the Revised Sections of the Final Environmental Impact Report ("RFEIR") prepared for the World Logistics Center (the "Project").[1] The Project, a proposed warehouse and logistics complex in the City of Moreno Valley ("City"), would be one of the largest warehouse facilities in the world, with square footage equaling approximately 700 regulation-size football fields.

INTEREST OF THE ATTORNEY GENERAL

For well over a decade, the Attorney General has actively encouraged lead agencies to fulfill their CEQA responsibilities as they relate to climate change. It is now well-established that California, through law and policy, and consistent with sound science, is committed to achieving a low-carbon future by 2050 in order to reduce and avoid the most catastrophic effects of climate change. California has already begun to experience adverse climate effects, such as rising sea levels and longer, more intense fire seasons. The Attorney General is particularly concerned about how such effects may impact our most vulnerable communities, such as Inland Empire residents, who are already burdened by some of the worst air quality in the country.

[1] The Attorney General's Office submits these comments pursuant to his independent power and duty to protect the environment and natural resources of the State from pollution, impairment, or destruction, and in furtherance of the public interest. (See Cal. Const., art. V, § 13; Gov. Code, §§ 12511, 12600-12612; *D'Amico v. Bd. of Medical Examiners* (1974) 11 Cal.3d 1, 14-15.) This letter is not intended, and should not be construed, as an exhaustive discussion of the RFEIR's compliance with the California Environmental Quality Act ("CEQA").

Every large development project has the potential either to facilitate, or instead hinder, the State's achievement of its climate goals. It is therefore important that as lead agencies consider the impacts of individual development projects – many of which will operate for decades into the future – they evaluate and impose feasible mitigation for climate change impacts.

With these goals in mind, the Attorney General has provided guidance to local governments, commented on potential projects, and engaged with local interest organizations concerned with climate change and environmental justice. (See California Department of Justice, Office of the Attorney General, *California Environmental Quality Act*, https://oag.ca.gov/environment/ceqa (as of Sept. 7, 2018).) The Attorney General has also participated in litigation throughout the State to ensure that local governments comply with state requirements to fully analyze and implement all feasible mitigation measures to lessen significant impacts from greenhouse gas emissions ("GHGs") caused by land use development projects. (See, e.g., *Cleveland National Forest Foundation v. San Diego Assn. of Governments* (2017) 3 Cal.5th 497; *People of the State of California v. County of San Bernardino* (Cty. of San Bernardino filed April 12, 2007) No. CIVSS700329.) The Attorney General also has a long-standing interest in ensuring environmental justice throughout the State and for communities in the Inland Empire. (See, e.g., *CCAEJ v. County of Riverside, et al.*, Case No. RIC1112063; California Department of Justice, Office of the Attorney General, *Environmental Justice at the Local and Regional Level: Legal Background* (July 10, 2012) https://oag.ca.gov/sites/all/files/agweb/pdfs/environment/ej_fact_sheet.pdf.)

After review of the GHG analysis in the RFEIR, the Attorney General believes that the City has failed to comply with CEQA's requirements for analyzing and implementing feasible mitigation for the significant GHG emissions that will result from this Project. For the reasons outlined below, the City's approach falls substantially short of meeting the requirements of CEQA, the regulations implementing CEQA – the CEQA Guidelines (Cal. Code Regs., tit. 14, § 15000 et seq.), and applicable case law. The City's approach in the RFEIR has the potential to seriously undermine the overall effort to meet the State's science-based GHG reduction goals for the transportation and land use sectors, and to disproportionately disadvantage environmental justice communities.

THE RFEIR'S GHG ANALYSIS VIOLATES CEQA AND UNDERMINES THE STATE'S CLIMATE OBJECTIVES.

As the RFEIR acknowledges, this Project at buildout will cause over 281,000 metric tons of GHGs to be released into the atmosphere every year, and will result in over 200,000 metric tons of GHG emissions beginning as early as 2028. (RFEIR at 4.7-35.) These emissions will presumably continue throughout the life of the project, though the RFEIR does not address this.

The RFEIR takes a very unusual and troubling approach to addressing the Project's GHG-related impacts, especially since climate pollution is undeniably a *cumulative* problem. (*Center for Biological Diversity v. Department of Fish & Wildlife* (2015) 62 Cal.4th 204, 256-257.) The RFEIR divides the Project's GHG emissions into two categories, which it terms

"capped" and "uncapped" – classifications created by this RFEIR. What the RFEIR deems "uncapped" emissions constitute only about 3% of the Project emissions. They include the comparatively minor landfill emissions caused by waste generated at the Project and the use of refrigerants at the Project. (RFEIR at 4.7-33.) For these emissions, the RFEIR follows the approach that would be expected under CEQA: the City has, in its discretion, designated a significance threshold (in this case, 10,000 metric tons of GHGs as recommended by the South Coast Air Quality Management District), compared the "uncapped" emissions to that threshold, and required feasible mitigation measures to ensure those emissions fall below that threshold.[2] (RFEIR at p. 4.7-19.) What the RFEIR terms "capped" emissions, however, constitute the remaining 97% of the Project's predicted emissions. Those include emissions caused by mobile sources (namely, diesel trucks) and electricity use at the Project. (RFEIR at p. 4.7-33.) With respect to these emissions, the RFEIR deviates dramatically from standard CEQA methodology. The RFEIR asserts that these emissions are "covered" by the California Air Resources Board's ("CARB") Cap-and-Trade Program, and therefore claims that they are exempt from any further CEQA analysis or mitigation. (RFEIR at p. 4.7-22.) This is a novel and unsupportable approach under CEQA.

As discussed below, the RFEIR's approach does not comply with CEQA, for several reasons. First, the Project is not regulated under the State's Cap-and-Trade Program, so purported compliance with that Program cannot be used to exclude 97% of the Project's GHG emissions from the analysis of whether the Project's GHG emissions will result in significant climate change impacts. Second, CEQA requires that all of the emissions attributable to the Project be evaluated for significance, regardless of their source. Third, when comparing all of the Project's emissions to California's ambitious, science-based climate goals, as well as statewide, regional, and local plans for the reduction or mitigation of GHG emissions, the Project's GHG emissions are clearly significant, requiring further feasible mitigation measures.

We are concerned about the City's use of this analytical approach, both in the context of this Project and more generally. If the RFEIR's approach is put into general use by the City, or followed by other lead agencies, emissions from transportation and electricity could largely be exempt from analysis and mitigation under CEQA. This is directly counter to the purposes of CEQA, and the Legislature's considered decision to make clear that GHG emissions must be analyzed. (Senate Bill 97 (2007); Pub. Resources Code, § 21083.05.) The State cannot meet its well-established, long-term environmental GHG reduction goals if new local projects are free to add hundreds of thousands of tons of GHGs to the atmosphere every year without undergoing the

[2] Lead agencies may choose to use a "threshold of significance," a working presumption that can assist in determining whether an impact is significant. (Cal. Code Regs., tit. 14, §§ 15064.4(b)(2); 15064.7.) "A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant." (Cal. Code Regs., tit. 14, § 15064.7, subd. (a).)

analysis and mitigation that CEQA requires. Moreover, the RFEIR's approach will likely expose already-burdened communities in the State to greater amounts of GHG co-pollutants, such as diesel particulate matter and nitrogen oxides.

We urge the City to revise its GHG analysis to comply with CEQA by properly evaluating whether *all* of the Project's emissions—for all phases of the Project, direct and indirect, short-term and long-term—are cumulatively significant, and adopting feasible mitigation to ensure those emissions do not have a significant impact on the environment.

I. THE RFEIR'S NOVEL APPROACH TO "CAPPED" EMISSIONS VIOLATES CEQA.

The purpose of an environmental impact report is "to provide public agencies and the public in general with detailed information about the effect which a proposed project is likely to have on the environment; to list ways in which the significant effects of such a project might be minimized; and to indicate alternatives to such a project." (Pub. Resources Code § 21061.)

The City's approach violates a number of well-established CEQA principles. Lead agencies must "consider the whole of an action, not simply its constituent parts, when determining whether it will have a significant environmental effect." (Cal. Code Regs., tit. 14 § 15003, subd. (h).) This Project as a whole includes both the "capped" and "uncapped" GHG emissions, but the RFEIR fails to analyze and mitigate "capped" emissions. Moreover, both "direct and indirect significant effects" and "short-term and long-term effects" should be considered. (Cal. Code Regs., tit. 14, § 15126.2, subd. (a).) The RFEIR fails to inform the public of the long-term effects of the Project's GHG emissions by failing to analyze GHG emissions past buildout.

In addition to violating these more general principles, the City's approach to "capped" emissions contradicts the CEQA Guidelines specific to GHG analysis. "The determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data." (Cal. Code Regs., tit. 14, § 15064, subd. (b).) The CEQA Guidelines advise lead agencies on how to determine the significance of a Project's GHG emissions. A lead agency should consider three non-exclusive methods for determining climate significance:

> (1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;
>
> (2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project[;]
>
> (3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. . . . If there is substantial evidence that the possible effects of

> a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. (Cal. Code Regs., tit. 14, § 15064.4, subd. (b).

While "[a]n ironclad definition of significant effect is not always possible," (Cal. Code Regs., tit. 14 § 15064, subd. (b)), the RFEIR's conclusion that the Project's GHG impacts are not significant under CEQA (RFEIR at p. 4.7-33) is based solely on its unjustifiable exclusion of the vast majority of the GHG emissions of the Project. That exclusion is neither consistent with CEQA nor justified by the Cap-and-Trade Program, which does not apply to the Project.

A. Since the Project is Not Regulated Under Cap-and-Trade, The RFEIR Cannot Use Cap-and-Trade to Ignore the Significance of the Project's GHG Emissions.

The RFEIR effectively treats the Cap-and-Trade Program as it if it is a qualified mitigation plan for the Project and its "capped" emissions. (See Cal. Code Regs., tit. 17, §§ 15064, subd. (h)(3); 15064.4 subd. (b)(3). It is not.

California's Cap-and-Trade Program applies "an aggregate greenhouse gas allowance budget [to] *covered entities* and provides a trading mechanism for compliance instruments." (Cal. Code Regs., tit. 17, § 95801 (emphasis added).) The Cap-and-Trade Program only applies to expressly identified entities, such as cement producers, petroleum refiners, electricity generators, natural gas supplies, fuel importers, and liquid petroleum gas supplies. (Cal. Code Regs., tit. 17, § 95811.) Warehouse and logistics complexes are *not* covered entities.

Although the operator of a refinery that produces liquefied petroleum gas in California is subject to the Cap-and-Trade Program, (Cal. Code Regs., tit. 17, § 95811, subd. (e)(1)), entities downstream from that refinery in the chain of commerce are not. The refinery itself may have compliance obligations under the Cap-and-Trade Program, which can be met by reducing its own GHG emissions or surrendering compliance instruments, but the gas station that resells the gas, the truck drivers who purchase it, and the warehouses to which the trucks drive do not. Because CEQA Guidelines section 15064.4, subdivision (b)(3) instruct lead agencies to consider the extent to which *the project* complies with GHG regulations or requirements, it is inappropriate to rely upon compliance with Cap-and-Trade by other entities downstream in the chain of commerce as a basis for avoiding analysis of project-related emissions. In the Final Statement of Reasons for the CEQA Guidelines addressing GHG emissions, the California Natural Resources Agency confirmed that, in implementing CEQA Guidelines section 15064.4, a lead agency must show that a GHG reduction plan "actually addresses the emissions that would result from the project." (California Natural Resources Agency, Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB 97 (2009), available at http://resources.ca.gov/ceqa/docs/Final_Statement_of_Reasons.pdf, at p. 27.)

Further, the City's approach is not, as the RFEIR claims (RFEIR at 4.7-20), supported by *Association of Irritated Residents v. Kern County Bd. of Supervisors* (2017) 17 Cal.App.5th 708 ("*AIR*"). Without commenting on whether or not that case was rightly decided, *AIR* is facially inapposite because the project being evaluated under CEQA in that case was a refinery, a covered entity under the Cap-and-Trade Program. Because this Project is not a covered entity under the Cap-and-Trade Program, it is unjustifiable for the RFEIR to use compliance with Cap-and-Trade as a factor in analyzing the significance of the Project's GHG emissions. There is no basis in the law for the use of Cap-and-Trade to exclude a full 97% of the Project's GHG emissions from analysis or mitigation.

The flaw in the City's approach becomes even more apparent when one considers its incongruous results. The RFEIR describes the Project, in part, as follows: "Goods imported through the Ports of Long Beach and Los Angeles as well as other locations are delivered via truck to the proposed distribution centers and distributed via truck both in and out of state locations. . . ." (Original FEIR at 3-27-3-28.) The heart of this Project is this movement of goods via trucks. Yet, the City's approach avoids any analysis of 210,596 metric tons of GHG emissions associated with the movement of goods via trucks. (RFEIR at p. 4.7-33.) 97% of the Project's total GHG emissions are simply dismissed under this approach. CEQA does not permit such a dismissal.

B. The RFEIR Must Consider All Emissions in Determining Significance.

Correctly applying CEQA requires an evaluation of *all* the Project's GHG emissions in determining significance. (See Cal. Code Regs., tit. 14, §§ 15064.4, subd. (b)(2); 15378 (defining "project" as "the whole of an action. . . .")) There is no basis here for comparing some of the Project's emissions to the significance threshold, but not others. Here, the City elected to use a threshold of 10,000 metric tons of GHGs. (RFEIR at p. 4.7-19.) CEQA Guidelines section 15064.4, subdivision (b)(2), notes that when using a threshold, an agency should compare all of the "project emissions" of GHGs to that threshold. Emissions from trucks and electricity are a result of the Project just as much as the "uncapped" emissions. They therefore must be compared to the significance threshold, and mitigated to the extent feasible.

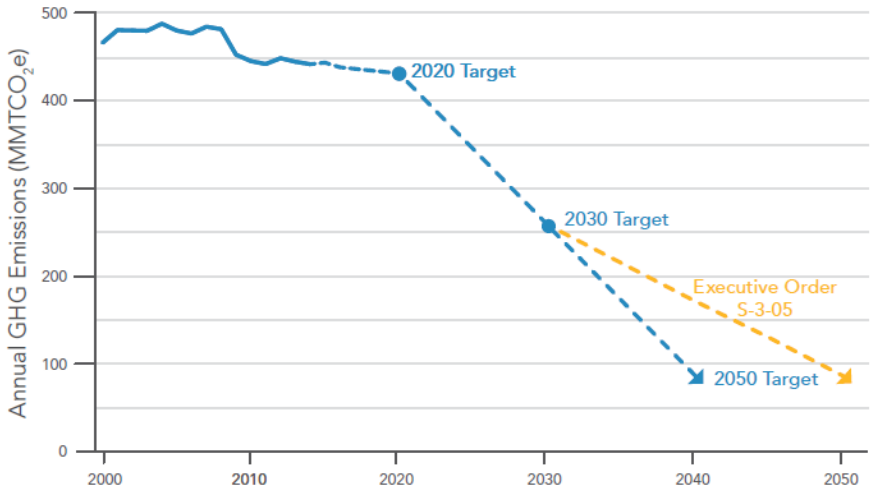
Further, the City's attempt to exempt an impact from any significance analysis based solely on purported compliance with a single rule or regulation is unwarranted. Courts have repeatedly held compliance with a single environmental or land use law or regulation does not create an exemption from CEQA's requirement that lead agencies evaluate all of a project's significant environmental impacts. For example, "compliance with a general plan in and of itself 'does not insulate a project from the EIR requirement, where it may be fairly argued that the project will generate significant environmental effects.'" (*East Sacramento Partnerships for a Livable City v. City of Sacramento* (2016) 5 Cal.App.5th 281, 301; see also *Keep Our Mountains Quiet v. County of Santa Clara* (2015) 236 Cal.App.4th 714, 732 ("[A]n EIR is required if substantial evidence supports a fair argument that [a project] may have significant unmitigated noise impacts, even if other evidence shows the [project] will not generate noise in excess of [a] County's noise ordinance or general plan.")

C. In Light of the Project's Substantial, Long-Term Projected Emissions, Its GHG Impacts Must Be Deemed Significant.

It seems impossible a proper evaluation of the Project's emissions under CEQA could support a finding that the Project's emissions are not significant. This Project—as currently designed—will lock in hundreds of thousands of tons of GHG emissions for decades to come, and may put this City and the region on a path that deeply undermines the State's climate goals.

To reduce and avoid the most catastrophic effects of climate change, science tells us that we must dramatically reduce our annual statewide GHG emissions. California has taken ambitious steps to accomplish that objective. Assembly Bill 32 ("AB 32") requires California to reduce its total statewide GHG emissions to 1990 levels by 2020. (Health & Saf. Code, § 38550.) Under Senate Bill 32 ("SB 32"), California must reduce its GHG emissions to 40% below 1990 levels by 2030. (Health & Saf. Code, § 38566.) In addition, the Governor's Executive Order S-3-5 ("EO S-3-05") directs state agencies to reduce statewide GHG emissions to 80% below 1990 levels by 2050. To achieve such ambitious but necessary goals, California will have to reduce GHG emissions from various sectors of the economy. Transportation, industry, and electricity generation are the top three contributing sectors to the State's total GHG emissions. (CARB, 2017 Climate Change Scoping Plan (Nov. 2017) at p. 11 ("Scoping Plan").) Below is a graph showing the dramatic downward trajectory of statewide GHG reductions necessary to achieve the State's climate goals.

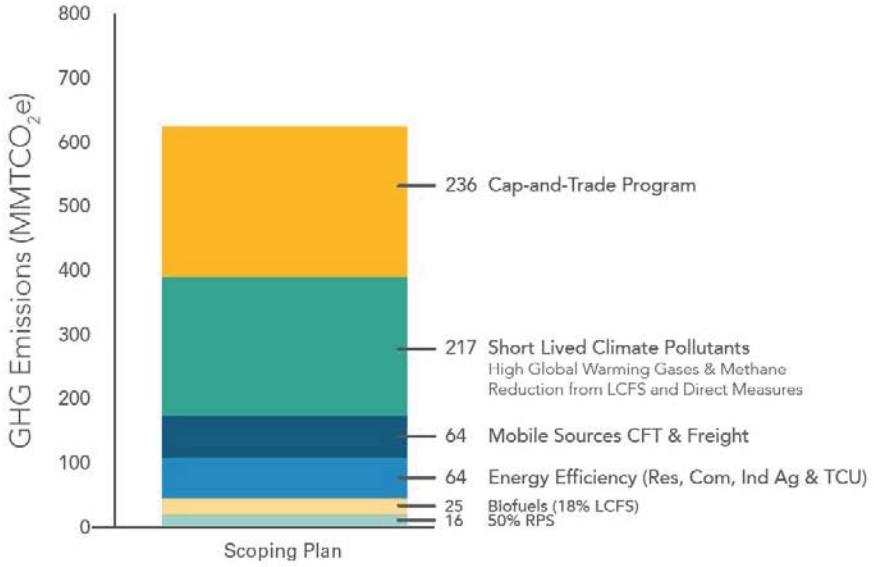
FIGURE 5: PLOTTING CALIFORNIA'S PATH FORWARD



(Scoping Plan at p. 24.)

California has adopted a multitude of regulations, requirements, plans, and policies to achieve the substantial reductions in statewide GHG emissions required by AB 32, SB 32, and EO S-3-5. CARB identified, in its Climate Change Scoping Plan, multiple required and voluntary measures working in concert as necessary for California to achieve its ambitious climate goals as depicted in the graph below. (See Scoping Plan at p. 28.)

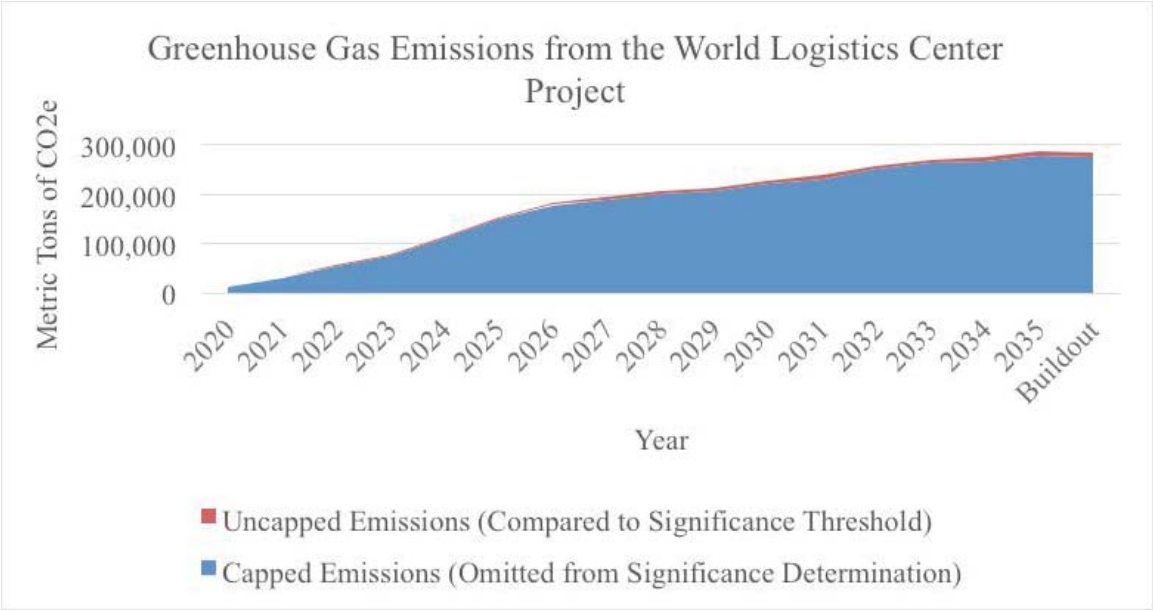
FIGURE 7: SCOPING PLAN SCENARIO – ESTIMATED CUMULATIVE GHG REDUCTIONS BY MEASURE (2021–2030)[64]



The Scoping Plan proposes various strategies for reductions in emissions from transportation and energy sectors. The Scoping Plan notes that for the GHG reductions from the transportation sector, "[vehicle miles traveled ("VMT")] reductions are necessary to achieve the 2030 target and must be part of any strategy evaluated in this plan." (Scoping Plan at p. 112.) In addition, under SB 375, CARB assigns California's 18 Metropolitan Planning Organizations targets for GHG emission reductions in the transportation sector which are to be achieved based on land use patterns and transportation systems. (CARB, Updated Final Staff Report: Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets (2017), available at https://www.arb.ca.gov/cc/sb375/final_staff_proposal_sb375_target_update_october_2017.pdf.) CARB's recommended target for the Southern California Association of Governments is a 19% reduction in GHG emissions from transportation by 2035. (*Id.* at p. 34.)

CEQA requires the City evaluate the consistency of the Project's substantial increases in GHG emissions with state and regional plans and policies calling for a dramatic reduction in GHG emissions. The Supreme Court in *Cleveland National Forest Foundation v. San Diego Association of Governments* (2017) 3 Cal.5th 497 ("*SANDAG*") affirmed that an EIR should consider the project's long-range greenhouse gas emission impacts through the year 2050, and address whether the project as a whole is in accord with the state's climate goals. (*Id.* at p. 515.) The Supreme Court further instructed lead agencies to "stay in step with evolving scientific knowledge and state regulatory schemes." (*Id.* at p. 504.)

The RFEIR estimates that the Project's total emissions will increase from the existing conditions of no emissions at the Project site to over 281,000 metric tons of GHG emissions annually at full buildout of the Project in 2040. (RFEIR at p. 4.7-33.) See the graph below depicting the trajectory of the Project's GHG emissions.[3]



The Project's substantial *increase* in GHG emissions conflicts with the downward trajectory for GHG emissions necessary to achieve state climate goals. This is illustrated clearly in the sharp difference in the upward trajectory of the graph of the Project's GHG emissions versus the steep downward trajectory in the graph of the State's climate goals as depicted in Figure 5 of the Scoping Plan and reproduced above. Yet, the RFEIR failed to evaluate the Project's consistency with state and regional goals, requirements, plans, and policies to reduce

[3] Visual depictions such as this graph make it easier to understand the significant impact of GHG emissions from the Project on the environment. Such clarity is encouraged by the CEQA Guidelines, which state that EIRs should be "written in plain language and may use appropriate graphics so that decisionmakers and the public can rapidly understand the documents." (Cal. Code Regs., tit. 17, § 95811.) Such graphs are also helpful because they allow the decisionmakers to see a project's proposed greenhouse gas emissions as a trajectory and assess the "significance of the *shape* of that emissions curve as a whole." (Janill Richards, *The SANDAG Decision: How Lead Agencies Can "Stay in Step" with Law and Science in Addressing the Climate Impacts of Large-Scale Planning and Infrastructure Projects* (2017) 26:2 Environmental Law News 17, 19, available at http://legal-planet.org/wp-content/uploads/2018/09/environmental-law-news_2017_vol-26-no-2_fall_the-sandag-decision.pdf.) To better inform the public of the Project's unmitigated GHG emissions, we recommend revising the RFEIR to include graphical representations of the emissions trajectory of the project.

GHGs that should have been analyzed under CEQA. Comparing the Project's GHG trajectory against the state's climate goals would inform the public of the Project's GHG impacts. For example, the RFEIR's GHG analysis should have considered whether the Project will increase VMT. Because it did not, it is inconsistent with SB 375. Although the RFEIR's revised traffic analysis does include a VMT analysis, it is included only to address air quality issues, and not GHGs. (RFEIR at pp. 4.7-19 and 4.15-3.) Under CEQA, the City is required to consider how the project can reduce VMT and electricity use, "rather than expecting[ing] these reductions to come [only] from technological advances or other measures." (*SANDAG*, at 523.) The City ignores its CEQA obligations and instead, the RFEIR obscures the Project's GHG impacts by improperly exempting them from CEQA analysis.

In addition, there is no discussion in the RFEIR of the GHG emissions from the Project over its expected lifespan. GHG emissions are estimated up until the Project's full buildout in 2040 (RFEIR at p. 4.7-33), but the Project will clearly continue beyond that point, and the RFEIR gives no indication of how long that will be. The cumulative impact of the Project's GHG emissions over its entire lifespan should be considered and mitigated to the greatest extent feasible. Notably, by failing to estimate emissions through 2050, the RFEIR obscures the extent to which the Project does or does not comply with California's explicit 2050 climate goals.

D. The RFEIR Should Analyze and Adopt Feasible Mitigation Measures to Avoid or Lessen the Project's GHG Impacts.

CEQA requires that an EIR consider and adopt feasible alternatives or mitigation measures that would substantially lessen the significant and harmful environment effects of the project being analyzed. (See Pub. Resources Code, § 21002.) The RFEIR's failure to properly analyze the Project's significant GHG impacts also results in a failure to mitigate those impacts as required by CEQA. If the RFEIR's analysis were done properly, the Project's GHG emissions from vehicles and electricity would have vastly exceeded the significance threshold selected by the City. Those emissions would therefore have to be reduced through changes or alterations in the Project, or the City would be required to explain why "[s]pecific economic, legal, social, technological, or other considerations including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives… ." (Cal. Code Regs., tit. 22, § 15091, subds. (a)(1) and (a)(3).) There may be mitigation measures or project alternatives that could reduce or avoid the Project's GHG emissions, such as the adoption of requirements mandating the use of zero emission vehicles or a certain percentage of electricity from renewable electricity sources, such as on-site solar power generation.[4] By

[4] The Attorney General recognizes that devising climate mitigation on a project-by-project basis can be challenging. Many local governments have therefore elected to move toward enforceable Climate Action Plans ("CAPs") integrated with their general plans. (CARB, California Climate Action Portal Map, https://webmaps.arb.ca.gov/capmap/ (as of Sept. 7, 2018).) Done correctly, CAPs can put local governments on the path to a lower-carbon future

excluding 97% of the Project's GHG emissions from its significance determination, the RFEIR obscures the extent of the Project's emissions and improperly evades the City's obligation to mitigate the Project's GHG impacts.

II. ADOPTION OF THIS METHOD OF EXEMPTING "CAPPED" EMISSIONS FROM CEQA ANALYSIS WILL UNDERMINE THE STATE'S VARIOUS POLICIES AND PROGRAMS TO REACH OUR AMBITIOUS CLIMATE GOALS.

The RFEIR's failure to comply with CEQA will have real consequences. If this RFEIR's approach is widely adopted, the State will not be able to achieve its ambitious climate goals. The RFEIR exempts the Project's emissions attributable to mobile sources and electricity use from CEQA analysis and mitigation. And yet transportation and electricity are two of the State's three largest sources of GHG emissions. (Scoping Plan at p. 11). Transportation and electricity are thus two of the most important areas in which GHG emissions must be reduced.

The RFEIR's approach to the transportation and electricity sectors incorrectly presumes that the Cap-and-Trade Program will achieve *all* GHG reductions necessary in those areas. But as CARB's 2017 Scoping Plan points out, "[l]ocal land use decisions play a particularly critical role in reducing GHG emissions associated with transportation, both and the project level, and in long-term plans… ." (Scoping Plan at pp. 100-101.) If other lead agencies adopt the City's approach, millions of metric tons of GHGs resulting from development projects would be ignored and unmitigated through what amounts to a categorical exemption from CEQA. Local governments would therefore not be doing their part to help the State reach its ambitious, yet necessary, climate goals of emitting 40% below 1990 GHG levels by 2030 and 80% below 1990 levels by 2050. (Heath & Saf. Code, § 38566, Governor's Executive Order No. S-3-05 (June 1, 2005).)

Instead of claiming that no amount of transportation and electricity emissions can be significant under CEQA, and thus excluding them from any analysis and mitigation, lead agencies have an obligation to acknowledge the significance of such emissions and work to implement feasible mitigation of them.[5]

III. REVISING THE GHG ANALYSIS WILL LIKELY LEAD TO GREATER PROTECTION OF ENVIRONMENTAL JUSTICE COMMUNITIES.

In addition to, and separate from, the CEQA issues, revising the RFEIR's GHG analysis will likely help mitigate some of the Project's direct harmful effects on environmental justice communities. Moreno Valley contains some of the most pollution-burdened census tracts in the

---

while substantially streamlining the approval of individual projects that are consistent and comply with the CAP.

[5] There are several examples of economically viable land use development projects that contributed no net additional GHG emissions. (Scoping Plan at p. 99.)

State according to California Environmental Protection Agency's CalEnviroScreen tool.[6] City residents experience ozone and particulate matter (PM) 2.5 at rates higher than 90% of the State. The South Coast Air Basin, where Moreno Valley is located, exceeds federal public health standards for ozone, ozone precursors, and particulate matter. Exposure to these air contaminants contributes to asthma, lung cancer, and cardiovascular disease. Indeed, residents in Moreno Valley experience higher than average emergency room visits due to asthma and higher than average rates of cardiovascular disease, particularly residents living along freeways.

Furthermore, environmental justice concerns are significant for the residents of Moreno Valley. Moreno Valley residents are predominately people of color, made up of 56.5% Hispanic and 18% African American populations. (United States Census Bureau, Quick Facts for Moreno Valley, California, https://www.census.gov/quickfacts/fact/table/morenovalleycitycalifornia,ca/PST045217 (as of Sept. 7, 2018).) The rates of poverty are dramatically higher in Moreno Valley compared to the state—according to U.S. Census data, 18.6% of Moreno Valley residents live in poverty, compared with the statewide poverty rate of 14.4%. (*Ibid.*, and United States Census Bureau, Quick Facts for California, https://www.census.gov/quickfacts/fact/table/ca/PST045217 (as of Sept. 7, 2018).) They experience high rates of unemployment and housing burdens (paying more than 50% of their income for housing costs). These socioeconomic characteristics of Moreno Valley residents increase their sensitivity to the health effects of the heavy pollution burdens they experience.

Adding to these burdens, Riverside County as a whole, and the City of Moreno Valley specifically, are experiencing a great influx of logistics warehouse projects. Recent developments in Moreno Valley alone include an 825,000 square-foot distribution facility for the Aldi grocery chain, a 1.6 million square-foot distribution facility for Deckers Brands footwear company, and a 1.25 million square-foot fulfillment center for Amazon. These large projects, and their related impacts on the low-income communities of color who live nearby and in the communities residing along the freeways serving them, are dwarfed by the over 40 million square-foot Project.

By conducting a proper GHG analysis in the RFEIR and adopting feasible mitigation, the City will likely better protect the environmental justice communities living near both the Project and along the freeways that trucks will use to reach the Project. Reduction of GHG emissions leads to the reduction of co-pollutant emissions. (See Nicky Sheats, *Achieving Emissions Reductions for Environmental Justice Communities Through Climate Change Mitigation Policy* (2017) 41 WM. & MARY ENVTL. L. & POL'Y REV. 377, 387 ("[E]ven without the intentional maximization of co-pollutant reduction, there should be incidental co-pollutant

[6] CalEnviroScreen is a tool that uses environmental, health, and socioeconomic information to produce scores and rank every census tract in the state. A census tract with a high score is one that experiences a much higher pollution burden than a census tract with a low score. (See CalEnviroScreen 3.0 Report, Office of Environmental Health Hazard Assessment, January 2017, available at https://oehha.ca.gov/media/downloads/calenviroscreen/report/ces3report.pdf.)

reductions as GHGs are being reduced [which] should improve the health of local communities.")) This is especially true in the context of diesel truck emissions, where a VMT reduction would reduce both GHG emissions and co-pollutant emissions. Indeed, the RFEIR acknowledges that "[t]he *most effective way to reduce air pollution* impacts on the health of our nearly 17 million residents, including those in disproportionally impacted and environmental justice communities that are concentrated along our transportation corridors and goods movement facilities, *is to reduce emissions from mobile sources*," and that those mobile sources constitute "the principal contributor to our air quality challenges." (RFEIR at 4.3-11 (emphasis added).) Therefore, while revising the GHG analysis is necessary to comply with CEQA, the City should also see this as an opportunity to implement mitigation measures that would benefit the City's residents and the other environmental justice communities impacted by this Project.

CONCLUSION

We appreciate the difficulty in analyzing GHG emissions under CEQA. However, local agencies must comply with the CEQA Guidelines for GHG analysis and cannot exempt GHG emissions from any significance analysis because of California's Cap-and-Trade Program. We urge the City of Moreno Valley to revise the GHG analysis in the RFEIR as described above so as to support this State's efforts to reduce GHG emissions, achieve our ambitious but necessary climate goals, and benefit local communities in the area who are already suffering some of the worst air pollution in the country. We would be happy to work with the City of Moreno Valley to take the additional steps needed to fully comply with CEQA's GHG analysis and mitigation requirements for the Project. We appreciate your consideration of our comments.

Sincerely,

Heather Leslie

HEATHER LESLIE
BRIAN BILFORD
Deputy Attorneys General

For XAVIER BECERRA
Attorney General

LA2013508673
33554440.docx

EXHIBIT B

Albert Armijo, Interim Planning Manager
14177 Frederick Street
Post Office Box 88005
Moreno Valley, California 92552
Phone: (951) 413-3206
Email: alberta@moval.org

Re: World Logistics Center Revised Final Environmental Impact Report (SCH # 2012021045)

Dear Mr. Armijo:

The California Air Resources Board (CARB) has reviewed the World Logistics Center (WLC or project) Revised Final Environmental Impact Report (RFEIR). CARB appreciates the opportunity to comment on the RFEIR. Unfortunately, despite revisions, the RFEIR mischaracterizes (1) the scope of the Cap-and-Trade Program administered by CARB as they relate to the state's overall greenhouse gas reduction mandates, and (2) how that program may be relevant to a CEQA analysis. Because the RFEIR's GHG analysis relies almost entirely on those mischaracterizations for its GHG analysis and significance determination, it does not meet California Environmental Quality Act (CEQA) requirements.

The RFEIR's core flaw with regard to greenhouse gases (GHGs) is that it declines fully to analyze or mitigate emissions from fuel and electricity demand that the project will cause - the vast majority of the project's emissions - on the ground that CARB's Cap-and-Trade Program purportedly "covers" the project's emissions for this purpose. In fact, the Program does not, and was never designed to, adequately address emissions from local projects and CEQA does not support a novel exemption for such emissions on this ground. The RFEIR's approach obscures the project's significant potential contribution to greenhouse gas emissions, and does not properly account for the combination of federal, state, and local approaches to address climate change that the crisis demands and the law requires.

We also note that the project still has not been modified to address serious health concerns from criteria and toxic air pollutants that CARB discussed in prior letters. Although this letter focuses on GHGs, we continue to be very concerned that local communities may face undue pollution from this project, if completed, as a result of inadequate mitigation.

We urge the City of Moreno Valley (City) to address the criteria and toxics issues we previously raised, and to revise its GHG analysis to accurately account for all GHG emissions that would result from the project, apply those emissions against the applicable significance threshold identified in the RFEIR, adopt feasible mitigation to

ensure those emissions would not cause significant impacts, and recirculate the RFEIR, all as required by CEQA.

I. CARB's Participation in This Project's Review Process

CEQA requires analysis of a project's GHG emissions. Like all CEQA analyses, these disclosures must inform the public and provide appropriate information on mitigation. Planning for greenhouse gas reductions is critical at the project level, as CARB and other state agencies have repeatedly determined. Although various statewide programs address the climate change crisis as well, the CEQA guidelines, and state guidance documents, are clear that achieving the necessary reductions requires project-level focus.

The WLC project proponents have taken a different view in prior versions of the RFEIR and in related litigation, *Paulek v. City of Moreno Valley* (Riverside County Superior Court Case No. RIC 1510967) (*"Paulek"*). That case addresses, among other topics, the initial GHG analysis conducted for the WLC, and in the RFEIR. There, WLC advocates contended that, because some of the suppliers of the fuels and electricity consumed by the project are in the Cap-and-Trade Program CARB administers, the project was not required to analyze or mitigate the significant emissions impacts it would cause. Attorneys for the WLC also argued that because CARB did not specifically object to the project's GHG significance methodology, CARB "apparently had no problem with the EIRs not counting capped emissions against the [WLC] in order to determine the significance of greenhouse gas emissions."[1]

CARB had, in fact, recommended an array of project-based emissions reductions strategies contrary to these claims. CARB takes this opportunity to reiterate those recommendations (prior letters are attached) and to explain why the Cap-and-Trade Program's operations do not allow a departure from CEQA's general rule that project-level impacts be properly addressed.[2]

---

[1] Transcript of January 22, 2018 hearing in *Paulek* case, before Hon. Sharon J. Waters, page 18, Lines 3-7.

[2] In both of CARB's comment letters, which we again incorporate by reference, CARB indicated that its recommendations were for the purpose of reducing not only criteria and toxics pollutants, but also for GHG emissions. CARB reviewed the Draft Environmental Impact Report (DEIR) and provided comments to the City of Moreno Valley in a letter dated April 16, 2013. CARB's comment letter expressed concern over the increase in health risk in the immediate area and the significant and unavoidable air quality and greenhouse gas (GHG) related impacts caused by the proposed WLC. To address those concerns, CARB recommended actions to support the development, demonstration, and deployment of zero and near-zero emission technology at the WLC. On June 8, 2015, CARB again provided comments on the Final Environmental Impact Report (FEIR), making similar recommendations. In those comments, CARB noted that the FEIR was unresponsive to the comments CARB provided in its April 16, 2013 letter regarding the DEIR. (See CARB April 16, 2013 letter at 2; CARB June 8, 2015 letter at 1, 3, and 8.)

II. The RFEIR's Claims About CARB's Cap-and-Trade Regulation Are Incorrect

CEQA translates between high-level policy goals, and individual project choices to better inform the public and support decision-making. The GHG section of the RFEIR takes a novel, and factually unsupported, departure from ordinary CEQA practice by essentially excusing analysis and potential mitigation of GHG emissions when they are indirectly "covered" by a state program. Yet, state programs regularly address at least some aspect of essentially all CEQA impact areas – from state water pollution standards to habitat conservation laws to building codes to endangered species mandates, projects are always considered against a backdrop of state rules. In the ordinary course, the presence of state programs is not taken simply to "cover" the relevant project level impact. On the contrary, CEQA requires project proponents to inquire as to how the project affects environmental resources of statewide concern and to focus on project-level analysis and mitigation. The same rule applies with regard to greenhouse gases. As the California Supreme Court has held, "[l]ocal governments thus bear the primary burden of evaluating a land use project's impacts on greenhouse gas emissions."[3]

Project proponents may refer to statewide analyses and programs, but, as the Court held, ultimately must provide "substantial evidentiary support" explaining how project-level decisions relate to state-level programs to justify findings of significance based on those programs.[4] This is particularly important for new projects, as, per the Court, "a greater degree of reduction may be needed from new projects than from the economy as a whole."[5] And these projects may not simply point to *any* statewide regulations; on the contrary, "[a] significance analysis based on compliance with such statewide regulations ... only goes to impacts within the area governed by the regulations."[6]

In this instance, the Cap-and-Trade Program simply does not cover the project, or require it do anything to mitigate its emissions. As the Court explained, CARB has not "propose[d] statewide regulations of land use planning, but relies instead on local governments." (*Id.* at 230).

CARB has expressed its non-binding views on these matters via the Scoping Plans it is required to prepare under AB 32. The California Supreme Court has recognized the

---

CARB was not silent. Moreover, an inference from silence would be improper, in any event. CARB sometimes does not comment on individual projects' GHG or other analyses due to resource constraints and other considerations. Nothing should be inferred from silence on a particular matter.

[3] *Center for Biological Diversity v. Department of Fish & Wildlife* (2015) 62 Cal.4th 204, 230).

[4] *Id.* at 226-230.

[5] *Id.* at 225.

[6] *Id.* at 229.

Scoping Plan as a valuable source of data for local governments.[7] As each version of CARB's Scoping Plan, including the recent 2017 Scoping Plan Update, explains, on the basis of extensive modeling and analysis, the Cap-and-Trade Program is not intended to address project-level impacts and does not do so. Rather, complementary measures, including land-use planning and project-level analyses, are vital adjuncts to the Cap-and-Trade Program, serve additional purposes to address climate change, and, if neglected, put undue and unanticipated pressure on the Program. The RFEIR's analysis would thus make the problem it purports to analyze even worse; if followed generally, it would result in development patterns and mitigation choices that would lessen the state's ability to address climate change, and would contribute to cumulatively considerable impacts.

Rather than address project-level emissions, the Cap-and-Trade Program covers activities related to electricity generation, natural gas supply, oil and gas extraction, refining, and transportation fuel supply and combustion. The points of regulation are the operators of electricity generating plants, natural gas fuel suppliers, operators of oil and gas extraction facilities, refinery operators, and transportation fuel suppliers at the rack. *See* Tit. 17, Cal. Code Regs., § 95811. The Program also addresses GHG emissions in aggregate at the state level and is not intended nor designed to mitigate greenhouse gas from, or otherwise inform, local land use decisions. Without adequate analysis and mitigation, local jurisdictions may not appropriately consider the greenhouse gas implications of their decisions, conflicting with a core CEQA principle of promoting informed decisionmaking. Rather, demand for fuels and electricity created by poorly-planned local projects creates unnecessary demand on the Cap-and-Trade system, potentially raising prices in the system and making statewide compliance more difficult.

These impacts could be substantial because the transportation sector is the state's largest source of GHG emissions (as well as criteria and toxic pollutant emissions, as we have previously addressed with regard to this project). The recently released California Greenhouse Gas Emission Inventory – 2018 Edition shows that while the state's overall GHG emissions declined from 2015 to 2016, the emissions in the transportation sector increased 2 percent over that same time period.[8] This increase was driven by increases in fuel purchases and use. To effectively achieve the State's GHG target, both production and demand for energy and fuels must be addressed. The

---

[7] As the California Supreme Court has held "CEQA requires public agencies...to ensure that such analysis stay in step with evolving scientific knowledge and state regulatory schemes." The Court viewed the Scoping Plan as a particularly useful source of information, given the extensive study and public participation involved in its preparation. (*Cleveland National Forest Foundation v. San Diego Ass'n of Governments* (2017) 3 Cal. 5th 497, 504.) A recent article provides a useful primer on this body of law. (*See* Janill Richards, *The SANDAG Decision: How Lead Agencies Can "Stay in Step" with Law and Science in Addressing the Climate Impacts of Large-Scale Planning and Infrastructure Projects* (2017) 26:2 Environmental Law News 17))

[8] See https://www.arb.ca.gov/cc/inventory/pubs/reports/2000_2016/ghg_inventory_trends_00-16.pdf.

Legislature recognized this need with regard to electricity when passing SB 350 (Stats. 2015 Ch. 547, De León) to increase the Renewable Portfolio Standard and double energy savings. A similar approach is needed for transportation sector emissions. State-level production side policies such as the Renewable Portfolio Standard, Low Carbon Fuel Standard, and Cap-and-Trade Program cannot alone achieve the State's GHG reduction targets.

In this instance, the RFEIR not only improperly relies on the Cap-and-Trade Regulation; it also fails fully to address consistency with the local measures that *do* more clearly apply. There are a suite of potential emissions reduction strategies identified in the 2017 Scoping Plan aimed at reducing GHG emissions from on-road vehicle travel (e.g., fuel economy standards, technology advancements, SB 375[9]), and the majority of such emissions are not covered in any way by the Cap-and-Trade program.

The City chose not to analyze the project's consistency with the applicable Regional Transportation Plan (RTP), for example, which is subject to GHG emissions reduction targets set by CARB pursuant to SB 375. The City asserted that the RTP does not apply to this project (Table 4.7-11, page 4.7-41 of the RDEIR). We disagree, and suggest that a more appropriate analysis would be whether the project's GHG emissions from on-road transportation would be consistent with, or conflict with, assumptions in the applicable RTP found to comply with SB 375. The city might also refer to the additional nonbinding recommendations offered in CARB's Scoping Plan, though the application of these recommendations, if used, depend on the circumstances of a particular project.

We discuss these points in more detail below.

A. The Cap-and-Trade Regulation Was Never Designed to Achieve All Necessary GHG Reductions From Land Use and Logistics Planning.

The Cap-and-Trade Program was designed from the start as one of a diverse suite of measures, some statewide and some local, to move California toward achieving its GHG targets. To understand the Cap-and-Trade Program's purposes and limitations, the Scoping Plan provides helpful context. The Cap-and-Trade Program covers about 80 percent of all GHG emissions in California.[10] Crucially, just because emissions are "covered" by Cap-and-Trade does not mean all of those emissions from any particular covered entity are mitigated or reduced. It simply means they are included in the cap.

[9] SB 375 (Steinberg, Statutes of 2008).
[10] Scoping Plan at ES16.

Thirty-nine percent of California's GHG emissions come from the transportation sector, including logistics-related transportation (like the WLC would involve).[11] Another 19 percent of the state's GHG emissions comes from electricity generation.[12] In addition to Cap-and-Trade, the Scoping Plan includes various other CARB measures, some of which also address transportation and electricity sector emissions, including SB 350, the Low Carbon Fuel Standard, the Mobile Source Strategy, and the Sustainable Freight Action Plan. In addition to the other complementary Scoping Plan measures, the Scoping Plan also clearly states that "[l]ocal government efforts to reduce emissions within their jurisdiction are critical to achieving the State's long-term GHG goals."[13]

The RFEIR's GHG methodology departs from this science, and has enormous implications for other projects across the state: it would amount to a determination that massive logistics centers, sprawling far-flung residential developments, and other types of remote greenfield development need not do anything to address and mitigate their GHG emissions because those emissions are already "taken care of" by the Cap-and-Trade Program. This is simply not true.

B. The Cap-and-Trade Regulation Is Not Intended to Bear the Burden of Achieving the State's Transportation and Energy Sector GHG Goals Alone.

Cap-and-Trade is not intended to achieve California's climate goals on its own. Rather, Cap-and-Trade is designed to motivate behavior by capping and pricing carbon at the regulated entity level – that is, at the industrial facility and fuel/energy supplier level. It does not send a direct price signal to developers of land use or logistics projects. This means, if CEQA and other "checks" on unsustainable development are weakened as the WLC analysis proposes, such development would simply continue without direct cost to the developers, while adding market demand without mitigating the WLC's emissions.

Moreover, if land use development does not account for GHG emissions, more and more of our state's carbon "cap" would be taken up by increasing transportation emissions. Developers do not receive a price signal from Cap-and-Trade, meaning that there will be no clear incentive to alter this pattern, even as it impacts the Cap-and-Trade system. Thus, the prices of compliance instruments under the Cap-and-Trade Program would increase at a higher rate than was contemplated when CARB developed the Cap-and-Trade Program. This would eventually cause a greater cost burden than

---

[11] As noted above, transportation-related GHG emissions have increased, from 37% in 2015, to 39% in 2016. See CARB, *California Greenhouse Gas Emissions for 2000 to 2016, Trends of Emissions and Other Indicators* (July 2018) at 1 (available at https://www.arb.ca.gov/cc/inventory/pubs/reports/2000_2016/ghg_inventory_trends_00-16.pdf); see also Scoping Plan at ES1.

[12] Scoping Plan at ES1.

[13] Scoping Plan at 99.; see also page 101.

anticipated, and it would be borne by all Californians rather than dealt with during the project design phase. Properly-designed local policies, by contrast, may account for GHG emissions of development in a direct way—which furthers the equity objectives of AB 32, complements Cap-and-Trade, and better achieves California's climate goals.

C. There Is No Substantial Evidence Showing that the Project's Transportation and Electricity Related Emissions Would Actually Be Mitigated.

In the face of these substantial difficulties, the RFEIR does not articulate substantial evidence demonstrating a rational connection to the Cap-and-Trade Program – and that connection is badly attenuated, as we have explained. The project developer in this instance is claiming it may do nothing with regard to fuels and electricity, and will rely on reductions other entities may achieve. This is not the tight evidentiary connection required by the Supreme Court and by CEQA, and it is not consistent with the State's GHG reduction programs.

The Final Statement of Reasons (FSOR) prepared when section 15064.4 of the CEQA guidelines, concerning GHGs, was promulgated demonstrates that to properly rely on subsection (b)(3), concerning compliance with statewide programs, a project must demonstrate *with evidence in the record* how the regulations of GHG emissions would actually address the emissions that result from the project. That document states:

> Reading section 15064.4 together with 15064(h)(3), however, to demonstrate consistency with an existing GHG reduction plan, a lead agency would have to show that the plan actually addresses the emissions that would result from the project. *Thus, for example, a subdivision project could not demonstrate consistency with the ARB's Early Action Measures because those measures do not address emissions resulting from a typical housing subdivision*. (ARB, Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California Recommended for Board Consideration, October 2007; see also State CEQA Guidelines, §§ 15063(d)(3) (initial study must be supported with information to support conclusions), 15128 (determination in an EIR that an impact is less than significant must be briefly explained).)[14]

Here, there is no evidence in the RFEIR regarding who is responsible for complying with Cap-and-Trade for all the GHG emissions at issue in this case – and it certainly is not the project itself. The project is a logistics facility, with trucks involved in interstate commerce, and it is not covered by that Program. Indeed, there is no basis for the

---

[14] See Natural Resources Agency, Final Statement of Reasons for Amendments to the State CEQA Guidelines
Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97 (December 2009) at 27 (emphasis added).

RFEIR's conclusion that the fuel for all of the vehicles serving the project would be covered under the Cap-and-Trade regulation, since it is not clear that all of these vehicles would even purchase their fuel in California.

D. The Project Fails to Account for the Duration of the Project Compared to the Duration of the Cap-and-Trade Program.

The RFEIR states the project's buildout year is 2035,[15] yet the GHG analysis seems to stop after 2035. This raises multiple problems for the RFEIR analysis.

First, it is unclear why the analysis stops at buildout, when GHG emissions (and other environmental impacts) would continue into the indefinite future – at their highest levels – once full operations begin. Without further analysis throughout the project's anticipated life (which does not appear to be stated in the RFEIR but, presumably, would be at least 30 years after buildout), the analysis is incomplete and dramatically understates the project's GHG emissions. This also means the project would likely place a much higher burden on the Cap-and-Trade program than disclosed in the RFEIR – a burden that, as described above, is pushed onto all Californians instead of the project developer as a result of the project's failure to mitigate the vast majority of its GHG emissions.

Second, the RFEIR fails to account for, or even consider, the fact that the current Cap-and-Trade regulation extends only to 2030 – which is five years *before* the project's full buildout is achieved. This means that the RFEIR has no plan whatsoever to account for its GHG emissions once the project is fully built out. The RFEIR also does not address the inconsistency between the project's GHG emissions and Executive Order S-03-05, which, among other things, establishes a state GHG reduction target to reduce GHG emissions to 80 percent below 1990 levels by 2050.[16] The California Supreme Court has emphasized the importance of California's GHG targets in selecting appropriate CEQA thresholds.[17] Despite these considerations, there is no substantial evidence in the record to ensure that *any* of the project's post-buildout operational emissions are mitigated by the Cap-and-Trade program.

E. The Project Fails to Include a Backstop In Case Cap-and-Trade is Altered.

---

[15] Revised FEIR at 3-1.
[16] See Governor's Executive Order No. S-03-05 (June 1, 2005) (available at http://static1.squarespace.com/static/549885d4e4b0ba0bff5dc695/t/54d7f1e0e4b0f0798cee3010/1423438304744/California+Executive+Order+S-3-05+(June+2005).pdf); see also Governor's Executive Order No. B-30-15 (April 29, 2015) (available at https://www.gov.ca.gov/2015/04/29/news18938/).
[17] See *Cleveland Nat'l Forest Found. v. San Diego Assn. of Governments* (2017) 3 Cal.5th 497 at 516-519.

In addition to its other evidentiary flaws, the RFEIR does not analyze how the analysis would change, and how the project's significant GHG impacts would be mitigated, if Cap-and-Trade were revised in a way that affects the state's GHG levels. In other words, the RFEIR's approach puts an almost complete reliance on the Cap-and-Trade Program in ways that, if adopted generally, would considerably affect the Program, and then fails to consider the possibility that the Program might change even as the Project continues to exist. This could include, for example, a scenario in which:

- The Cap-and-Trade program ceased to exist, or
- If the scope of the program were limited to exclude fuels and electricity, or
- If the Legislature or other factors required the program to be amended in a way that allows a higher cap.

Rather than anticipating any of these or other potential contingencies and building in an appropriate backstop to ensure the project's GHG emissions are mitigated below significance, the RFEIR instead blindly relies on the current Cap-and-Trade Program, with no further commitments or requirements. As a result, the RFEIR fails to provide substantial evidence supporting its conclusion that the project will result in less than significant GHG emissions, while forwarding an analysis that, if accepted, would make the state significantly less able to address climate change impacts resulting from its built infrastructure.

III. The RFEIR is Inconsistent with CEQA Requirements.

The RFEIR's multiple errors with regard to the Cap-and-Trade Program render it contrary with CEQA law. The RFEIR misapplies the key CEQA Guideline, section 15064.4(b), which provides in pertinent part:[18]

(b) A lead agency should consider the following factors, *among others*, when assessing the significance of impacts from greenhouse gas emissions on the environment:

1. The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
3. The extent to which *the project complies* with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such requirements must be adopted by the relevant public agency through a public review process and

[18] CEQA Guidelines § 15064.4(b) (emphasis added).

> must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. *If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.*

Thus, the CEQA Guidelines focus on project-level compliance and project-level impacts. State programs are available for consideration, but they are not held out as a panacea, for GHGs any more than for any other resource area.

Yet, the RFEIR relies upon subsection (b)(3) of this provision to claim that emissions which are indirectly included under the "cap" created by the Cap-and-Trade Program (referred to in the RFEIR as "capped emissions") need not be analyzed and mitigated under CEQA. This approach would excuse all of the WLC's transportation and electricity related emissions, leaving the project only "on the hook" for analyzing and mitigating a tiny fraction of its emissions. The following sections explain why this approach is legally and factually flawed.

A. Subsection (b)(3) Itself Does Not Allow The Approach Used in the Revised Final EIR.

As noted above, subsection (b)(3) of CEQA Guidelines section 15064.4 can be used as a factor to assess GHG significance when "*the project complies* with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions...." Here, the RFEIR concedes that the project is not subject to the Cap-and-Trade Regulation.[19] This in itself should be sufficient to demonstrate that subsection (b)(3) is inapplicable to the project, as "the project" does not "comply" with Cap-and-Trade at all.

B. The RFEIR's Hybrid Approach Used To Determine Significance Is Not Allowed.

In addition to improperly relying on subsection (b)(3), as described above, the RFEIR improperly attempts to create a "hybrid" significance scheme based on selectively combining subsection (b)(3) with the South Coast Air Quality Management District's (SCAQMD) bright-line threshold. As explained in the RFEIR, a potentially appropriate significance threshold in this case is the SCAQMD's 10,000 metric ton threshold.[20] The problem here is that the RFEIR does not compare the project's GHG emissions against this 10,000 metric ton threshold, and then mitigate those emissions to below that threshold to the extent feasible. Rather, the RFEIR simply subtracts from its emissions quantifications any GHG emissions that it deems to be "capped," and compares only the net "non-capped" emissions against the bright-line threshold.

---

[19] See page 4.7-4.
[20] RFEIR at 4.7-21.

This approach is unsupported in law. Regardless of which threshold applies, CEQA requires lead agencies to "make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project."[21] CEQA then provides that the lead agency must consider "whether *the project emissions* exceed a threshold of significance the lead agency determines applies to the project."[22] Thus, even if subsection (b)(3) properly applied here (which it does not, as explained above), nothing in the CEQA Guidelines allows this hybrid approach of cherry-picking what emissions are applied to an otherwise-applicable bright-line threshold. The City has not even attempted to satisfy its burden of providing such substantial evidence. As noted elsewhere in this letter, Cap-and-Trade does not result in ton-for-ton mitigation of each metric ton covered by the program. Rather, it is a declining market-wide cap designed to achieve certain statewide goals – which, as explained elsewhere in this document, is not designed to mitigate all GHG emissions from land use and logistics facilities.

Because the REFIR fails to properly apply the vast majority of the project's GHG emissions to the applicable bright-line significance threshold, it also fails to mitigate those emissions, as it simply dismisses them as "less than significant". If the full scope of the GHG emissions attributable to the project were compared to the applicable bright-line threshold, the mitigated emissions would still be substantially over the threshold. CEQA requires that the project's significant GHG emissions must be mitigated to the extent feasible. Additional mitigation measures are available to further reduce the project's GHG emissions that were not considered due to the inappropriate exclusion of the majority of project-generated emissions from the analysis.

C. Reliance Upon *AIR v. Kern County* Is Improper.

While the RFEIR provides little support for the GHG significance approach it takes, the briefing for *Paulek* further explains the reasoning behind the project's GHG analysis. In those briefs, attorneys for the developer claim that an unrelated appellate ruling, the *AIR v. Kern County* decision[23] is relevant. That decision concerned CEQA analyses for sources actually covered by the Cap-and-Trade Regulation, but the claim is that it somehow applies not only to GHGs from projects that are directly subject to the Cap-and-Trade Regulation, but also to all transportation and electricity related GHG

---

[21] CEQA Guidelines § 15064.4(a).
[22] CEQA Guidelines § 15064.4(b)(2).
[23] *Association of Irritated Residents v. Kern County Board of Supervisors* (2017) 17 Cal. App. 5th 708. In CARB's view this case was wrongly decided as to the Cap-and-Trade issue, and it is certainly not apposite in this very different context.

emissions, the logic being that those emissions are technically included in the statewide "cap" on emissions. This is incorrect factually, for all the reasons discussed above.

It is also not a controlling case legally. The holding in *AIR v. Kern County* addressed whether it "is appropriate for a lead agency to conclude *a project compliance* [sic] *with the cap-and-trade program* provides a sufficient basis for determining the impact of the project's greenhouse gas emissions will be less than significant."[24] The project at issue in that case was a refinery that was directly subject to the Cap-and-Trade Regulation. The court did not address the broader question of whether *all* GHG emissions from resources that are indirectly covered by Cap-and-Trade, at some undefined upstream point, may be cast aside as less than significant. Here, as noted above, the WLC is *not* subject to the Cap-and-Trade regulation. It therefore does not "comply" with the Cap-and-Trade program, and is distinguishable from the project at issue in *AIR v. Kern County*.

C. Reliance Upon Obscure 2013 Negative Declarations and a Policy Document from Another District Is Similarly Uncompelling.

The RFEIR itself also attempts to justify excluding "capped emissions" from its significance analysis by referencing two seemingly cherry-picked 2013 mitigated negative declarations,[25] and one 2014 guidance document from the San Joaquin Valley Air Pollution Control District (SJVAPCD) titled Policy APR-2025. The RFEIR does not explain why it chose to follow the methodology allegedly used in two obscure mitigated negative declarations and in a 2014 policy document from an air district in a different air basin, rather than following traditional CEQA GHG analysis and mitigation principles. Furthermore, the primary SJVAPCD guidance documents regarding analyzing and mitigating GHG emissions under CEQA make no mention of Policy APR-2025, including the guidance documents relied upon in the *AIR v. Kern County* decision.[26]

To the extent the RFEIR is considering what other air districts have done, it is worth noting that the California Air Pollution Control Officers' Association (CAPCOA) has considered a range of potential CEQA significance thresholds, none of which summarily

---

[24] *AIR v. Kern County* at 743 (emphasis added).
[25] The Revised FEIR only cryptically references these MNDs, without citations or links to the documents, and without any other information explaining the basis for their CEQA significance approach. The RFEIR's failure to include or adequately reference these mitigated negative declarations hampers the public's ability to review and comment on the RFEIR.
[26] See, e.g., *AIR v. Kern County* at 743-744; see also http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf; http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf; and http://www.valleyair.org/Programs/CCAP/12-17-09/3%20CCAP%20-%20FINAL%20LU%20Guidance%20-%20Dec%2017%202009.pdf.

exclude emissions that are indirectly included within the Cap-and-Trade program.[27] While that document was generated in 2008, it makes multiple references to the Cap-and-Trade program, and does not endorse simply subtracting all so-called "capped emissions" from GHG analyses.

D. Even If CEQA Guideline 15064.4(b)(3) Applied Here, The RFEIR Ignores Other Requirements in the CEQA Guidelines.

The sections above provide in-depth analysis regarding why subsection (b)(3) of CEQA Guideline 15064.4 does not allow this project to simply disregard the vast majority of its GHG emissions. Even if that subsection did apply, there are other deficiencies in the RFEIR's GHG analysis that must be addressed.

First, the CEQA Guidelines make clear that an agency cannot focus solely on a single significance consideration while ignoring other evidence or indicators showing potentially significant impacts. For example:

- Section 15064.4(b) states that "[a] lead agency should consider the following factors, *among others*, when assessing the significance of impacts from greenhouse gas emissions on the environment."
- Section 15064.4(b)(3) provides in pertinent part: "If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project."
- Section 15064(h)(3) provides: "If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding that the project complies with the specified plan or mitigation program addressing the cumulative problem, an EIR must be prepared for the project."'

As discussed in depth above, there is evidence in this record showing significant GHG impacts that were not analyzed or mitigated in the RFEIR. CEQA does not allow these impacts to be overlooked, even if the lead agency believes the project's GHG emissions would be less than significant under one particular (and here, improper) significance metric.

IV. Criteria Pollutants and Toxic Emissions Must Still Be Considered

In its 2013 and 2015 comment letters, CARB noted its substantial concerns regarding the project's air pollutant and toxics emissions, and suggested several feasible means of reducing the significant impacts from those emissions. These emissions raise

[27] See CAPCOA, CEQA & Climate Change (January 2008). Available at http://www.capcoa.org/wp-content/uploads/downloads/2010/05/CAPCOA-White-Paper.pdf.

substantial local exposure and environmental justice concerns, as Moreno Valley already suffers from very substantial air pollution exposures. These exposures would likely be worsened without appropriate mitigation measures.[28] CARB incorporates the comments from those letters into this letter by reference, and strongly recommends that the RFEIR be revised to incorporate all mitigation recommended in its 2013 and 2015 comment letters.

V. Conclusion

While the WLC has enormous GHG implications in itself, the attention this project has received, and the recent legal developments in the emerging *AIR v. Kern County* and *Paulek* line of cases, demonstrate that the City's decisions in the RFEIR have implications beyond the WLC project as well. The City should revise its GHG analysis to accurately account for all GHG emissions that would result from the project, apply those emissions against the applicable significance threshold identified in the RFEIR, and adopt feasible mitigation to ensure those emissions would not cause significant impacts, as required by CEQA.

Sincerely,

Richard W. Corey
Executive Officer

[28] On these issues of acute local exposure, especially to roadway emissions, and the importance of fully addressing these sources of risk, see Ann Carlson, *The Clean Air Act's Blind Spot: Microclimates and Hotspot Pollution* (2018) 65 UCLA L. Rev. 1036.

EXHIBIT C

CALIFORNIA
AIR RESOURCES BOARD

Gavin Newsom, Governor
Jared Blumenfeld, CalEPA Secretary
Mary D. Nichols, Chair

January 30, 2020

Albert Armijo, Interim Planning Manager
14177 Frederick Street
Post Office Box 88005
Moreno Valley, California 92552
Phone: (951) 413-3206
Email: alberta@moval.org

Re: World Logistics Center Draft Recirculated Revised Sections of the Final Environmental Impact Report (SCH # 2012021045)

Dear Mr. Armijo:

The California Air Resources Board (CARB) has reviewed the Draft Recirculated Revised Sections of the Final Environmental Impact Report (RRSFEIR) for the World Logistics Center (WLC or Project). CARB appreciates the opportunity to comment on the RRSFEIR, and raises two primary issues with the RRSFEIR in this letter.

1. **The RRSFEIR contains the same flawed GHG analysis as the RFEIR.**

CARB previously reviewed the City's July 2018 Revised Final Environmental Impact Report (RFEIR), and submitted comments regarding the RFEIR on September 7, 2018. As noted in that comment letter, CARB believes the RFEIR's analysis of greenhouse gas (GHG) related impacts does not meet California Environmental Quality Act (CEQA) requirements, as it relies almost entirely on mischaracterizations to reach its less-than-significant impact determination.

Unfortunately, the flaws described in CARB's September 7, 2018 comment letter remain in the RRSFEIR, which continues to rely upon mischaracterizations regarding California's Cap-and-Trade Program to dismiss any serious analysis or mitigation of the Project's GHG emissions. Therefore, as part of its comments on the current draft RRSFEIR, CARB re-submits its September 7, 2018 comment letter (attached to this letter) in its entirety. CARB directs its comments toward both the direct and cumulative impact analysis sections in the RRSFEIR.

2. **The RRSFEIR does not include the new GHG mitigation measures it references.**

The RRSFEIR includes passing references to new GHG-related mitigation measures, particularly measures 4.7.6.1E-1 and 4.7.6.1E-2 (see pages 4.7-20, 6.7-14, and 6.7-20). However, it appears the measures themselves have not been included in the RRSFEIR. Without the ability to review the mitigation measures relied upon by the City in reaching its significance determinations, the public has no way to evaluate the effectiveness of those measures, thwarting CEQA's public disclosure purpose.

Conclusion

Both this comment letter and CARB's September 7, 2018 comment letter set forth substantial deficiencies in the environmental analysis prepared for the WLC project. Given these deficiencies, the City should revise the RRSFEIR to include adequate analysis and mitigation regarding all of the Project's environmental impacts, including GHG, air quality, and cumulative impacts. The City should then re-circulate the document for public review to allow the public to review and comment on the City's revised proposal.

Thank you for your consideration. As always, we welcome any questions from the City regarding ways to adequately analyze and mitigate the Project's GHG emissions.

Sincerely,

Richard W. Corey
Executive Officer

Enclosure: CARB's September 7, 2018 comment letter regarding the WLC RFEIR.

EXHIBIT D

IN THE COURT OF APPEAL OF THE STATE OF CALIFORNIA
FOURTH APPELLATE DISTRICT, DIVISION TWO

ALBERT THOMAS PAULEK, et al., Plaintiffs and Respondents, **v.** **MORENO VALLEY COMMUNITY SERVICES DISTRICT,** et al.**,** Defendants and Appellants. **HF PROPERTIES, et al.,** Real Parties in Interest and Appellants.	Case No. E071184 (Riverside Cty. Super. Ct. No. RIC1510967 MF, RIC1511279, RIC1511327, RIC1511421, & RIC1511195)
LABORERS INTERNATIONAL UNION OF NORTH AMERICA, LOCAL 1184, et al., Plaintiffs and Appellants, **v.** **MORENO VALLEY COMMUNITY SERVICES DISTRICT, et al.**, Defendants and Respondents. **HF PROPERTIES, et al.,** Real Parties in Interest and Respondents.	(Riverside Cty. Super. Ct. No. RIC 1511279 & RIC1511327)

Riverside County Superior Court
The Honorable Sharon J. Waters, Judge

BRIEF OF AMICI CURIAE THE ATTORNEY GENERAL AND THE CALIFORNIA AIR RESOURCES BOARD IN SUPPORT OF PLAINTIFFS AND RESPONDENTS ALBERT THOMAS PAULEK, ET AL. AND PLAINTIFFS AND APPELLANTS LABORERS INTERNATIONAL UNION OF NORTH AMERICA, LOCAL 1184, ET AL.

Counsel listed on next page

XAVIER BECERRA
Attorney General of California
ROBERT W. BYRNE
Senior Assistant Attorney General
EDWARD H. OCHOA
Acting Senior Assistant Attorney General
SARAH E. MORRISON
ANNADEL A. ALMENDRAS
RANDY BARROW
Supervising Deputy Attorneys General
*GWYNNE B. HUNTER (SBN 293241)
MICHAEL S. DORSI
HEATHER C. LESLIE
Deputy Attorneys General
1300 I Street, Suite 125
P.O. Box 944255
Sacramento, CA 94244-2550
(916) 210-7810
Gwynne.Hunter@doj.ca.gov
Attorneys for Amici Xavier Becerra, Attorney General, and the California Air Resources Board

TABLE OF CONTENTS

Page

TABLE OF CONTENTS
(continued)

Page

TABLE OF AUTHORITIES

Page

CASES

TABLE OF AUTHORITIES
(continued)

Page

STATUTES

TABLE OF AUTHORITIES
(continued)

Page

INTRODUCTION

The massive World Logistics Center (Project) will cause approximately 70,000 daily truck trips transporting goods from the ports of Long Beach and Los Angeles to Moreno Valley. (AR 003039, 058605–06.) These vehicle trips will emit hundreds of thousands of metric tons of greenhouse gas (GHG) emissions every year over the life of the Project. (AR 002729.) These GHG emissions, along with emissions from electricity needed to power the more than 40-million-square-foot project, will add to the existing climate pollutant problem, accumulating in the atmosphere and persisting for decades or longer.

Rather than analyzing and mitigating the Project's emissions, lead agency Respondents Moreno Valley Community Services District, *et al.* (Respondents) shirk their responsibility as a local government to address climate change. They improperly rely on CARB's statewide Cap-and-Trade climate program (Cap-and-Trade Program), which does not impose any regulatory requirements on this Project, as an excuse not to analyze and mitigate the Project's climate change impacts. Respondents improperly ignore roughly 95% of the GHG emissions from the Project (AR 002718–19), disregarding the significance of those emissions, avoiding their duty to adopt all feasible mitigation measures, and failing to properly disclose their responsibility for this pollution to the public.

Respondents' approach mischaracterizes the way state climate policies work and violates the California Environmental Quality Act (CEQA). CEQA directs that Respondents take "all action necessary" to protect the environment, recognizing the importance of local action driven through "meaningful" consideration of environmental impacts. (See Pub. Resources Code, §§ 21000, 21001, 21002, 21002.1.) CEQA does not allow Respondents to waive their CEQA obligations by pointing to a regulation that does not bind them (Cal. Code Regs., tit. 14, § 15000 et seq. (CEQA

Guidelines), § 15064.4), and Respondents wholly misconstrue the regulatory scheme they seek to use.

Although Respondents claim their approach is consistent with state climate policy, it is not. (See Plaintiffs/Appellants' Supplemental Request Regarding Judicial Notice, Exhibit 1, California Air Resources Board, California's 2017 Climate Change Scoping Plan (Nov. 2017) (2017 Scoping Plan) at pp. 19 ["Local actions are critical for implementation of California's ambitious climate agenda"], 97–99 [more extensive discussion about the need for local action to achieve California's climate goals]; see also Health & Saf. Code, §§ 38502, subd. (h) [identifying competing priorities to balance in emissions reductions], 38592 [nothing in this division relieves any person, entity, or agency of compliance with other law], 38690 [identifying overlapping automobile emissions policy].) Respondents' approach has been repudiated by CARB, the Attorney General's Office, and the Natural Resources Agency, as contrary to critical state climate goals. The state has long—and expressly—relied on a portfolio of climate change measures, including significant efforts by local governments, to address emissions that result from their land use decisions.

Respondents rely on the Cap-and-Trade Program to excuse their obligation to make better land use decisions. Cap-and-Trade is not intended as a stand-alone climate policy; instead, it assumes steady efforts to reduce emissions across the state. While Cap-and-Trade has an important role to play in limiting emissions from entities like power plants and refineries, the Program does not cover a host of other sources, including warehouses. Although the Program creates financial and legal obligations on fuel suppliers and electricity generators that may ultimately supply this Project, the Project experiences neither the direct legal requirements of the Program nor the full economic costs associated with its additional emissions. If projects were allowed to evade responsibility in

this way, they would steadily increase Cap-and-Trade Program costs upstream, while locking the state into ever-more expensive and inappropriate high-emitting development patterns. This is a recipe for failure in achieving the state's climate goals. To avoid this scenario, the state relies on local governments to limit emissions from new development projects. Emissions from such projects are the responsibility of local governments and should be mitigated through the proper application of CEQA. Eliminating this crucial piece of the state's portfolio approach undermines the state's climate goals.

We have arrived at a crossroads for the future of GHG analysis under CEQA. If Respondents prevail, this case could singlehandedly undo the will of the Legislature by excusing essentially all projects from the obligation to consider GHG impacts from vehicle trips and energy use. This Court should reject Respondents' argument and confirm that all lead agencies must do their part if we are to meet the state's long-term climate stabilization objective.

STATEMENT OF INTERESTS

I. INTEREST OF THE ATTORNEY GENERAL

California has already begun to experience significant adverse impacts from climate change such as "more frequent, more catastrophic and more costly" wildfires, drought, "coastal erosion, disruption of water supply, threats to agriculture, spread of insect-borne diseases, and continuing health threats from air pollution." (2017 Scoping Plan at p. ES2.) As California's chief law enforcement officer, the Attorney General has the independent power and duty to protect the interest of all of California's current and future residents in a clean, health, and safe environment. (See Cal. Const., art. V, § 13; Gov. Code, §§ 12511, 12600–12612; *D'Amico v. Bd. of Medical Examiners* (1974) 11 Cal.3d 1, 15.)

Upholding this duty, the Attorney General has actively encouraged lead agencies to fulfill their CEQA responsibilities as they relate to climate change for well over a decade. (See, e.g., *Cleveland National Forest Foundation v. San Diego Association of Governments* (2017) 3 Cal.5th 497 (*SANDAG*) at p. 519 ["nothing we say today invites regional planners to 'shirk their responsibilities' under CEQA"]; *City of Long Beach v. City of Los Angeles* (2018) 19 Cal.App.5th 465; *People v. County of San Bernardino* (San Bernardino County 2007) No. CIVSS0700329.)

The World Logistics Center, like every large development project, has the potential to either facilitate or hinder the state's achievement of its climate goals. Here, Respondents' unsupported approach to analyzing the Project's GHG emissions has the potential to seriously undermine the overall effort to meet the state's science-based GHG reduction goals for the transportation and land use sectors and to disproportionately affect environmental justice communities.[1] Given these significant interests, the Attorney General submits this amicus brief in support of Appellants,[2] in compliance with rule 8.200(c)(7) of the California Rules of Court in his independent capacity and on behalf of the California Air Resources Board (CARB).

---

[1] The Attorney General opposed this methodology in a comment letter it submitted on the revised sections of the Final EIR for this Project (Revised Final EIR or RFEIR). (Letter re: Revised Sections of the Final Environmental Impact Report for the World Logistics Center Project, Sept. 7, 2018, at: <https://oag.ca.gov/sites/all/files/agweb/pdfs/environment/comments-revised-sections-feir.pdf?>.) The Revised Final EIR is not at issue in this litigation, but it includes the original EIR's same flawed GHG analysis.

[2] This brief is submitted in support of Plaintiffs and Respondents Albert Thomas Paulek, et al. and Plaintiffs and Appellants Laborers International Union of North America, Local 1184, et al.

II. INTEREST OF THE CALIFORNIA AIR RESOURCES BOARD

CARB has a strong interest in participating in this case as amicus curiae. CARB is charged with protecting the public from the harmful effects of air pollution and developing programs and actions to fight climate change. As creator and administrator of the Cap-and-Trade Program, and as the lead agency on the Scoping Plan setting out many of the state's climate policies, CARB is an expert on how the Cap-and-Trade Program was designed to function and interact with other state laws and programs as part of California's portfolio approach to addressing GHG emissions. In their briefing, Respondents misrepresent CARB as effectively endorsing the EIR's approach to GHG analysis. (Combined Respondents' and Cross-Appellants' Opening Brief at pp. 17, 36–38, 47–48, 56, 63.) But CARB has repeatedly made clear it does *not* support Respondents' approach.[3] As explained more fully below, Respondents' arguments regarding GHG analysis are contrary to the construction given to applicable regulations by CARB, and by the Natural Resources Agency, agencies charged with interpreting and enforcing the programs at issue.

BACKGROUND

I. LEGAL BACKGROUND REGARDING CALIFORNIA'S EFFORTS TO COMBAT CLIMATE CHANGE

In 2006, recognizing the importance of combatting climate change and furthering the objectives of Executive Order S-3-05, the Legislature enacted the Global Warming Solutions Act of 2006, commonly known as

[3] CARB also explained this approach when it formally opposed the GHG analysis Respondents rely on here through its comments on the RFEIR for this Project. (Letter re: World Logistics Center Revised Final Environmental Impact Report, Sept. 7, 2018, at: <https://ww3.arb.ca.gov/toxics/ttdceqalist/logisticsfeir.pdf?_ga=2.236813640.855160185.1575908432-1460774677.1564163003>.)

AB 32. (Health & Saf. Code, § 38500, et seq.) AB 32 mandates that, by 2020, California must reduce its total statewide annual GHG emissions to the level they were in 1990, and to 40 percent below that level by 2030. (Health & Saf. Code, §§ 38550, 38566.) This mandate putts the state on a trajectory of significant and continuous GHG emissions reductions through 2050, in order to stabilize the atmospheric levels of GHGs and reduce the risk of dangerous climate change.

Under AB 32, the Legislature tasked CARB with preparing a guidance planning document, known as the Scoping Plan that, while not binding, set out the state's views based on extensive environmental and economic analyses on how policies may be effectively implemented so that California will meet the its ambitious GHG reduction goals. (See Health & Saf. Code, §§ 38561 et seq.) The Scoping Plan emphasizes the need for a multi-pronged emissions reduction approach that can be carried out by many entities and reflects the state's position that it is necessary to reduce emissions at the source and through reductions in demand for energy. (2017 Scoping Plan, pp. 12, 19, 28).

The Scoping Plan includes a suite of regulations, measures, and policies designed to operate together to reduce GHG emissions. The Cap-and-Trade Program is one such policy. Entities that are directly subject to the Cap-and-Trade Program—like power plants, factories, refineries, and electricity generators and importers—must purchase and surrender compliance instruments (e.g., allowances) for their emissions. (See Cal. Code Regs., tit. 17, § 95812.) Downstream emitters such as cars and trucks, much less warehouses that such cars and trucks drive to, are not covered entities under Cap-and-Trade and have no such obligation to purchase or surrender allowances. The existence of the Program, in other words, does not obviate the need for action at other levels of the economy. On the contrary: If sources like the long-lasting development project in this

case build without regard to their emissions, they will increase overall state emissions and hence increase pressure and costs within the Cap-and-Trade Program.

To address the wide range of GHG emissions sources that are not directly controlled through the Cap-and-Trade Program, the state relies on other policies[4]—many of which require collaboration between the state and local governments. Agencies large and small across the state (including, crucially, cities and counties) are responsible for ensuring that proposed new land use plans, transportation projects, and development projects are consistent with evolving scientific knowledge and state regulatory schemes; CEQA is a critical tool for implementing these obligations.[5] (See *SANDAG*, *supra*, 3 Cal.5th at p. 519; see also CEQA Guidelines, § 15064.4, subd. (b).)

The Scoping Plan makes clear that the Cap-and-Trade Program was *not* designed to replace local governments' long-term planning obligations, but rather designed to work in concert with those policies to achieve the

---

[4] See, e.g., Health & Saf. Code, §§ 38561, subd. (e) (requiring CARB to consider "the relative contribution of each source or source category to statewide greenhouse gas emissions"), 43018.5, subd. (a) (requiring CARB to "adopt regulations that achieve the maximum feasible and cost-effective reduction of greenhouse gas emissions from motor vehicles").

[5] For example, CARB provides regional emission reduction targets for local jurisdictions' land use and transportation planning obligations under Senate Bill (SB) 375. (See Health & Saf. Code, § 65080, subd. (b)(2)(A) [known as "The Sustainable Communities and Climate Protection Act"].) CARB also works with regional air pollution control districts and air quality management districts to address emission sources that have both local and global effect, including methane from landfills and hydrofluorocarbons (HFCs), as well as to support state- and federally-mandated permitting of certain industrial sources of GHG emissions. (See California Air Resources Board, California's 2017 Climate Change Scoping Plan (Nov. 2017) pp. 3, 104 <https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf >.)

state's goals. (2017 Scoping Plan at p. 102 ["California's future climate strategy will require increased focus on integrated land use planning"].)

Recent state reports have shown that California's vehicular GHG emissions continue to increase year after year, and CARB has emphasized the need for local action. (See California Air Resources Board, 2018 Progress Report: California's Sustainable Communities and Climate Protection Act (November 2018) at 4.) These increasing emissions demonstrate the crucial need for *more* complementary local action—not less—to ensure the state meets its GHG targets in cost-effective ways.

In light of the state's GHG reduction policies, and CEQA's focus on embedding environmental considerations in local decision-making, the Supreme Court has emphasized that careful CEQA analysis of GHG impacts will be required going forward, as lead agencies must "stay in step" with the evolving science and law related to the state's long-term climate objectives in order to carry out their duties under CEQA. (*SANDAG*, *supra*, 3 Cal.5th at p. 519.)

II. OVERVIEW OF THE GHG ANALYSIS IN RESPONDENTS' EIR

Mischaracterizing the collaborative efforts required to combat climate change and the role of the Cap-and-Trade Program, Respondents' EIR takes a very unusual and troubling approach to addressing the Project's GHG-related impacts.[6] Respondents divide the Project's GHG emissions into two categories, which the EIR terms "capped" and "uncapped." (AR 002719.) What the EIR deems "uncapped" emissions constitute only about 4.6% of the Project's emissions. (*Ibid*.) The "uncapped" category includes comparatively minor landfill emissions caused by waste generated at the

[6] The Attorney General and CARB only address Respondents' inappropriate use of the Cap-and-Trade Program in the GHG analysis of the EIR. This amicus brief is not intended to and should not be construed as an exhaustive discussion of the EIR's compliance with CEQA.

Project and the use of refrigerants at the Project. (*Ibid.*) For these emissions, the EIR follows the approach that would be expected under CEQA: the City of Moreno Valley, in its discretion, designated a significance threshold (in this case, 10,000 metric tons of GHG emissions as recommended by the South Coast Air Quality Management District), compared the "uncapped" emissions to that threshold, and required feasible mitigation measures to ensure those emissions fall below that threshold. (AR 002719, AR 002729.)

What the EIR terms "capped" emissions, however, constitute the remaining 95.4% of the Project's predicted emissions. (AR 002719.) Those include emissions caused by mobile sources (namely, diesel trucks), as well as natural gas and electricity use at the Project. (*Ibid.*) For these emissions, the EIR deviates dramatically from standard CEQA methodology. The EIR asserts these emissions are "covered" by Cap-and-Trade and therefore wholly exempt from any further CEQA analysis or mitigation. (AR 002723.) The EIR does *not* compare the Project's "capped" emissions to the 10,000 metric ton threshold. (AR 002725.) Indeed, after mitigation measures are applied to the Project, the "capped" emissions remain nearly 40 times greater than the significance threshold. (AR 002729.) In forgoing any attempt to decrease the Project's true total emissions to a less-than-significant level, Respondents fail to consider further mitigation measures that could have made this Project more compatible with the state's climate goals. As described below, this approach is unlawful.

ARGUMENT

Respondents avoid disclosing and addressing mitigation for thousands of tons of GHG emissions each year pursuant to the misguided theory that those emissions are addressed by Cap-and-Trade. This argument is founded on misunderstandings of both the Cap-and-Trade Program and

CEQA—both of which require different industries and projects to take responsibility for their own impacts, rather than rely on others for mitigation. Most fundamentally, warehouse projects like the Project are not subject to Cap-and-Trade. Respondents therefore cannot accurately assert that "compliance" with Cap-and-Trade provides any legal basis to avoid analyzing and adequately mitigating the majority of the Project's emissions.

The CEQA Guidelines allow projects to consider regulations "[with] which the project complies" for purposes of considering significance of GHG emissions. (See CEQA Guidelines, § 15064.4, subd. (b)(3).) However, that consideration does not apply here and Respondents' approach, which in effect relies on other entities to undertake Respondents' CEQA mitigation, not only violates both CEQA's legal requirements and public disclosure and mitigation purposes, but also undermines the state climate objectives Cap-and-Trade is intended to further. Cap-and-Trade is designed to act in tandem with—not in spite of—critical tools like local land use planning to reduce GHG emissions. If allowed for Respondents and adopted by other local jurisdictions, such abdication by local governments would dramatically hinder the state's ability to achieve its legislatively mandated long-term climate stabilization objectives and forgo pollution reduction co-benefits from GHG mitigation measures that are vital for environmental justice communities.

The Resources Agency agrees with CARB that "to demonstrate consistency with an existing GHG reduction plan, a lead agency would have to show that the plan actually addresses the emissions that would result from the project." (See California Natural Resources Agency, Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB 97 (2009),

<http://resources.ca.gov/ceqa/docs/Final_Statement_of_Reasons.pdf>, at p. 27.)

I. WAREHOUSE AND LOGISTICS PROJECTS ARE NOT REGULATED BY CAP-AND-TRADE AND THEIR EMISSIONS MUST STILL BE MITIGATED BY LOCAL GOVERNMENTS

Warehouse and logistics complexes are not regulated by Cap-and-Trade. The Cap-and-Trade Program thus provides no legal or policy basis for Respondents to avoid their obligation to evaluate and mitigate GHG emissions. Cap-and-Trade applies "an aggregate greenhouse gas allowance budget [to] *covered entities* and provides a trading mechanism for" such allowances. (Cal. Code Regs., tit. 17, § 95801 (emphasis added).) Respondents seek to use Cap-and-Trade to zero-out and excuse the application of feasible mitigation measures to over 95% of all GHG emissions from the Project. Cap-and-Trade applies only to expressly identified entities ("covered entities") such as cement producers, petroleum refiners, electricity generators, natural gas suppliers, fuel importers, and liquid petroleum gas suppliers. (Cal. Code Regs., tit. 17, § 95811.) Warehouse and logistics complexes are *not* covered entities. Cap-and-Trade compliance instruments do not factor in *whatsoever* because this Project is not covered by Cap-and-Trade.

The mere fact that warehouse and logistics complexes are in the chain of commerce with covered entities does not transform them into covered entities themselves. As an example, although the operator of a refinery that produces gasoline in California is subject to Cap-and-Trade, (Cal. Code Regs., tit. 17, § 95811, subd. (e)(1)), entities downstream from that refinery in the chain of commerce are not. The refinery itself may have compliance obligations under the Cap-and-Trade Program, which can be met by reducing the refinery's own GHG emissions or surrendering allowances, but the gas station that resells the gas, the truck drivers who purchase it, and

the warehouses to which the trucks drive do not have compliance obligations. Under the state's portfolio approach, while the refinery may have met some or all of its climate obligations via Cap-and-Trade, the downstream entities have not. Because warehouses receive no set price or regulatory signals from Cap-and-Trade, they are not being directly incentivized to reduce emissions. Instead, other components of the state's portfolio address those emissions. Nothing in Cap-and-Trade explicitly or impliedly repealed the use of other measures to address climate change; they were designed to work together. (See, e.g., 2017 Scoping Plan at p. 28.) Local governments must responsibly plan new development to further the state's climate goals.

II. ALLOWING RESPONDENTS' UNTENABLE APPROACH TO GHG ANALYSIS WOULD HAVE SIGNIFICANT, NEGATIVE STATEWIDE CONSEQUENCES

If Respondents' approach to GHG analysis is endorsed, other lead agencies will undoubtedly follow this approach, and emissions from the transportation and land use sectors will be largely omitted from analysis and mitigation under CEQA. Widespread adoption of this approach would: (1) place the entire burden of California's well-established, long-term land-use related GHG reduction goals on Cap-and-Trade, thereby straining the program beyond its intended purpose and (2) expose already burdened communities in the state to greater amounts of GHG emissions and co-pollutants that accompany GHG emissions, such as diesel particulate matter and nitrogen oxides.

A. Respondents' GHG analysis undermines California's GHG reduction goals

As explained above, the Cap-and-Trade Program is just one part of a suite of complementary measures designed to achieve California's ambitious GHG reduction and climate stabilization objectives. Cap-and-

Trade provides no legal basis for Respondents to avoid local governments' obligations as lead agencies under CEQA to evaluate and mitigate GHG emissions from a project that the Cap-and-Trade Program does not even cover.

While any one policy may be insufficient or at risk of circumvention, the suite of policies work in concert toward the state's goals.[7,8] This overlap is by design, and makes the suite of policies more resilient to changed circumstances, enforcement problems, and legal challenges. The upstream Cap-and-Trade Program thus works in tandem with downstream choices, including planning choices, to ensure both that total emissions decline and that projects throughout the state are designed to avoid putting undue upstream pressure on emissions or control costs. Weakening one policy because another policy might address it runs contrary to this approach.

---

[7] See 2017 Scoping Plan, *supra*, pp. ES7–8, 10, 22, 97; cf. Elinor Ostrom, A Polycentric Approach for Coping with Climate Change (2014) 15 Annals Econ. & Fin. 97, 123 <https://perma.cc/YSF4-B7N8> (Nobel laureate describing an ideal policy approach to climate change as "Complex, Multi-Level Systems to Cope with a Complex, Multi-Level Problem"); Amir Bazaz, et al., Global Covenant of Mayors, Summary for Urban Policymakers: What the IPCC Special Report on Global Warming of 1.5.°C Means for Cities (Dec. 2018) pp. 22–23 <https://perma.cc/R37B-3WDD> (identifying interaction between sources of governance and importance of incentives beyond financial consequences at the community level).

[8] Complementary measures are also important in light of the risk to any one measure posed by litigation. Private parties and the federal government have challenged California's GHG reduction policies, including aspects of the Cap-and-Trade Program. California's GHG vehicle emissions regulatory authority is currently also under challenge. The wisdom of the portfolio approach endorsed by the Scoping Plan is to ensure that the state's efforts continue via many channels, rather than relying on any one potentially challenged measure.

If other lead agencies adopt Respondents' approach to GHG analysis under CEQA, their development projects would produce millions of metric tons of GHG emissions that would go unmitigated through what amounts to an unauthorized categorical exemption from CEQA. The economic analyses and feasibility of achieving the state's legislatively mandated goals in the Scoping Plan account for all policies working in tandem. If any one policy fails to deliver reductions, this would put strain on the Cap-and-Trade Program to deliver more reductions than anticipated and at higher costs.

Respondents' failure to account for the significance of the Project's GHG emissions from transportation is particularly troubling in light of the fact that the transportation sector accounts for over 35% of the state's total GHG emissions and these emissions continue to rise. (2017 Scoping Plan, *supra*, pp. ES1, 11 [charts of emissions by source]; see also California Air Resources Board, 2018 Progress Report: California's Sustainable Communities and Climate Protection Act (November 2018) at 4.) As the California Supreme Court noted, "transportation emissions are affected by the location and density of residential and commercial development, the Scoping Plan does not propose statewide regulation of land use planning but *relies instead on local governments*." (*Center for Biological Diversity v. Department of Fish and Wildlife* (2015) 62 Cal.4th 204, 230; emphasis added.) Local governments thus play a unique role in decreasing GHG emissions from the transportation sector.

Respondents contend that because statewide emissions are capped under the Cap-and-Trade Program, the amount of emissions from "capped" sources will be the same with or without their Project, but this claim ignores both their obligations under CEQA to disclose and mitigate their emissions and the intended design of the Cap-and-Trade Program. (See

Combined Respondents' and Cross-Appellants' Opening Brief at pp. 48–49.)

Cap-and-Trade is not a program designed to reduce emissions from local government actions, or land use; instead, it was designed on the assumption that local actors would simultaneously work to reduce emissions within their spheres. Cap-and-Trade alone was designed to account for less than 40% of the total emissions reductions needed to achieve California's 2030 climate goals, and on the explicit assumption that local design choices would continue to reduce overall emissions (and hence economy-wide costs in the Cap-and-Trade Program). (2017 Scoping Plan at p. 28.) Indeed, relying entirely on the Cap-and-Trade Program to address land use would produce a mismatch that would strain the Program by functionally increasing demand for emissions reductions as unregulated entities displace their obligations onto the Program rather than taking action themselves, raising compliance costs for covered entities across all sectors and all consumers across the state at all income levels. California's portfolio approach was designed to meet AB 32's requirement that "greenhouse gas emissions reduction activities . . . adopted and implemented by [CARB] are complementary, nonduplicative, and can be implemented in an efficient and cost-effective manner." (Cal. Health & Saf. Code, § 38561.) By taking a portfolio approach, the state has recognized that taking GHG action in specific sectors ensures that we achieve our broader climate and energy demand reduction goals. (See 2017 Scoping Plan at pp. 2, 24, 100 [describing Governor Brown's five key climate change strategy "pillars"].) Ultimately, cost increases could make the Cap-and-Trade Program less effective as a key part of the suite of California's climate policies.

In sum, Respondents' position is fundamentally inconsistent with the state's approach to climate change, and so disregards significant emissions

that should properly be addressed under CEQA, not an unrelated emissions program like Cap-and-Trade. Moreover, Respondents' approach would allow similar emissions from other projects that would follow its lead. (See Part III(A), *infra*.) The majority of land use projects are, like this Project, not covered by the Cap-and-Trade Program. Freight alone is an enormous industry; over 1.5 billion tons of freight were moved in California during 2015. (*Id*. at p. 73.) And other types of projects such as residential developments or agricultural enterprises may seek to invoke precedent created by this case. Thus, even if the Project standing alone does not excessively strain the Cap-and-Trade system, the collective weight of new projects failing to address GHG emissions in the CEQA process would.

B. Respondents' GHG analysis prevents co-pollutant reduction measures necessary to protect California's environmental justice communities

Permitting massive land development projects without requiring the necessary mitigation measures to decrease project emissions will also harm California's environmental justice communities—those already suffering from the worst environmental pollution in the state. The census tract the Project will be built in is ranked in the 75th to 80th percentile of census tracts in California in terms of greatest pollution burden indicators and health and vulnerability factors for population characteristic indicators. (CalEnviroScreen 3.0 for Census Tract 6065042624, Office of Environmental Health Hazard Assessment, last visited November 27, 2019 <https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30>.) Even without the Project, residents of this census tract already experience ozone, the main ingredient of smog, at a rate higher than 98% of the rest of California. (*Ibid.*) Relatedly, these residents also experience cardiovascular disease, which can result from exposure to air pollution, at a rate higher than 95% of the state. (*Ibid.*)

Considering additional mitigation properly may have resulted in additional zero-emissions technologies used for the Project, including, perhaps, from its trucks, as many commenters recommended. If such measures are not considered from this Project and other future projects like it are not mitigated, Moreno Valley and communities throughout the state will likely continue to suffer from worse air pollution. (See Nicky Sheats, *Achieving Emissions Reductions for Environmental Justice Communities Through Climate Change Mitigation Policy* (2017) 41 WM. & MARY ENVTL. L. & POL'Y REV. 377, 387 ["[E]ven without the intentional maximization of co-pollutant reduction, there should be incidental co-pollutant reductions as GHGs are being reduced [which] should improve the health of local communities."]; see also Scoping Plan at p. 74 ["Air pollution from tailpipe emissions contributes to respiratory ailments, cardiovascular disease, and early death, with disproportionate impacts on vulnerable populations such as children, the elderly, those with existing health conditions . . . , low income communities, and communities of color."].)

III. RESPONDENTS' EIR VIOLATES CEQA

As explained above, the EIR's approach to GHG analysis misrepresents the Cap-and-Trade Program and the Project's place in that scheme. As a result, the EIR takes an unsupportable approach to evaluating the significance of GHG emissions from the Project. Contrary to CEQA's focus on information disclosure and local responsibility for mitigation, the EIR ignores the vast majority of the Project's emissions, and, in a misleading analysis, compares only a small fraction of the Project's emissions to the applicable significance threshold. This flawed analysis leads the EIR to conclude that the impact from GHG emissions would be mitigated to a less-than-significant level, misleading the public and shirking mitigation responsibilities. Even if the Cap-and-Trade Program directly

applied to the Project's emissions (it does not since, as explained above, this Project is not a covered entity under the Program), this method of evaluating a project's significance *after* taking into account purported "mitigation" or impact-reducing components is not allowed by CEQA. As a result of its flawed analysis, the EIR fails to adopt all feasible mitigation measures and subverts CEQA's important political function of ensuring informed decision making and informed public participation.

The EIR's approach to GHG analysis fails on multiple levels. Perhaps most critically, in addition to pointing to "compliance" with a regulation that simply does not cover the Project to excuse mitigation, the EIR focuses on a single significance consideration while ignoring other evidence showing potentially significant impacts. CEQA does not allow clearly significant GHG impacts to be overlooked, even if a lead agency believes those impacts are considered less than significant under one particular metric. (See, e.g., *Oro Fino Gold Mining Corp. v. County of El Dorado* (1990) 225 Cal.App.3d 872, 274 [citizens' personal observations about the significance of noise impacts on their community constituted substantial evidence that the impact may be significant and should be assessed in an EIR, even though the noise levels did not exceed general planning standards]; accord *SANDAG*, *supra*, 3 Cal.5th at p. 515 ["An adequate description of adverse environmental effects is necessary to inform the critical discussion of mitigation measures and project alternatives at the core of the EIR"].) This failure to address potentially significant impacts not only minimizes the Project's significant impacts, but also warps the evaluation of whether the Project's contribution to GHG emissions is a cumulatively considerable impact. (CEQA Guidelines, § 15064.) The cumulative effect of dozens of similar warehouse projects in the Moreno Valley area could—and almost certainly will—be significant.

A. The EIR improperly applies CEQA Guidelines Section 15064.4 to determine the significance of the Project's GHG emissions.

The Resources Agency, the state's expert on CEQA, has rejected the approach of using purported "compliance" with an inapplicable program to mitigate emissions. (Final Statement of Reasons for the CEQA Guidelines Amendments (2018) at p. 27 ["a subdivision project could not demonstrate 'consistency' with [CARB's] Early Action Measures because those measures do not address emissions resulting from a typical housing subdivision"].)

The EIR misapplies CEQA Guidelines section 15064.4, which offers multiple factors a lead agency should consider in assessing the significance of impacts from GHG emissions. That Guideline provides, in pertinent part:

> (b) A lead agency should consider the following factors, *among others,* when assessing the significance of impacts from greenhouse gas emissions on the environment:
>
> (1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;
>
> (2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
>
> (3) The extent to which *the project complies* with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a *particular project* are still cumulatively considerable notwithstanding compliance with the adopted

> regulations or requirements, an EIR must be prepared for the project.[9]

(CEQA Guidelines, § 15064.4, subd. (b), italics added.)

As reflected in subdivision (b)(3), compliance with "regulations or requirements adopted to implement a statewide, regional, or local plan" can factor into the assessment of GHG significance, but only when *the project complies* with those regulations or requirements. Yet, the EIR relies upon subsection (b)(3) to claim that emissions for which upstream suppliers surrendered allowances need not be analyzed and mitigated under CEQA. This approach excuses all of the Project's transportation- and electricity-related emissions, thus requiring analysis and mitigation of only a tiny fraction of the Project's emissions.

---

[9] The 2018 update to the CEQA Guidelines added the following language:

(b) In determining the significance of a project's greenhouse gas emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. The agency's analysis should consider a timeframe that is appropriate for the project. The agency's analysis also must reasonably reflect evolving scientific knowledge and state regulatory schemes.

(b)(3) . . . In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change.

(c) A lead agency may use a model or methodology to estimate greenhouse gas emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use.

Respondents' application of subdivision (b)(3) to this Project is wrong. Because the Project is not a covered entity under the Cap-and-Trade Program, subsection (b)(3) is inapplicable, as the project cannot "comply" with Cap-and-Trade at all. Moreover, as discussed above, such "compliance" would undermine Cap-and-Trade's purposes if adopted as a CEQA approach, not serve the environmental goals both AB 32 and CEQA set out to deliver.

B. The EIR failed to apply the SCAQMD's GHG emissions threshold to *all* of the Projects' GHG emissions.

The EIR takes an impermissible approach of applying the Cap-and-Trade Program to ostensibly reduce the Project's emissions significantly, then comparing only that reduced quantity to the bright-line significance threshold. This approach is not supported in law.[10]

CEQA requires lead agencies to "make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project." (CEQA Guidelines, § 15064.4.) CEQA then provides that the lead agency must consider "whether *the project emissions* exceed a threshold of significance the lead agency determines applies to the project." (*Id.* at subd. (b)(2).) As explained in the EIR, a potentially appropriate

---

[10] The EIR also attempts to justify excluding "capped emissions" from its significance analysis by referencing two seemingly cherry-picked 2013 mitigated negative declarations from other lead agencies, and one 2014 guidance document from the San Joaquin Valley Air Pollution Control District (SJVAPCD). (EIR 4.7-33.) The EIR does not explain why it chose to follow the methodology allegedly used in two obscure mitigated negative declarations and in a policy document from an air district in a different air basin, rather than following traditional CEQA GHG analysis and mitigation principles. These irrelevant, project-specific documents do not constitute substantial evidence supporting Respondents' argument.

significance threshold in this case is the South Coast Air Quality Management District's (SCAQMD) SCAQMD's 10,000 metric ton limit.[11] (EIR at p. 4.7-32.)

The problem here is that the EIR does not compare the Project's total GHG emissions against this 10,000 metric ton threshold, and then mitigate those emissions to below that threshold to the extent feasible. Instead, the EIR simply subtracts from the total any GHG emissions it deems to be "capped," and compares only the few "non-capped" emissions to the bright-line threshold. Because the EIR only compares a small fraction of the Project's GHG emissions to the applicable bright-line significance threshold, it only requires relatively minor mitigation measures to reduce the Project's emissions to what the EIR considers "less than significant." (EIR at pp. 1-55–57.)

Respondents' approach improperly applies so-called "mitigation" (the Cap-and-Trade Program) *before* comparing GHG emissions to the significance threshold. By combining impacts and mitigation analyses, it is unclear how the purported mitigation reduces impacts. This approach was rejected in *Lotus v. Dept. of Transportation* (2014) 223 Cal.App.4th 645, where the court stated:

> The failure of the EIR to separately identify and analyze the significance of the impacts . . . before proposing mitigation measures is not merely a harmless procedural failing. . . . [T]his shortcutting of CEQA requirements subverts the purposes of CEQA by omitting material necessary to informed decisionmaking and informed public participation. It precludes both identification of potential

[11] It is worth noting that the Scoping Plans are not binding as to any particular CEQA methodology, or as to land use planning generally, and do not require use of any particular significance threshold. They are guidance documents; individual land use authorities can and do depart from particular suggestions in them if they have appropriate reasons to do so. The issue in this case, however, is that the Cap-and-Trade program does *not* provide such an appropriate reason.

> environmental consequences arising from the project and also thoughtful analysis of the sufficiency of measures to mitigate those consequences. The deficiency cannot be considered harmless.

(*Id.* at p. 658.)

Furthermore, if the full scope of the GHG emissions attributable to the Project were compared to the applicable bright line threshold, the emissions, as mitigated, would still be substantially over the threshold—and would therefore require consideration of additional mitigation measures. (See EIR, pp. 4.7-35–36.)

Applying appropriate mitigation measures to reduce the so-called "capped" emissions would not "result in double counting and double mitigating emissions that are already mitigated through cap-and-trade" as Respondents assert. (Combined Respondents' and Cross-Appellants' Opening Brief at p. 57.) Gesturing towards Cap-and-Trade regulated entities is not proper mitigation because Cap-and-Trade does not apply to this Project in any way, and the Project itself has ample mitigation opportunities onsite. To mitigate this Project's GHG emissions, Respondents would have to address emissions from mobile sources, which account for over 70% of the Project's total emissions (which again are nearly 40 times greater than the significance threshold). (AR002729.) To reduce these emissions, fewer trucks could drive from the Project to the Ports of Long Beach and Los Angeles every day, the Project could be built closer to the ports, the Project could require more zero emission vehicles be used or provide charging equipment or incentives to encourage their use, or any number of other meaningful mitigation measures. But Cap-and-Trade does not require any of this. Such measures are instead included by local governments in local land use projects to ensure approved project impacts fall below significance thresholds. By never counting the "capped" emissions toward the significance threshold, there is *no* counting and *no*

project-level mitigation of hundreds of thousands of tons of yearly GHG emissions from this Project.

C. Respondents fail to consider the long-term GHG impacts of the Project.

The Supreme Court has made clear that an EIR should consider a project's long-term GHG impacts, and should address whether the project as a whole is in accord with the state's climate goals. (*Cleveland National Forest Foundation v. San Diego Association of Governments* (2017) 3 Cal.5th 497 (*SANDAG*) at p. 515.)[12] The state's climate change goals extend beyond 2030. (See, e.g., Executive Order S-03-05 [established a statewide target of reducing GHG emissions to 80 percent below 1990 levels by 2050].) Because the Project is expected to operate for decades into the future, Respondents must account for emissions beyond 2030. But Respondents fail to account for emissions beyond that point—despite the fact that the Project's full operation will not start until *five years later*, in 2035. (EIR at p. 4.3-61.) Respondents present no substantial evidence that any of the Project's post-buildout operational emissions are mitigated by the Cap-and-Trade Program. (See, e.g., EIR, pp. 4.7-36–37 [stating, without citation, that "[s]ome of the project's GHG emissions are subject to the requirements of the AB 32 Cap and Trade Program and will have a GHG allocation based on current GHG emissions levels"].) This is not an adequate CEQA analysis. (See *Oakland Heritage Alliance v. City of Oakland* (2011) 195 Cal.App.4th 884, 904 [EIR must contain substantial evidence that mitigation measures will reduce associated impacts to less-

[12] The parties in *AIR v. Kern* did not have the opportunity to brief the significance of *SANDAG* because the California Supreme Court filed its opinion in *SANDAG* over a month after the close of briefing in *AIR v. Kern*. It appears to amici that this is the first case at the California Court of Appeal where parties have had the opportunity to address both *SANDAG* and *AIR v. Kern* in their briefs.

than-significant-levels, such as by requiring compliance with applicable regulatory standards and preparation of site-specific studies]; Cal. Code Regs. tit. 14, § 15370, subd. (d) ["mitigation" includes "[r]educing or eliminating the impact over time by preservation and maintenance operations during the life of the action"].)

D. Reliance on *AIR v. Kern County* is improper.

Respondents incorrectly claim the Fifth Appellate District's decision in *Association of Irritated Residents v. Kern County Bd. of Supervisors* (2017) 17 Cal.App.5th 708 (*AIR*) upheld the use of the same GHG methodology as Respondents attempt to use here. (Combined Respondents' and Cross-Appellants' Opening Brief at p. 53.) Respondents' use of the Cap-and-Trade Program here goes far beyond what was sanctioned in *AIR*. In *AIR*, the project being evaluated under CEQA was a refinery, a *covered entity* under Cap-and-Trade. The court held a lead agency was authorized "to determine that a project's greenhouse gas emissions will have a less than significant effect on the environment based on *the project's* compliance with the cap-and-trade program." (*Id.* at p. 718; italics added.) Regardless of whether or not *AIR* was rightly decided, *here*, the question is much simpler and different from the question before the court in *AIR*. Here, it is undisputed that the Project is *not* a covered entity required to comply with the Cap-and-Trade Program. (Cal. Code Regs., tit. 17, § 95811.) Accordingly, this Court need only decide if projects that are *not* covered entities under Cap-and-Trade are nonetheless allowed to use the program to ignore significant GHG emissions they cause. The answer to that question is no.

Respondents argue the distinction between covered and non-covered entities is "a distinction without a difference." (Combined Respondents' and Cross-Appellants' Opening Brief at p. 63.) Respondents are incorrect.

This distinction is crucial under CEQA and vital to the success of California's ambitious climate policies.

From a CEQA perspective, the distinction is important because CEQA Guidelines section 15064.4, subdivision (b)(3) instructs lead agencies to consider the extent to which *a project* complies with GHG regulations or requirements. It is thus inappropriate for entities downstream in the chain of commerce from a covered entity to rely upon compliance with the Cap-and-Trade Program as a basis for avoiding analysis of project-related emissions.

From a policy perspective, as described above, the distinction is crucial because projects that are not subject to the Cap-and-Trade Program do not have the same direct incentives to reduce their GHG emissions as covered facilities, and Cap-and-Trade alone is not designed to achieve California's ambitious climate goals. The distinction between covered and not-covered entities is thus crucial to the portfolio of climate change measures the state is relying on to protect our citizens going forward.

E. Respondents' GHG analysis obfuscates the climate change impacts of this Project, undermining CEQA's public disclosure purpose.

By failing to comply with CEQA Guidelines Section 15064.4, failing to compare all of the Project's emissions to the GHG emissions threshold, and failing to consider the long-term GHG impacts of the Project, Respondents' analysis undermines the informational purpose of CEQA. The purpose of an EIR "is to inform the public generally of the environmental impact of a proposed project." (Cal. Code Regs. tit. 14, § 15003, subd. (c).)

CEQA prohibits public agencies from approving or carrying out a project that will have significant effects on the environment unless the agency makes "findings" demonstrating either that it made changes to the

project to avoid or mitigate those significant impacts, or that certain overriding considerations outweigh the impact. (Pub. Resources Code, § 21081.) Without a full and accurate disclosure of the Project's impacts, Respondents erroneously concluded that the GHG impact would be less-than-significant, and thereby avoided making the subsequent findings that would inform the public whether the Project's significant impacts are unavoidable and/or justified. Additionally, Respondents' approach hinders the public's ability to submit informed comments during the EIR's public comment period—aside from addressing the *lack* of analysis—because the public is not provided with, and thus cannot evaluate, complete information or proper CEQA analysis.

CONCLUSION

California is striving on all fronts to meet its ambitious, long-term GHG reduction objectives; the health of its citizens and the environment depend on it. But this Court's approval of Respondents' approach to GHG analysis and mitigation would treat the Cap-and-Trade Program as the sole remedy to limit GHG emissions from land-use projects, placing unnecessary strain on Cap-and-Trade's cost-effectiveness and seriously undermining the state's critical climate change efforts. Amici respectfully request this Court reject the trial court's holding and find in favor of Appellants as to GHG analysis.

Dated: January 10, 2020

Respectfully submitted,

XAVIER BECERRA
Attorney General of California
ROBERT W. BYRNE
Senior Assistant Attorney General
EDWARD H. OCHOA
Acting Senior Assistant Attorney General
ANNADEL ALMENDRAS
RANDY BARROW
SARAH E. MORRISON
Supervising Deputy Attorneys General

/s/ Gwynne B. Hunter

*GWYNNE B. HUNTER
MICHAEL S. DORSI
HEATHER C. LESLIE
Deputy Attorneys General
Attorneys for Xavier Becerra, Attorney General and the California Air Resources Board

CERTIFICATE OF COMPLIANCE

I certify that the attached Brief of Amici Curiae the Attorney General and the California Air Resources Board in Support of Plaintiffs and Respondents Albert Thomas Paulek, *et al*. and Plaintiffs and Appellants Laborers International Union of North America, Local 1184, *et al*. uses a 13 point Times New Roman font and contains 7,647 words.

Dated: January 10, 2020

XAVIER BECERRA
Attorney General of California

/s/ Gwynne B. Hunter

*GWYNNE B. HUNTER
MICHAEL S. DORSI
HEATHER C. LESLIE
Deputy Attorneys General
Attorneys for Xavier Becerra, Attorney General and the California Air Resources Board

DECLARATION OF ELECTRONIC SERVICE VIA TRUEFILING

Case Name: **PAULEK, ET AL., V. MORENO VALLEY COMMUNITY SERVICES DISTRICT, ET AL., California Court of Appeal, Fourth Appellate District, (Amicus Brief)**
No.: **E071184**

I declare:

I am employed in the Office of the Attorney General, which is the office of a member of the California State Bar, at which member's direction this service is made. I am 18 years of age or older and not a party to this matter. I am familiar with the business practice at the Office of the Attorney General. Correspondence that is submitted electronically is transmitted using the TrueFiling electronic filing system. Participants who are registered with TrueFiling will be served electronically.

On January 10, 2020, I electronically served the attached:

BRIEF OF AMICI CURIAE THE ATTORNEY GENERAL AND THE CALIFORNIA AIR RESOURCES BOARD IN SUPPORT OF PLAINTIFFS AND RESPONDENTS ALBERT THOMAS PAULEK, ET AL. AND PLAINTIFFS AND APPELLANTS LABORERS INTERNATIONAL UNION OF NORTH AMERICA, LOCAL 1184, ET AL.

by transmitting a true copy via this Court's TrueFiling system to the parties as follows:

SEE ATTACHED SERVICE LIST

I declare under penalty of perjury under the laws of the State of California the foregoing is true and correct and that this declaration was executed on January 10, 2020, at Sacramento, California.

PAULA CORRAL	/s/ Paula Corral
Declarant	Signature

SA2019105249

SERVICE LIST

TRUEFILING SERVICE LIST

Attorneys for Respondents City of Moreno Valley and Moreno Valley Community Services District: Martin D. Koczanowicz Office of the City Attorney 14177 Frederick Street Moreno Valley, CA 92552 E-mail: Martink@moval.org	**Attorneys for Real Parties in Interest and Defendants HF Properties, Sunnymead Properties, Theodore Properties Partners, 13451 Theodore, LLC and HL Property Partners:** Kenneth B. Bley Cox, Castle & Nicholson LLP 2029 Century Park E., Suite 2100 Los Angeles, CA 90067 E-mail: kbley@coxcastle.com
Attorneys for Petitioner/Plaintiff Socal Environmental Justice Alliance: Craig M. Collins, Esq. Gary Ho, Esq. Blum Collins, LLP 707 Wilshire Blvd., Ste. 4880 Los Angeles, CA 90017 E-mail: Collins@blumcollins.com Ho@blumcollins.com	**Attorneys for Petitioner/Plaintiff Albert Thomas Paulek; Friends of the Northern San Jacinto Valley:** Susan Nash, Esq. Law Offices of Susan Nash P.O. Box 4036 Idyllwild, CA 92549 E-mail: snash22@earthlink.net

Attorneys for Petitioner/Plaintiff Residents for a Livable Moreno Valley: Abigail A. Smith, Esq. Law Offices of Abigail Smith 1466 Frazee Road, Ste. 500 San Diego, CA 92108 E-mail: abby@socalceqa.com	**Attorneys for Petitioner South Coast Air Quality Management District:** Kurt R. Wiese, General Counsel Barbara Baird, Chief Dep. Counsel Veera Tyagi, Senior Dep. General Counsel South Coast Air Quality Management District 21865 Copley Drive Diamond Bar, CA 91765 E-mail: kwiese@aqmd.gov bbaird@aqmd.gov vtyagi@aqmd.gov
Attorneys for Petitioners/Plaintiffs Center for Community Action and Environmental Justice, Center for Biological Diversity, Coalition for Clean Air, Sierra Club, San Bernardino Valley Audubon Society: Adriano L. Martinez, Esq. Oscar Espino-Padron, Esq. Earthjustice 707 Wilshire Blvd., Ste. 4300 Los Angeles, CA 90017 E-mail: amartinez@earthjustice.org oespino-padron@earthjustice.org	**Attorneys for Plaintiff, Appellant and Cross-Respondent Laborers' International Union North America Local 1184:** Richard T. Drury Brian Flynn Lozeau Drury LLP 1939 Harrison St., #150 Oakland, CA 94612 E-mail: Richard@lozeaudrury.com Brian@lozeaudrury.com