

# Habitat Connectivity and Wildlife Corridor Stakeholder Meeting

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VENTURA COUNTY PLANNING DIVISION

AUGUST 8, 2017

# Agenda

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- Introductions, Meeting Goal, and Format
- Review of Project Objectives
- Topic Discussions
  - Direct Barriers - Fencing
  - Indirect Barriers - Lighting
  - Habitat Fragmentation/Vegetation Removal
  - Chokepoints
- Wrap-up and Next Steps

# Meeting Goal

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- **Primary goal is to get feedback from all parties**
  - Property owners (including growers and ranchers), environmental advocates, cities, regulators, oil/gas operators, and other interested stakeholders
- What ideas sound feasible or infeasible?
- What do we need to know and understand about your operation?
- What ideas do you have that can help meet project objectives?

# Meeting Format and Logistics

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- Staff will provide summary of each topic area, followed by discussion
  - To assist notetaker, please state your name and organization before you share your comment
- A time-keeper will notify the group when 5 minutes remain for each topic discussion

# Project Purpose and Intent

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**The purpose** of the project is to preserve and enhance habitat connectivity.

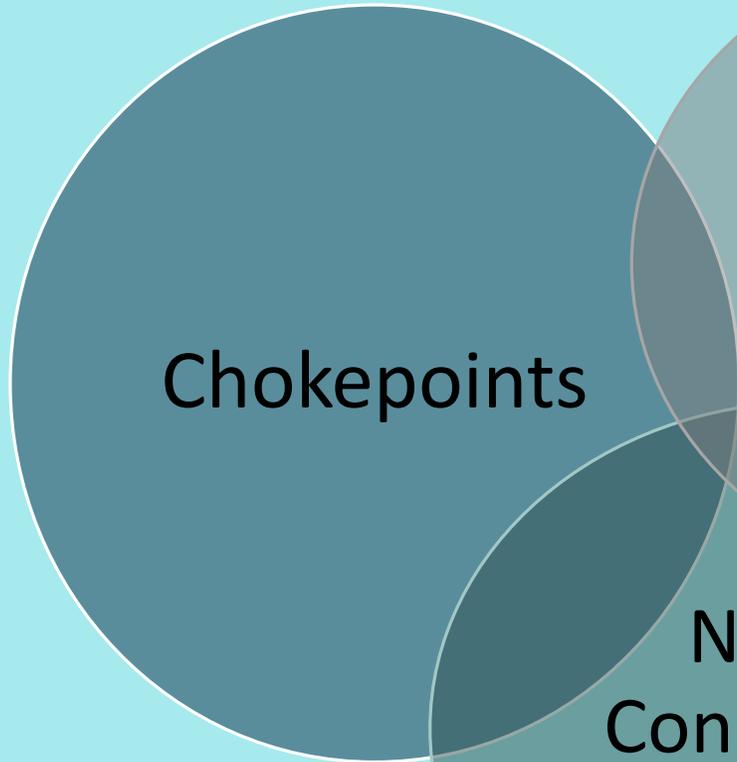
**The intent** of the project is to ensure that development is designed and constructed to allow native wildlife and plant species to move or migrate between natural lands, while protecting individual property rights.

# Project Objectives

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Based on January 2017 Board action, General Plan policies and zoning standards will be developed to address four project objectives:

- Minimize Indirect Barriers
- Minimize Direct Barriers
- Minimize Vegetation Loss and Habitat Fragmentation
- Protect/Enhance Chokepoints



Roadway  
Crossing  
Structures

Natural  
Connectivity  
Features

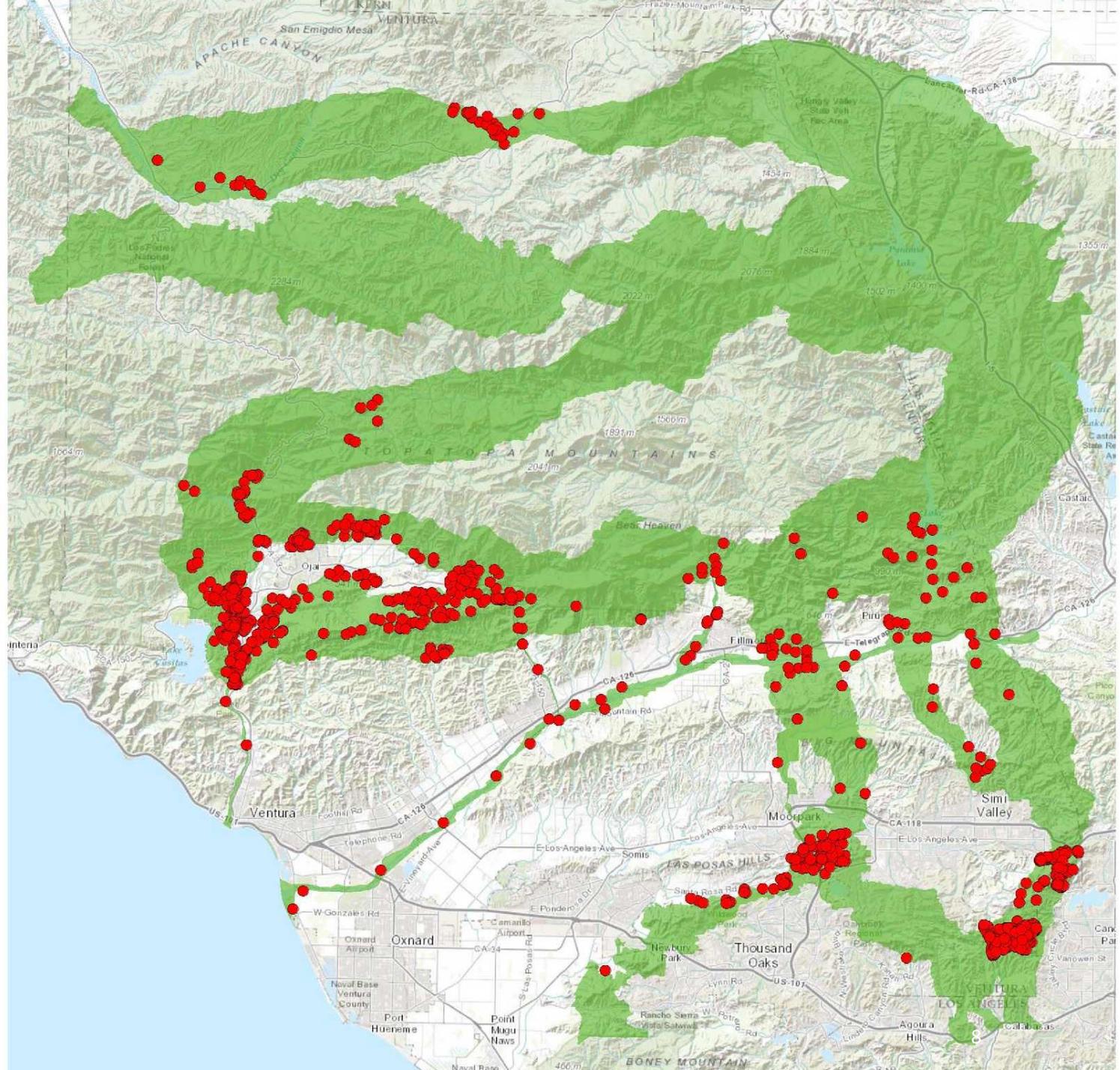
Chokepoints

Critical  
Landscape  
Features

General  
Wildlife  
Corridor

# Ministerial Permits

- Over 1,000 approved zoning clearances 2005 – 2016
- Examples of common ZCs:
  - Fences/Walls over 6 ft.
  - Greenhouses (up to 20,000 sq. ft.)
  - Accessory Structures (up to 2,000 sq. ft.)

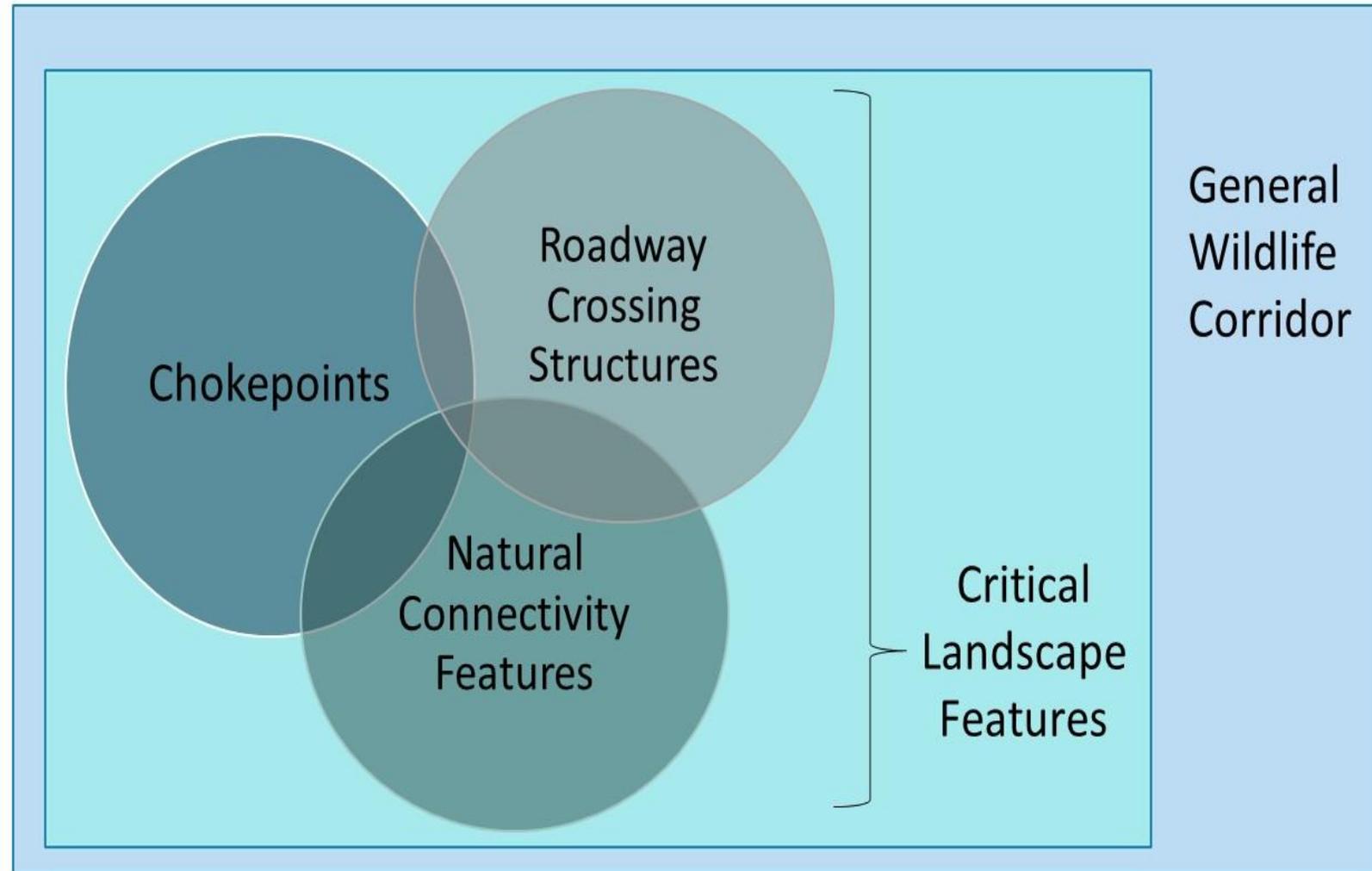


# Ministerial Standards for Entire Corridor

- Fencing
- Lighting

Would apply in all locations within mapped wildlife corridor.

If a project occurs within a critical corridor feature, more stringent regulations may apply.



# Fencing

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PROPOSED APPROACH

# Fencing challenges for wildlife

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- Too high to jump over
- Too low to crawl under
- Have loose wires
- Have wires spaced too close together
- Are difficult for fleeing animals or birds to see
- Create a complete barrier

# Fencing – Basic Provisions

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- All new fences, walls, and hedges within the mapped corridors will be required to be “wildlife permeable” and will require a ministerial zoning clearance.
- If at least 50 percent of the fence, wall or hedge is being replaced, the entire fence, wall, or hedge would need to be wildlife permeable.
  - **We recognize that some fences can be very long, so we’re exploring threshold for when replacement rule would apply.**

# Fencing – Proposed Exemptions

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**Wildlife Permeable Fences would not be required for any of the following uses:**

- Located within 100 feet from structures;
- Protection of row crops and orchards;
- Located adjacent to major roadways for the purposes of funneling wildlife to roadway crossing structures;
- Retaining walls; and
- In cases where fencing standards are regulated by state or federal government.

# Fencing – Proposed Design Standards

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**A “Wildlife Permeable Fence” would include all the following design features:**

- The top rail or wire is no more than 42 inches above the ground;
- The top 2 rails or wires are at least 12 inches apart;
- The bottom wire or rail is at least 16 inches above the ground;
- Both the top and bottom wires or rails are smooth (no barbed wire on the top or bottom wires);
- No vertical stays are used; and
- Posts are no more frequent than 10-foot intervals.

# Fencing – Design Standards for Livestock

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## **Wildlife Permeable Fences used for livestock/ranching/grazing only:**

- May be up to 60 inches above the ground
- May use barbed wire on the top
- Distance between top two wires may be 10 inches
- May be electric **Portable? Stationary?**

# Fencing – Open Discussion

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- Length of fence that would trigger 50 percent replacement threshold.
- Fence standards for non-farm uses adjacent to highways that are intended to move wildlife toward crossing structures (e.g., heights, underground anchoring).
- Electric Fences (How common? Temporary? Portable?)
- Other Issues?

# Exterior Lighting

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PROPOSED APPROACH

# Exterior Lighting – Definitions

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- **Color Temperature:** A measure of a light's warmness or coolness. (Blue-white = cool; pink-yellow = warm)
- **Foot candle:** A way of measuring the amount of light that reaches from a light source to a point beyond the light source.
- **Fully Shielded fixture:** A fixture that allows no emission above a horizontal plane through the fixture.
- **Light Trespass:** Light falling where it is not wanted or needed. (Also called spill light.)
- **Lumen:** A way to measure how bright a light source is. (Watts measure energy use, not light output.)
- **Sky Glow:** Brightness of the night sky from artificial light sources.

# Exterior Lighting – Basic Approach

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- Intent is to avoid lighting of habitat areas outside of development envelope and minimize sky glow.
- Ministerial standards would apply to new development, redevelopment of at least 50 percent of existing footprint, and as replacement lights are installed.
- Exemptions:
  - Temporary agricultural activities requiring night lighting
  - Where lighting is regulated by state or federal government
  - Seasonal/Holiday lights
  - Lights for signs as currently regulated by NCZO (Sec. 8110-5.1)

# Exterior Lighting – Basic Approach

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- **Considerations for Lighting Fixtures:**

- Brightness (using lumens)
- Allowable light (*light trespass*) at the property line (in foot candles)
- Color temperature (blue/white = cool; yellow/pink = warm)
- 2016 Energy Code compliance requiring programmable and motion sensor features
- Shielding and direction of light
- Height and placement considerations

# Exterior Lighting – Basic Approach

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- Standards will address uses such as exterior lights used for walking paths, parking areas, service areas, buildings and structures, security, gates, driveways, landscaping, residential entrances and porches.
- Lighting used for outdoor recreation (e.g., pools, BBQ areas, tennis courts, arenas) will require shielding and be directed downward, except when it would make it impossible to conduct the recreational activity.
- Perimeter lighting at lot boundaries would be prohibited (entrance gates exempted).

# Exterior Lighting – Open Discussion

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- What uses may require special lighting considerations?
  - Enclosures used for animal keeping
  - Arenas
  - Outdoor areas used for livestock/horse breeding
  - Agricultural activities (nurseries)
  - Oil and gas facilities
  - Development within chokepoints
  
- Others?

# Proposed Approach for Invasive Plants and Noise

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- Invasive Plants

If development requires compliance with the State's Water Efficient Landscape Ordinance, then installation of invasive plants will be prohibited.

- Noise

Intend to rely on existing noise thresholds and regulations unless additional information determines alternative standards are required.

Will be consistent with state and federal regulations.

# Invasive Plants and Noise

## Open Discussion

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Any issues or questions?

# Project Objective

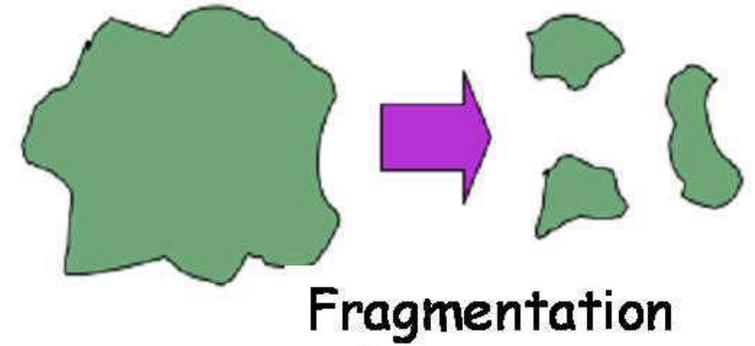
**Minimize  
Vegetation Loss  
and Habitat  
Fragmentation**



# Why Does It Matter?

## Result of Vegetation Loss and Habitat Fragmentation on Species Movement

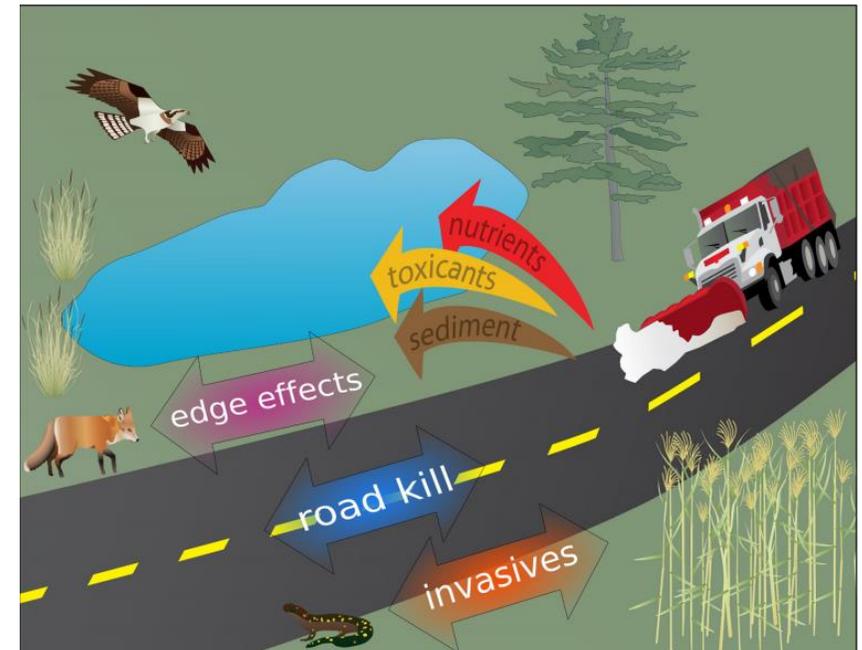
- Species movements are constrained because of inhospitable gaps in habitat
  - Increase risk of predation and mortality
  - Lack of resources to survive while moving through corridor to core areas
  - Directly affects the quality of the remaining habitat areas



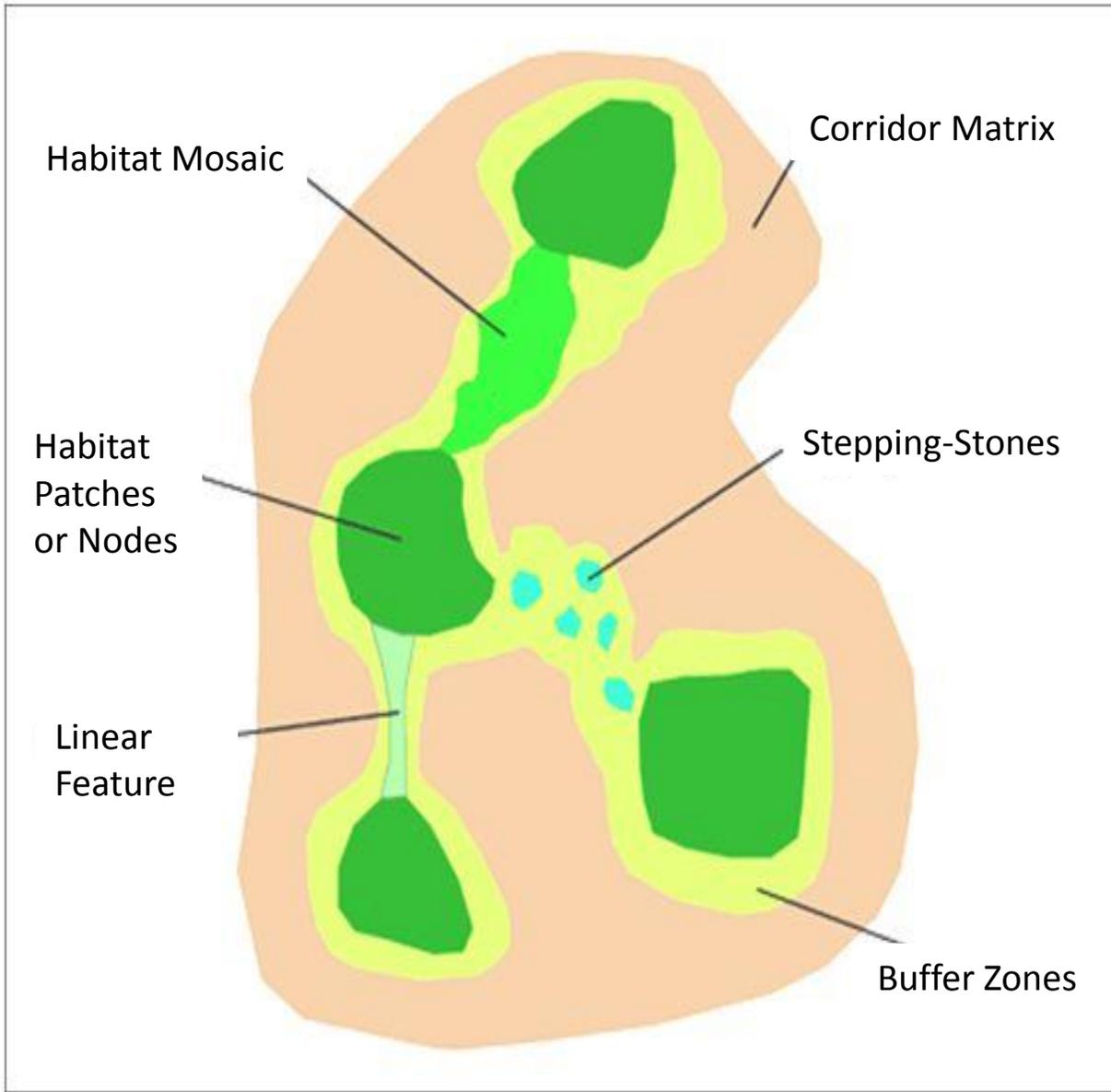
# Edge Effects

Adverse changes to species abundance, presence, and behavior occurs when adjacent to development areas. They can be caused by:

- Irrigation
- Artificial night lighting
- Predation/competition from pets
- Habitat degradation and removal
- Introduction of invasive species
- Other

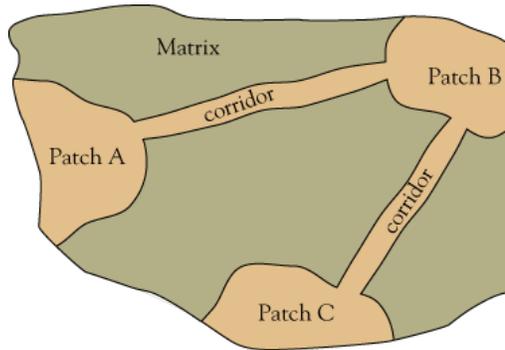


# Maintaining Connectivity in Landscape Matrix



- Natural habitat patches with more compact shapes minimize *edge effects*.
- *Buffer zones* between habitat patches and development protect habitat quality of patches.
- Ensure existing natural habitat patches are close to surrounding patch areas (creation of habitat *stepping-stones*).

# Natural Habitat Connectivity Features



- Wetlands, water features and their associated vegetation communities
- Ridgelines
- Habitats that maintain continuity of vegetation between natural features

# Scientific Research

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- Larger habitat patches host more species than smaller ones.
- Small habitat patches adjacent to large patches host more species due to proximity than those habitat patches with larger distances between them.
- Non-native species decrease in larger habitat patches.
- Minimum width of a natural corridor feature can range from 33 - 5,000 feet, dependent on adjacent land uses, vegetation, slope, and target species.
- Average recommended buffer for wildlife movement associated with ridgelines and watercourses is approximately 100m (330 feet).
- Distances needed to maintain connectivity between habitat patches are species dependent (lizard, bird, bat, etc.).

# Water Resource Protections in Ventura County

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- Within the Planning Division, **only discretionary uses** are evaluated for adverse impacts on any watercourse in the County and subject to CEQA requirements.
- Within Watershed and Public Works Departments, **any project** requires **water quality control measures** that fall within 200 feet of an *environmentally sensitive area (ESHA)*; or where development will discharge stormwater runoff that is likely to impact *a sensitive biological species or habitat* **AND** create 2,500 sq. ft. of impervious surface.
- Within the Environmental Health Department, advance treatment is required for On-Site Wastewater Treatment Systems (OWTS) within 600 feet of an impaired waterbody (Clean Water Act). Setbacks for OWTS range from 50-150 feet from waterbody (depending on type of OWTS).
- CDFW requires notification of clearing in and adjacent to streams to determine whether a streambed alteration agreement is needed

# Summary of Water Resource Protections

- Initial analysis shows significant development occurring adjacent to water features, ~ 600 ministerial permits within 200 ft. of a watercourse (2006-2017)
- The County only has setbacks for discretionary development. Ministerial development can occur immediately adjacent to river or streams if they meet stormwater and floodplain standards (banks and riparian areas).
- Clearing vegetation adjacent to waterways is allowed without a planning permit.
- Tree protections do not protect all common trees within watercourses (Oak, Sycamore, Heritage, and Historic Trees Only). Vegetation communities associated with ephemeral watercourses (most of the county) are not evaluated for ministerial permits.

# Ridgeline Development Standards

There are no ridgeline protections for plant migration or wildlife movement within the corridor.

# What's Missing for Corridor Protection?

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- Many exempted and ministerial land uses can impact wildlife movement features
- Most ridgelines in the corridor do not fall within the scenic protection overlay zone
- No development setbacks associated with vegetation adjacent to watercourses or ridgelines for ministerial development
- No regulatory mechanism to address vegetation loss or habitat fragmentation for natural connectivity features



# Potential Approaches to Maintain Natural Connectivity Features

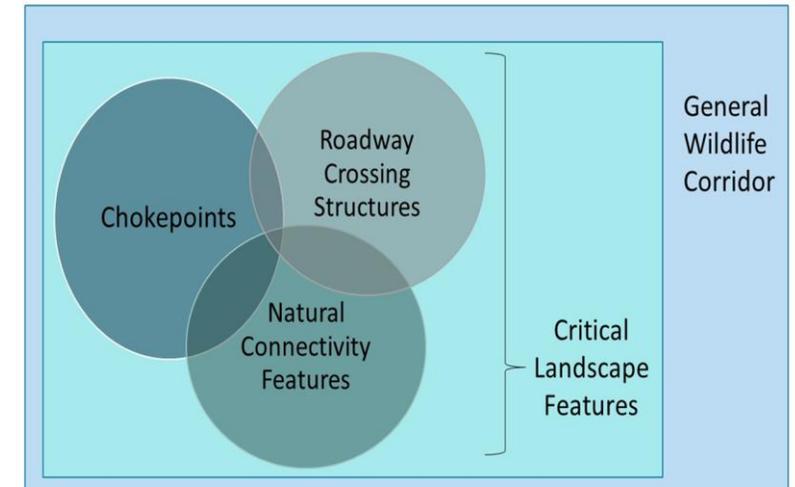
## ■ Development Setbacks

### *Water Features and Ridgelines Only*

- Ministerial standards for vegetation clearing and grading within general corridor
- Discretionary permits required for vegetation removal within 200-300 feet
  - Limit construction of those structures requiring fuel clearance to within 200-300 feet of natural connectivity features
  - No vegetation removal within 200 feet of natural connectivity features, exemptions for crop production and grazing

## ■ Clustering Development within Parcels and Subdivisions

## ■ Other Approaches?



# Discussion

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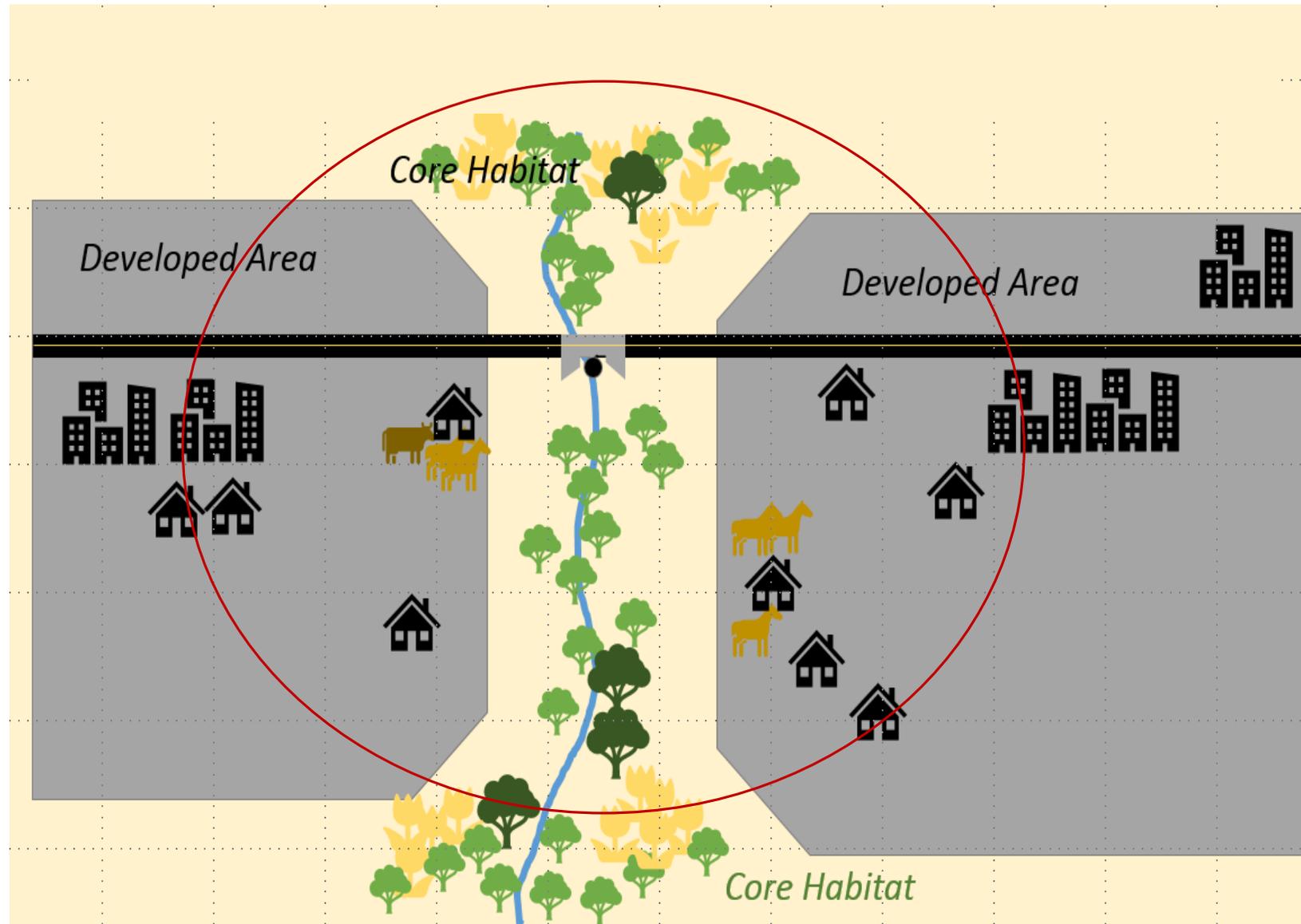
LOSS OF NATIVE VEGETATION AND HABITAT  
FRAGMENTATION



Project Objective:  
Protect/Enhance Chokepoints

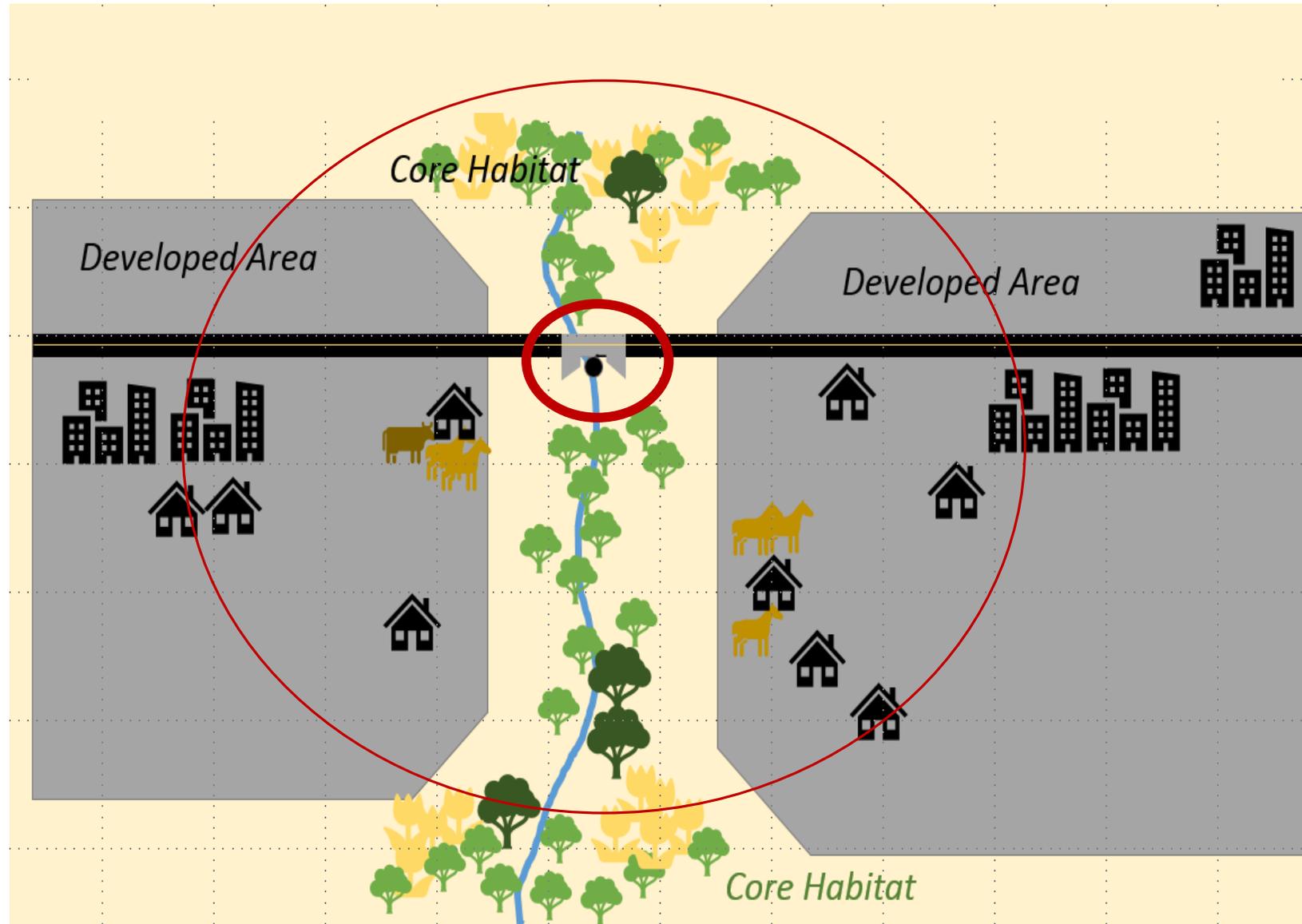
# Chokepoints

A narrow physically constrained passage that constricts species movement between large core habitat areas.



# Chokepoints

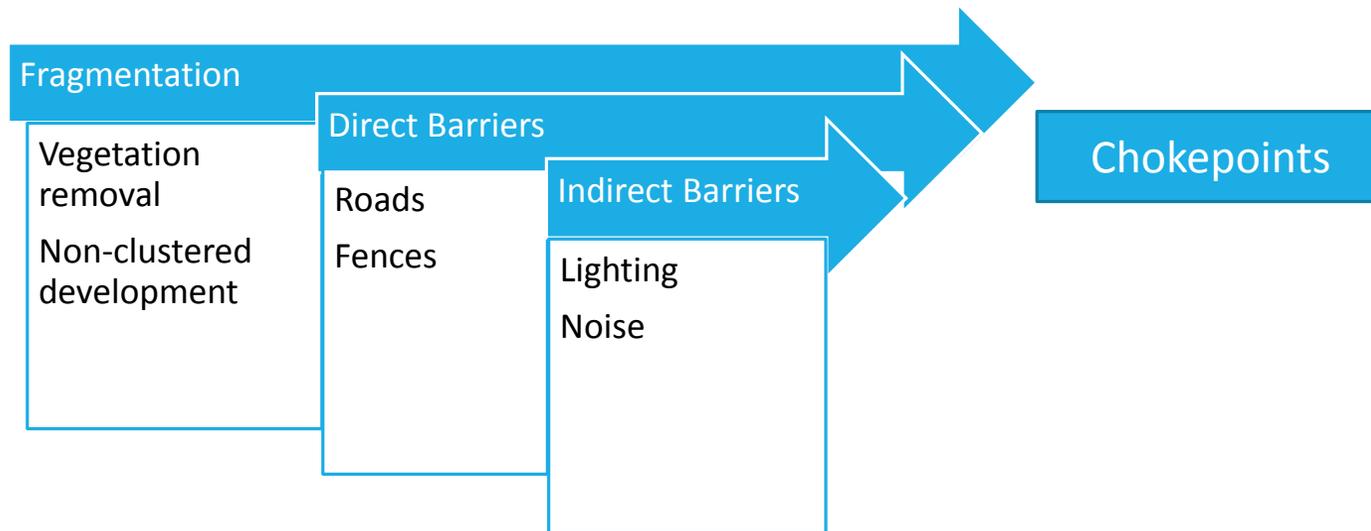
A passage that allows wildlife to overcome a significant direct barrier (e.g., roadway crossing structure on a major highway).



Q: Why Focus on Chokepoints?

A: Connectivity Issues get Amplified in Chokepoints

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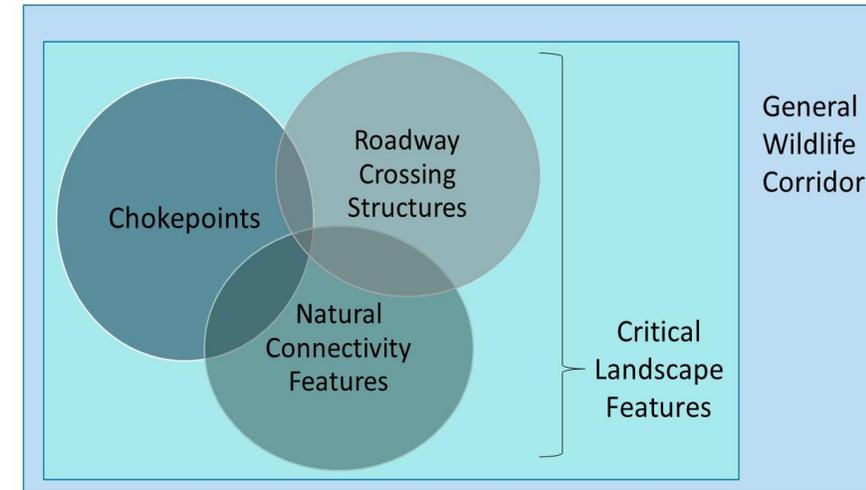
Chokepoints are ***critical*** to maintain wildlife movement through corridor.

These ***high risk*** areas could be severed and wildlife cut off from ***critical resources***.

Populations can decline and suffer a loss of genetic diversity.

# Research on Chokepoints & Edge Effects

- Areas with high connectivity are the “path of least resistance.”
- Chokepoints may include gaps in natural landcover that an animal might not be willing to traverse because they are narrow or do not have vegetative cover.
- The extent and type of edge effects (e.g. invasive species, pollution) will be factored in when conducting final chokepoint analysis.



# Research on Roadway Crossing Structure Use

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- Use of crossing structures by wildlife depends on factors such as:
  - Structure type (underpass, culvert, etc.)
  - Length
  - Cross-Sectional Area
  - Vegetative cover
- Some wildlife species use crossing structures, while others are more at risk of mortality because they prefer roads over crossing structures.
- Vegetation at entrance/exits increases crossing rates for wildlife.
- Vegetation height correlates with higher use.
- Structures closer to natural habitats increase their use .

# Chokepoints: What Criteria Are Used to Identify Them?

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- Narrow Areas of the Corridor
- Development Encroachment within Corridor
- *Edge Effects*  
(e.g., noise, light, human presence, domesticated animals)
- Presence/Absence of Protected Lands & Open Space
- Permeability of Direct Barriers such as major roads through roadway crossing structures

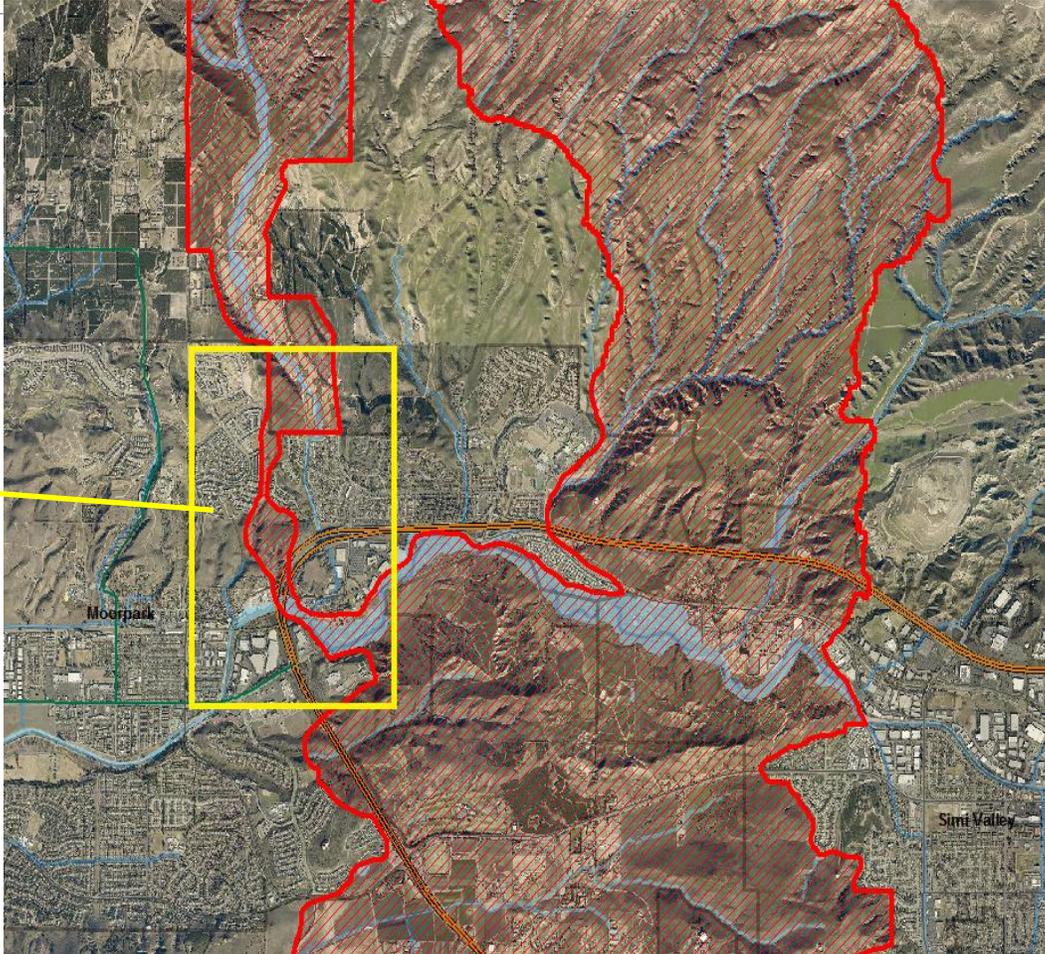
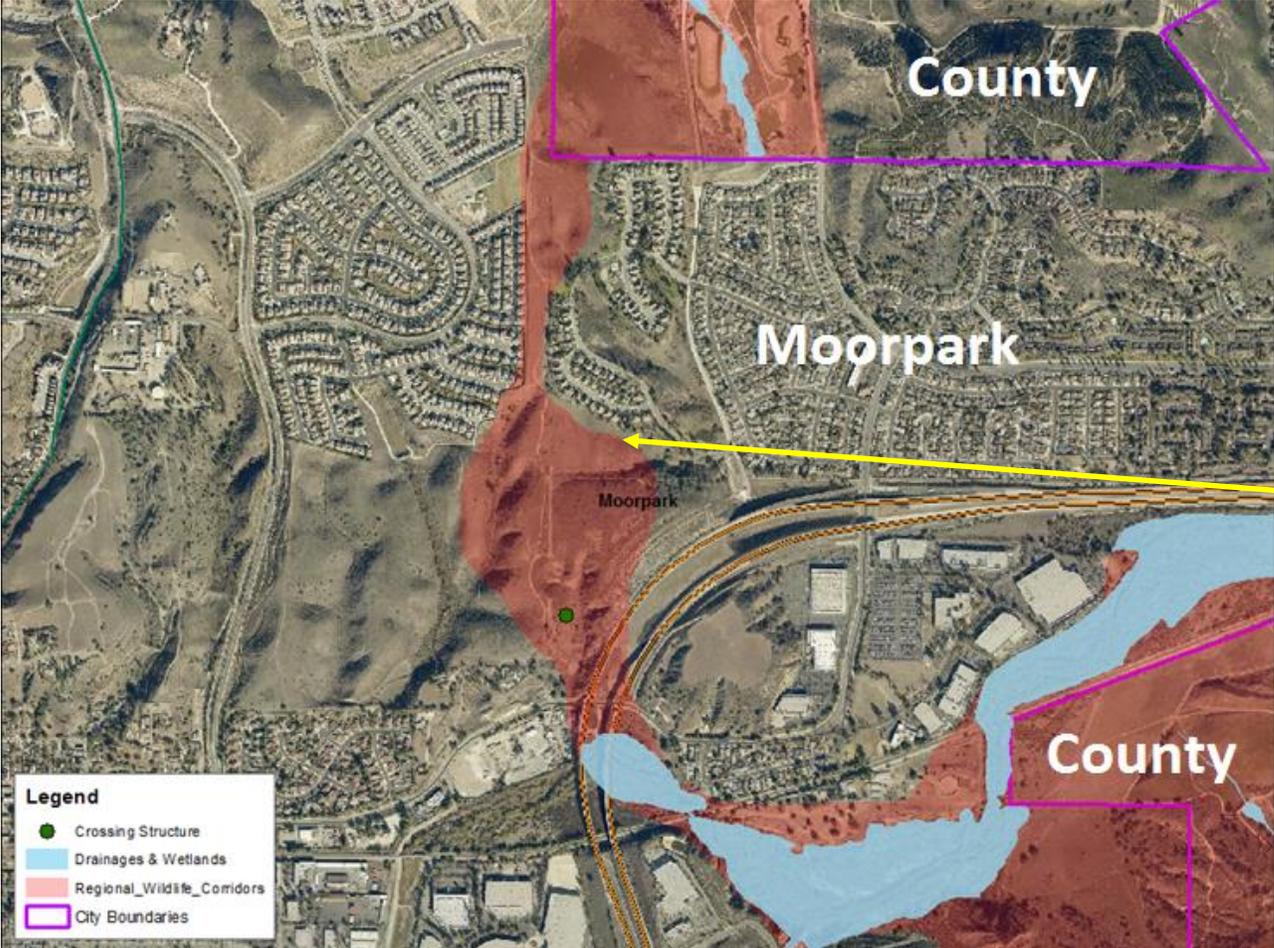
# Chokepoint Example- Roadway Crossing Structure

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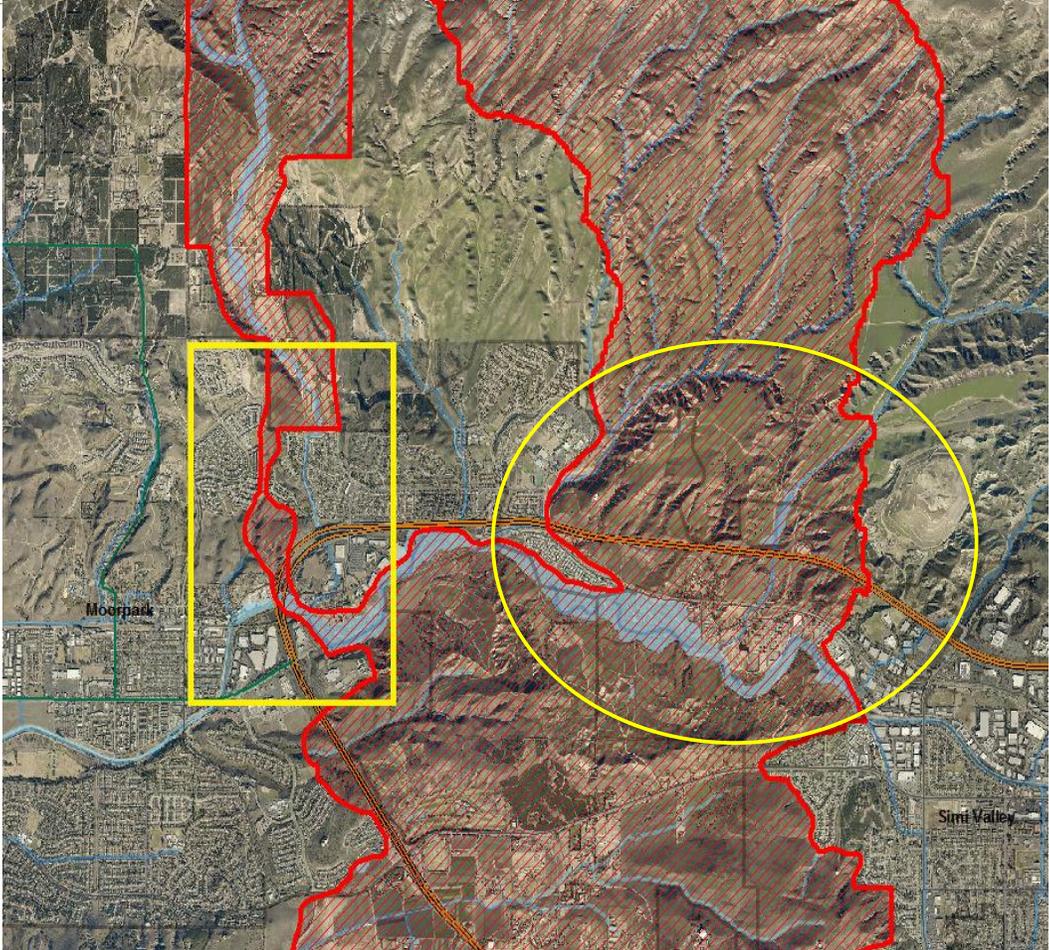
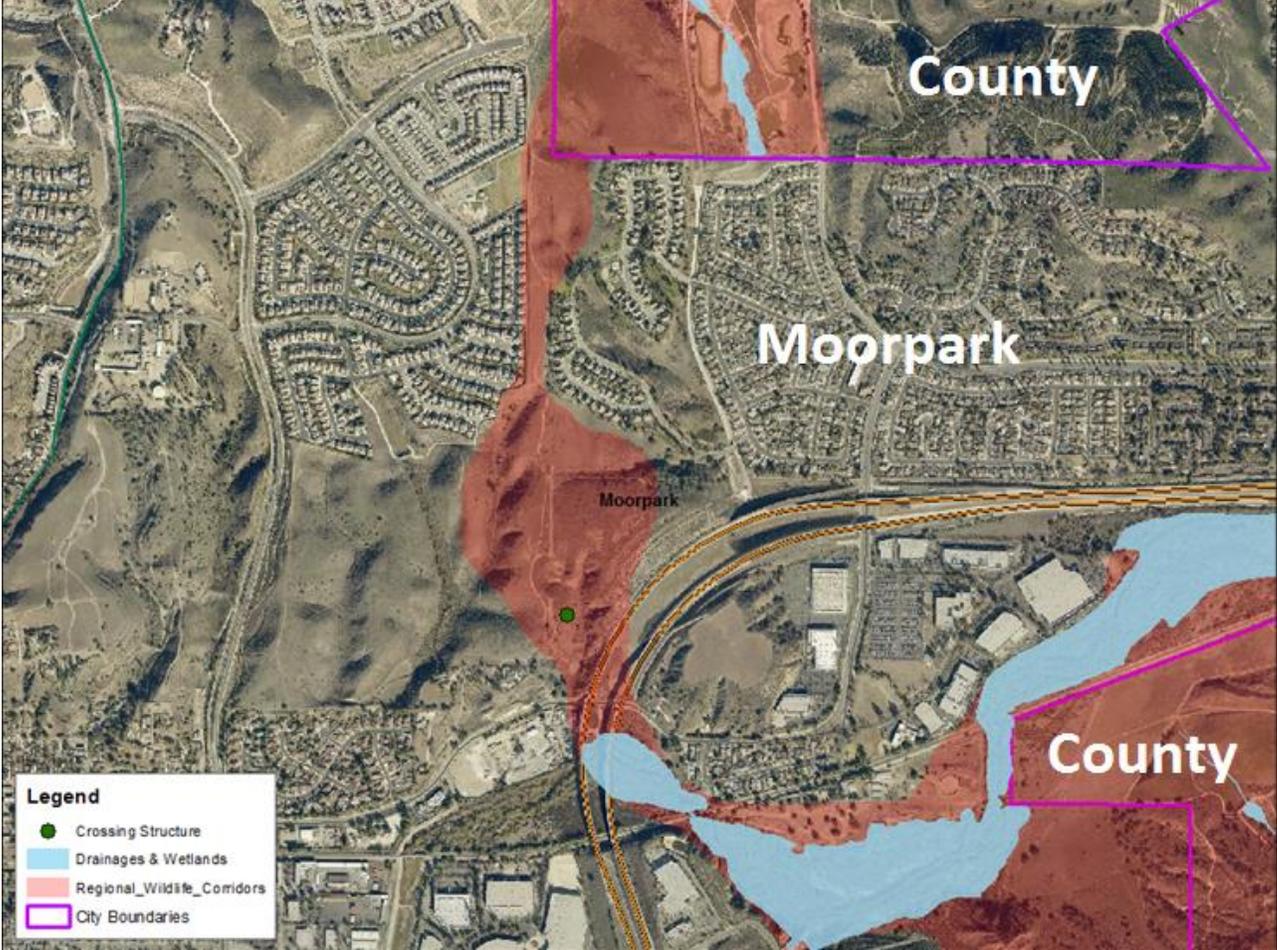
- Often installed for drainage
- Crucial for allowing wildlife to overcome direct barriers (e.g., US 101, SR-126, SR-23, SR-118, etc.)



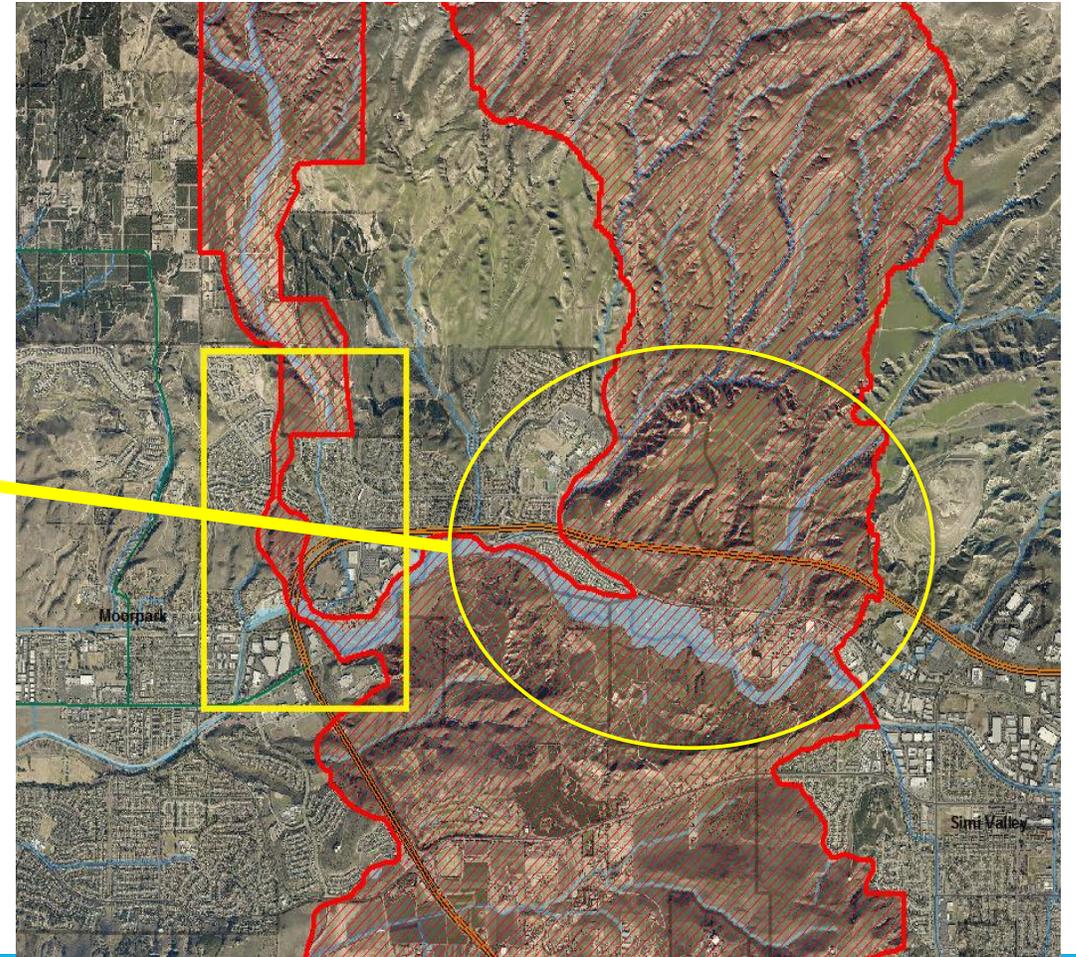
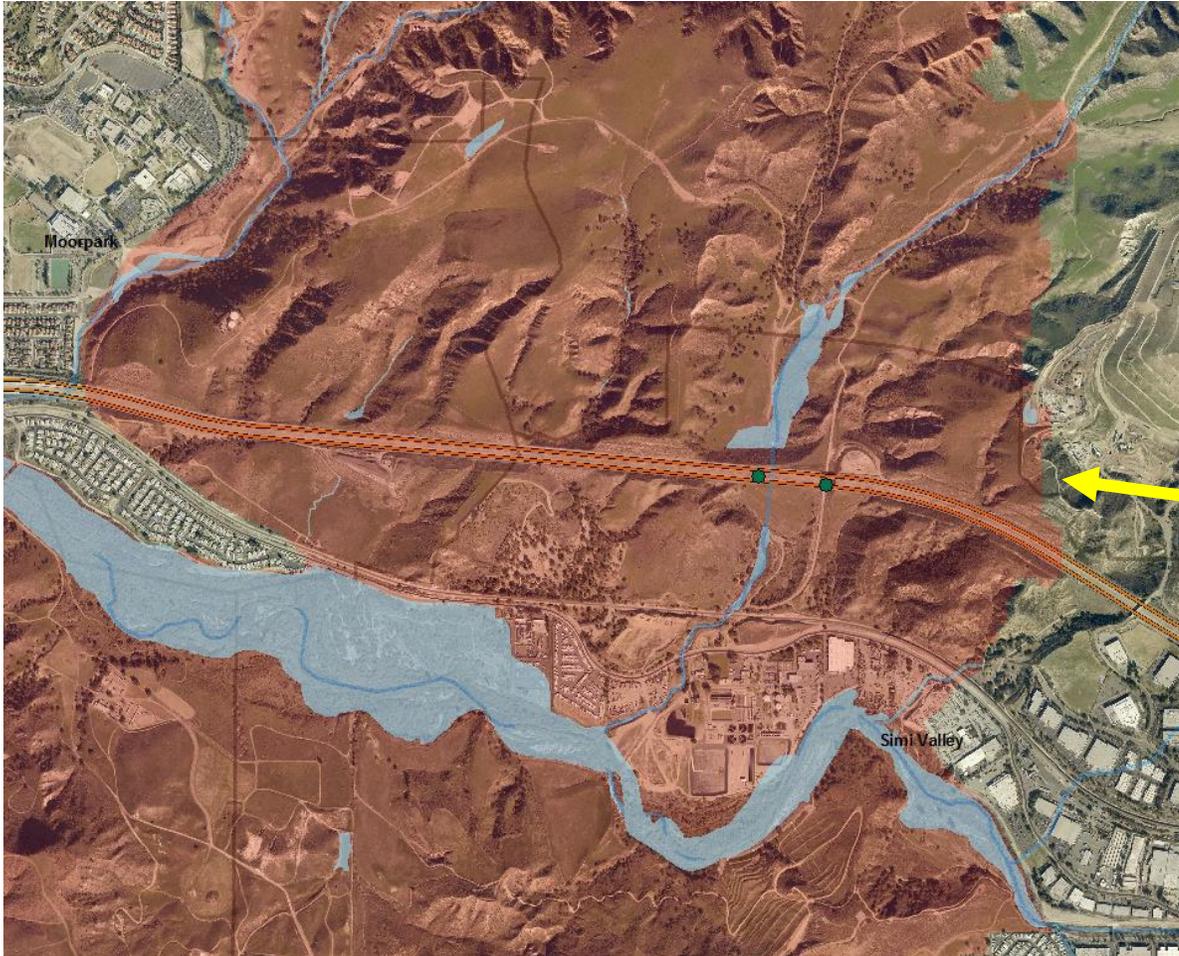
# Chokepoint Example- Moorpark near SR 118/ SR 23 Interchange



# Chokepoint Example- Moorpark near SR 118/ SR 23 Interchange

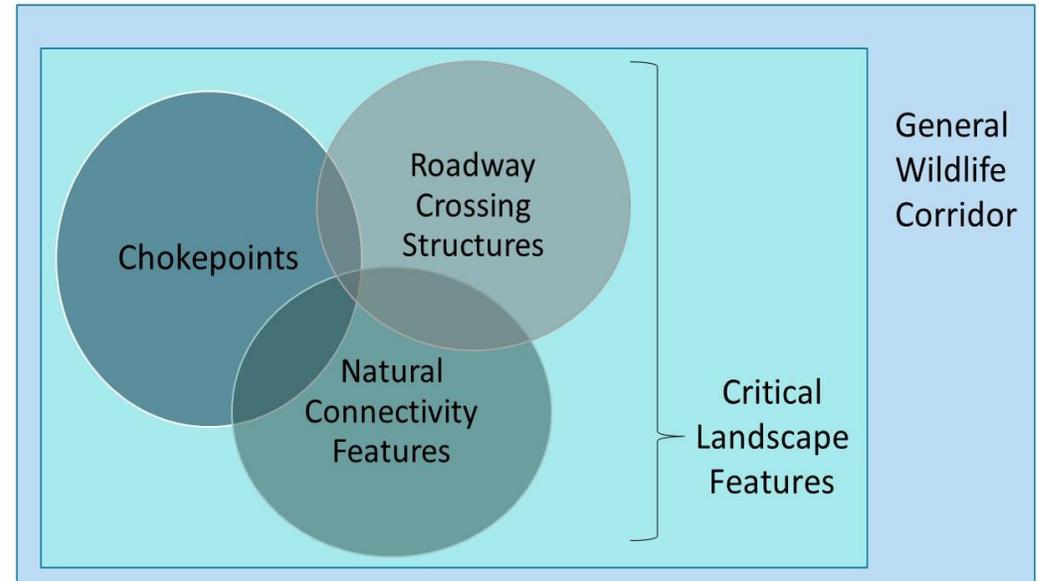


# Chokepoint Example- Moorpark near SR 118/ SR 23 Interchange



# Potential Management Approaches – Chokepoints

- Apply buffers around Crossing Structures and Natural Connectivity Features.
- Coordinate with cities, agencies, and conservation organizations on land preservation options.
- Develop incentive program for landowners willing to enhance and restore chokepoint areas.
- Clustering development and limiting vegetation clearing.



# Potential Management Approaches – Chokepoints (continued)

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- Identify the areas of high connectivity within a lot and limit development within this area.
- Criteria for identifying these areas include:
  - Form a continuous protected corridor which traverses the property and links to nearby open space, core habitats, and crossing structures
  - Incorporate natural pathways such as water features, wooded areas, and native vegetation if they exist on the property
  - Maintains minimum width throughout its length
  - Not lead wildlife to a dead end which cannot connect to large areas of natural open space
- Once areas of high connectivity are protected, ministerial permits for most uses outside these areas can be issued on the property.



# Potential Management Approaches – Crossing Structures

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- Identify existing uses and development that occur close to these crossing structures.
- Determine a buffer distance that prevents degradation and enhances the functionality of the structures for wildlife movement.
- Additional coordination with Caltrans and city/county public works agencies on structures and areas within their jurisdictions.
- Develop incentive program for landowners willing to enhance and restore areas adjacent to crossing structures.



# Discussion

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CHOKEPOINTS AND ROADWAY CROSSING  
STRUCTURES

# Wrap Up and Next Steps

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- Any remaining questions/comments?
- Additional stakeholder meetings may be issue-area specific
- Planning Commission hearing before close of 2017
- Board of Supervisors hearing Spring 2018