Wildlands Network



Planning for Habitat Connectivity

A Utah Guide to Integrating Wildlife Policies into Local Planning and Implementation

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Wildlands Network uses data-driven research and analysis, informed policy recommendations, and strategic partnerships to establish networks of connected habitat from Canada to Mexico and achieve lasting protections for land and wildlife.

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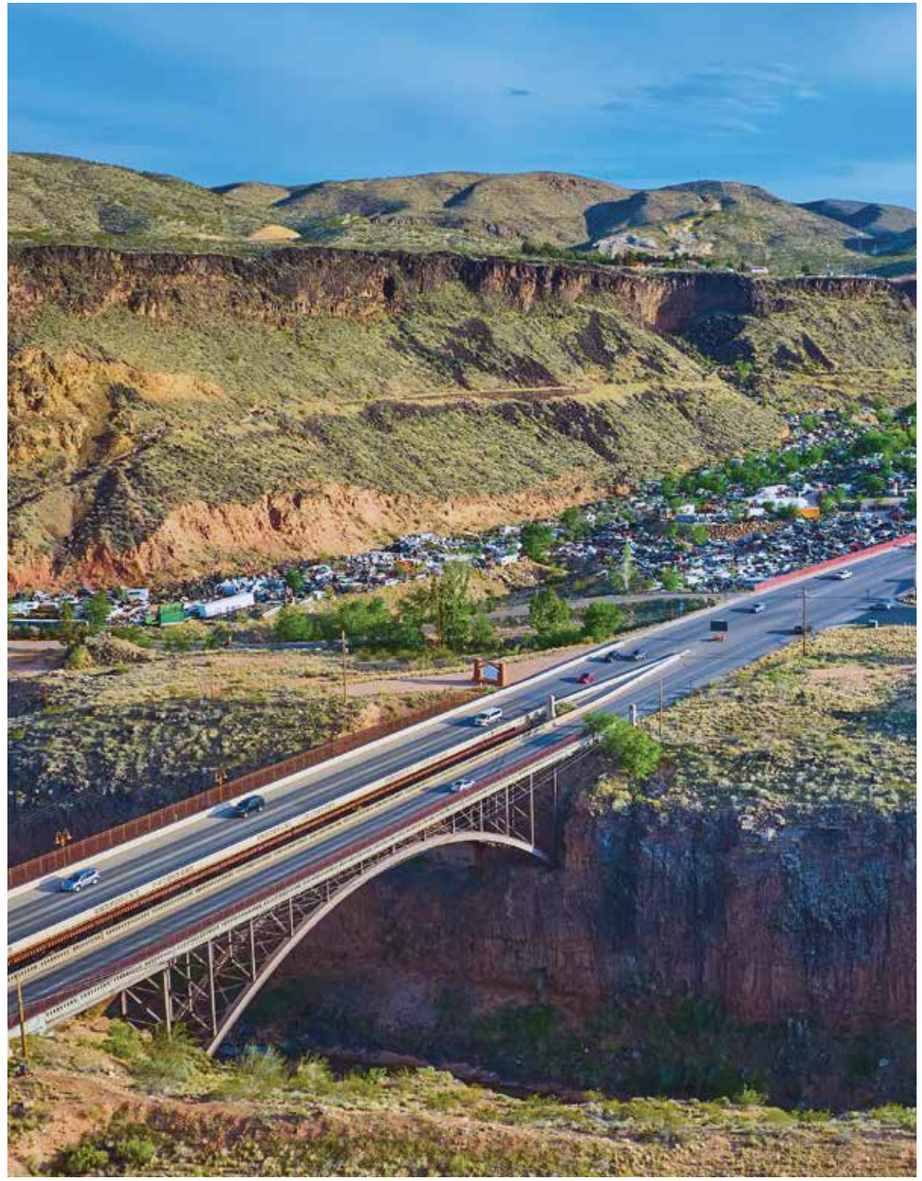
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Introduction



In addition to providing basic services such as water and sewer infrastructure, roads and public transportation, and education, municipalities and counties have a duty to protect essential and valued environmental resources within Utah's communities, including clean air and water and open spaces. It is also the responsibility of municipalities and counties to plan for growth and to set rules and regulations that govern new and existing homes and subdivisions. As communities across Utah grow, municipalities and counties are planning where and how to expand into new areas, which can significantly impact resident and migratory wildlife that utilize these habitats. In light of this, many communities in Utah and across the country are starting to consider how planning decisions impact habitat and the ability of wildlife to move. However, it can be challenging to balance a community's growth needs with its interests in protecting landscapes, natural resources and wildlife. Thorough and thoughtful planning is essential for communities to balance these needs and interests.

Numerous municipalities and counties have already integrated language related to maintaining and enhancing habitat connectivity in various planning documents, such as General Plans, Transportation Plans and Open Space Plans. However, these examples are more the exception than the rule. With the loss, fragmentation and degradation of crucial habitat because of increasing road construction, off-highway vehicle use, energy development, drought, wildfire and urbanization, it is becoming increasingly important for Utah's local officials to consider how certain planning decisions can exacerbate these pressures — and, where possible, how planning decisions can avoid, minimize or offset any negative impacts.

As municipalities and counties grow, rural, agricultural and open space lands are being repurposed and developed for residential, commercial and industrial uses. This loss of undeveloped lands can harm not only wildlife but also current and future residents who are attracted to the Beehive State's natural beauty and plentiful wildlife.

Over the past decade, our understanding of wildlife's daily and seasonal movement needs has grown exponentially. Biologists at the Utah Division of Wildlife Resources have conducted significant research using GPS collars that have identified wildlife corridors and provided precision insights on how species such as mule deer, elk



and pronghorn move. These studies have underscored the importance of migration corridors, stopover habitats and low-elevation winter ranges that wildlife rely on to escape the deep snows of their high-country summer ranges. Increasingly, these important habitat areas overlap with development from new and growing towns and cities. Development that does not consider habitat connectivity, migration corridors and stopovers can diminish available quality habitat, disrupt daily and seasonal migration, increase human-wildlife conflicts (including wildlife-vehicle collisions), and reduce genetic diversity, potentially having long-term implications for a population's survival.

Utah is one of the fastest-growing states in the country. Although it is important for municipalities and counties to provide for the needs of current and future residents, it is equally important that they do so strategically, in a way that protects the environment, maintains a community's character, and allows for long-term growth and a high quality of life. The opportunity to coexist with wildlife, such as deer, elk, pronghorn and other species, is a unique and valued feature of living in Utah, where quality wildlife habitat often overlaps with communities. Protecting wildlife through local planning is a logical way to balance the needs of both wildlife and growing communities. However, municipalities and counties often require guidance to determine which actions are practical and implementable.

Utah is a state that is known for its wildlife, and as the state continues to grow, it is increasingly important for planners to consider wildlife when making decisions. General Plans are the fundamental documents for every municipality and county that provide the framework for managing and promoting sustainable growth that benefits both residents and wildlife.

This toolkit is designed to provide guidance to municipalities and counties, as well as community members, state legislators and other stakeholders, on how and where they can integrate language and directives related to maintaining and enhancing wildlife habitat and movement into various planning documents, such as General Plans, Resource Management Plans and Land Use Ordinances.

- This guide begins with an explanation of the different types of planning documents to help stakeholders determine which planning document is best suited and most relevant to a particular goal or outcome. This guide also describes the legal context relating to municipal and county planning documents in Utah.
- This guide then provides a model General Plan with an explanation of the different required and optional elements and model language for objectives and implementation strategies. The model language is categorized as "best," "better" and "good" — where "best" prioritizes wildlife to the highest extent, "better" is strong guidance with the intention to protect wildlife, and "good" is the minimum recommended language.

Example Objectives and Strategies

Objective	Tiered Strategies
Habitat Connectivity Maps	**BEST:** The Municipality/County **will identify and integrate** crucial wildlife habitat, migration corridors and stopover sites **into** the Municipality/County's General Plan and Land Use Plan, Open Space Plan and/or any other relevant plans, **ensuring that these maps are considered and prioritized in all planning efforts.** **BETTER:** The Municipality/County **will identify** crucial wildlife habitat, migration corridors and stopover sites in the Municipality/County's General Plan and Land Use Plan, Open Space Plan and/or any other relevant plans, **to the extent possible.** **GOOD:** The Municipality/County **may consider** crucial wildlife habitat, migration corridors and stopover sites **as part of** the Municipality/County's General Plan and Land Use Plan, Open Space Plan and/or any other relevant plans.
Open Space Lands Prioritization	**BEST:** The Municipality/County **shall** create a ranking system to score and prioritize certain parcels of lands that have been identified as important for maintaining and enhancing wildlife, open space and recreation. The Municipality/County **shall** collaborate and coordinate **with UDWR, UDOT and other relevant state and federal agencies** to create this ranking system. Ranking criteria may include habitat quality; presence of certain species, such as mule deer, elk or pronghorn; proximity to or inclusion of migration corridors; proximity to existing or expanding developments; or habitat connectivity potential. **GOOD:** The Municipality/County **may** create a ranking system to score and prioritize certain parcels of lands that have been identified as important for maintaining and enhancing wildlife, open space and recreation.

Identification of Wildlife-Vehicle Conflict areas

BEST: The Municipality/County **shall coordinate and collaborate** with UDWR and UDOT and **any other appropriate state and federal wildlife management agencies, land management agencies and transportation agencies to identify high-risk wildlife-vehicle conflict areas, as well as barriers to habitat connectivity.** The Municipality/County shall work with these agencies to mitigate identified wildlife-vehicle conflict risks.

BETTER: The Municipality/County **shall support** UDWR, UDOT and **other state and federal agencies and utilize existing wildlife movement and conflict hotspot data to identify areas prone to wildlife-vehicle conflicts.** The Municipality/County shall work with these agencies to mitigate identified high-priority wildlife-vehicle conflict risks.

GOOD: The Municipality/County **may refer to available state and federal wildlife-vehicle conflict data to guide transportation planning and decisions and shall consider mitigation measures when possible.**

- It is recommended that municipalities and counties nest objectives and implementation strategies into relevant elements or plans (e.g., integrate an objective relating to open space into the land use element of the General Plan or the Land Use Plan, if one exists; or integrate an objective relating to wildlife crossings into the transportation element of the General Plan or the Transportation Plan, if one exists).
- This guide then discusses two types of Land Use Ordinances — a Habitat Connectivity Overlay Zone and a Sensitive Lands Overlay Zone — with real-world examples from Utah County and a Utah municipality.



Property Rights and Wildlife

It's important to understand that private property owners and developers have fundamental rights that can sometimes conflict with habitat connectivity efforts, including the right to use and enjoy privately owned land, to develop, to control public access to privately owned land, and to sell of transfer privately owned property freely.

Fundamental Property Rights:

1. **Use and Enjoyment:** Owners can manage and modify their land as allowed under existing zoning, environmental, and building laws, including building structures, installing fences, or other modifications to the landscape. Ordinances requiring, for example, wildlife-friendly fencing or the preservation of native vegetation, can limit certain land uses, leading to potential conflicts with an owner's ability to freely use or enjoy their property. Understanding potential conflicts helps planners work within legal and practical bounds.
2. **Develop:** Owners can develop their land according to existing zoning, subdivision, and building codes. Efforts to maintain and enhance wildlife connectivity often require limiting development impact and size, which can conflict with an owner's development rights. It's important to note that overlay zones and new wildlife-friendly ordinances can only be applied prospectively and must include proper notice -- otherwise, they may violate vested development rights and can be subject to legal challenge.
3. **Control Access:** Owners can control public access to their land. Occasionally, effective habitat connectivity efforts may require the use of conservation easements, monitoring access, or cross-jurisdictional management. Owners can legally refuse any requests to do so, stressing the importance of voluntary or incentive-based programs, such as conservation easements, rather than mandatory measures.
4. **Sale and Transfer:** Owners can sell, lease, or transfer property, typically with the goal of maximizing value. Restrictions, such as conservation easements or overlay zones, can lower market value and impact future owners' development opportunities. It's important to note that current and future owners of a property are bound by existing easements, so clear agreements are essential to prevent conflict.

Effective planning balances public wildlife goals with private property rights, which helps avoid legal conflicts and encourage collaborative solutions.



The Planning Process

A General Plan is a comprehensive, long-term plan that addresses the current and future needs and interests of a municipality or a county. It is advisory and aspirational. In Utah, General Plans can vary widely in format and scope. They may be prepared by citizen volunteers or by paid consultants. General Plans can range from brief to detailed, digital to print, and simple to complex. Ultimately, municipalities and counties have significant discretion when preparing their General Plan, depending on their specific and unique needs, interests, capacity and available resources. This flexibility ensures that each community can prepare and adopt a General Plan that is tailored to its needs and interests.

Typically, the planning process begins when the local governing body (either a city council or county commission) decides to prepare a new General Plan or to update an existing one. Utah does not require specific timelines for updates to give municipalities and counties some flexibility to update plans as needed as communities grow and change. However, many municipalities and counties encourage regular review every five to ten years.

Next, a planning team is put together to guide the process with municipality or county officials, consultants, lawyers, community representatives, and other stakeholders and experts. An essential part of the planning process is engaging members of the community. In Utah, municipalities and counties are required by law to enable and encourage public participation to ensure that the community's needs and interests are accurately and fully represented in the General Plan. (See Utah Code §10-9a-403 for municipalities and Utah Code §17-27a-403 for counties.)

Then, the planning team conducts an analysis of existing and future conditions. This includes assessing the community's demographics, land use patterns, existing zoning, infrastructure and transportation, environment, housing needs, and community services and estimating future growth trends.

Based on public input and existing and future conditions, the planning team identifies key issues, challenges and opportunities, which can include loss, fragmentation and degradation of crucial wildlife habitat.

Informed by these priorities, the planning team sets broad, aspirational but achievable goals and objectives for the municipality or county's future. From these goals, the planning team develops elements or sections of the General Plan and specific, actionable implementation strategies.

Under Utah Code §10-9a-401, each municipality, which is defined as any city or town, is required to prepare and adopt a General Plan, which must include the following elements:

- land use,
- transportation and traffic circulation, and
- moderate-income housing (for municipalities of a certain size).

Under Utah Code §17-27a-401, each county is required to prepare and adopt a General Plan. For counties, all General Plans must include:

- land use,
- transportation and traffic circulation,
- a moderate-income housing element, and
- a Resource Management Plan.

Though not required, municipalities and counties can also include optional elements, such as an environmental element, which is explained in more detail below.

Land Use Element

For the land use element, municipalities and counties must identify goals and the extent, distribution and location of land for housing, business, industry, agriculture, recreation, education, public buildings and grounds, open space, and other relevant and appropriate land classifications. This element addresses the use and development of land within a community so that it aligns with a municipality's or county's goals for growth and quality of life.

Typically, key sections of a land use element include:

1. **Land Use Categories:** This section identifies categories (also known as designations or classifications) of land use, such as residential, commercial, industrial, agricultural and open space.
2. **Zoning Ordinances:** This section, as a larger part of the land use element, guides zoning within a municipality or county. A zoning ordinance describes how land can be used and developed within certain zones (also known as areas) and is the means by which a community codifies and implements its General Plan. It is important to note that, although General Plans are nonbinding, zoning ordinances are legally

binding. Zoning ordinances are expected to align with the General Plan but are the enforceable mechanism for land use regulation.

3. **Land Use Patterns:** This section (also known as current land use) addresses the current status of land use in the municipality or county. It identifies existing land use categories and zoning regulations.
4. **Future Land Use:** This section (also known as land use goals or land use vision) identifies the future needs and interests of the community regarding land use and development. It describes the community's long-term goals for land use and development. It typically proposes new land use categories or recommendations for zoning changes or updates to existing zoning ordinances to align with the community's goals.

Transportation and Traffic Circulation Element

For the transportation element, municipalities and counties must "provide the general location and extent of existing and proposed freeways, arterial and collector streets, public transit, active transportation facilities, and other modes of transportation where appropriate." A municipality or county's transportation element should guide residential and commercial development to maintain and enhance connections between housing, employment, education, recreation and commerce while aligning with the General Plan's land use element. See Utah Code §10-9a-403 and §17-27a-403.

Moderate-Income Housing Element

For the moderate-income housing element, municipalities and counties must address the availability and affordability of housing for residents with moderate incomes. This element must include a comprehensive set of strategies to promote the development of moderate-income housing. Examples of strategies include rezoning or redevelopment. See Utah Code §10-9a-403 and §17-27a-403.

In Utah, there are no current examples of a municipality or county including wildlife movement in moderate-income housing elements. However, residential development and wildlife movement are inherently connected, and it is becoming increasingly important for municipal and county planners to consider wildlife movement when preparing and adopting moderate-income housing elements within their General Plans.

To increase moderate-income housing availability and affordability, municipalities and counties often have to maximize land usage, which, without thorough and thoughtful land use planning that balances housing and wildlife needs and interests, can lead to the loss, fragmentation and degradation of crucial habitat. Addressing wildlife movement within a municipality or county's moderate-income housing element not only helps wildlife but also aligns with a community's broader environmental goals.

Environmental Element

For municipalities, General Plans may, but are not required to, include an environmental element that addresses the protection, conservation, development and use of natural resources, including wildlife. See Utah Code §10-9a-403(3)(a)(i)(h).

When the goals, objectives, implementation strategies and elements are developed, the planning team drafts the General Plan. This draft is reviewed by the public and goes through several rounds of revision.

When the draft General Plan is finalized, the planning commission reviews it and either approves the plan or recommends further revisions. With approval from the planning commission, the General Plan is returned to the local governing body (either the city council or the county commission) for final adoption. In Utah, the law requires that General Plans be adopted by ordinance and adhere to state law, specifically Utah Code Title 10 (Municipalities) and Title 17 (Counties).

The adopted General Plan then becomes the primary document to inform decision-making for developing new ordinances, revising existing ordinances and planning for managed, sustainable and equitable growth. General Plans are dynamic and require periodic updates — typically every five to ten years — in response to significant growth, emerging issues or changing laws.

Ultimately, the process of preparing and adopting a General Plan in Utah is thorough, collaborative and flexible. A well-prepared General Plan is essential for providing a roadmap for how a municipality or county can and should grow in a managed, sustainable and equitable way that also aligns with the needs and interests of the community.





Resource Management Plans

In 2015, Utah became the first state to require each county to develop county-wide Resource Management Plans. Every county is required to prepare and adopt a Resource Management Plan that addresses how natural resources on public lands within the county's jurisdiction will be used, managed and preserved. The purpose of developing Resource Management Plans is to communicate and coordinate with the federal government on land and resource management issues. County Resource Management Plans provide federal land managers with state and local plans, which, under federal law, they have to consider in their planning processes of public lands, and they have to attempt to resolve any conflict between federal, state, county and local plans. County Resource Management Plans are required to address a variety of elements, including mining, livestock, wetlands, land access and wildlife. See Utah Code §17-27a-401(3)(b)-(d).

Open Space Plans

An Open Space Plan is a policy document that plans for the use, management and preservation of open spaces within a specific area, such as a municipality or county. Typically, open spaces include undeveloped lands, parks, trails, agricultural lands, and other lands valued for recreation, conservation or scenic purposes.

In Utah, Open Space Plans are not required, but they are encouraged and recommended and often prepared and adopted within municipalities' and counties' General Plans. Under Utah Code §10-9a-403 and §17-27a-403, counties' and municipalities' General Plans are required to include a land use element that addresses how lands will be managed for a variety of uses. Even though an Open Space Plan is not required independently, municipalities and counties can include open space planning as a part of their general planning efforts.

Also, in light of Utah's exponential growth and increasing interest in outdoor recreation, wildlife conservation and managed growth, open space planning is becoming a best practice in Utah, even if not required by legislation. Many municipalities and counties are independently preparing and adopting standalone Open Space Plans or integrating open space elements into their General Plans.

Transportation Plans

A Transportation Plan, not to be confused with the required transportation and traffic circulation element, is a policy document that plans for the development and management of a transportation system within a municipality, region or county. A Regional Transportation Plan addresses transportation systems within a broader metropolitan or regional area. Typically, the modes of transportation that are covered by a Transportation Plan include roads, public transit, pedestrian paths and airports.

Municipalities and counties are required to include a transportation and traffic circulation element in their General Plans that addresses current and planned transportation infrastructure development near transit or other areas to connect housing, employment and public services, and aligns with population, employment and land use projections.

In Utah, integrating wildlife crossings and preserving open spaces near transportation infrastructure are becoming increasingly common elements in Transportation Plans across the state.



Plan Implementation

Implementation of a General Plan is an important part of the planning process that actualizes a community's needs and interests into tangible outcomes. A thoughtfully and thoroughly prepared General Plan's measurable success depends on its implementation. There are several ways a municipality or a county can implement its General Plan. In this report, the strategies are the recommended actions for a community to take to implement the model goals and objectives outlined within the Model General Plan.

Developing and adopting supporting ordinances: Ordinances provide the legal framework for enforcing the goals, objectives and strategies in a General Plan. An example of an implementation strategy includes:

- Creating new development ordinances or amending existing development ordinances that require or incentivize wildlife-friendly siting and design for new developments, such as wildlife-friendly fencing or clustering.

Integrating a General Plan into decision-making processes: An example of an implementation strategy includes:

- Encouraging all development projects to undergo wildlife impact assessments that specifically address habitat connectivity, with the assessment being a key criterion in the review process.

Establishing partnerships: An example of an implementation strategy includes:

- Establishing partnerships with private landowners to put a conservation easement in place to protect a key migration corridor.

Seeking funding and other resources: An example of an implementation strategy includes:

- Pursuing funding through state and federal wildlife grants, such as those for habitat improvement projects or wildlife crossings.

Enabling and encouraging public engagement: An example of an implementation strategy includes:

- Forming an advisory board made up of wildlife biologists, managers, planners, and other qualified experts and community representatives to provide input on habitat connectivity goals, objectives and strategies.

It is important to note that counties and municipalities have different administrative makeups and capacities based on population density, geographic area, service demands and available resources, and not all municipalities and counties have sufficient resources to dedicate to planning and implementing strategies for habitat connectivity.

Because of these challenges, collaboration with the Utah Division of Wildlife Resources (UDWR) and other state agencies, like the Utah Department of Transportation (UDOT), is essential for municipalities and counties. Planners can make use of the expertise, data and available resources through UDWR to enhance planning documents and elevate implementation. For example, UDWR can support municipalities and counties by providing technical assistance and data to inform planning decisions or offering grant opportunities or cost-sharing programs for projects that maintain and enhance habitat connectivity.

By establishing these agency partnerships, municipalities and counties can align their planning efforts with state-level goals, ensuring a unified and comprehensive approach to maintaining and enhancing habitat connectivity across Utah.



Model General Plan

An element in a General Plan typically follows a goals-objectives-strategies structure. **Goals** are broad, big-picture statements describing a desired future condition. **Objectives** are general descriptions of the steps the municipality or county should take to meet its goals. Objectives are attainable and measurable. **Strategies** (also known as actions or policies) are specific actions that the municipality or county can take to attain the objectives, such as programs or projects, partnerships, or land use ordinances.

The Model General Plan section in this toolkit has objectives and implementation strategies for identifying, maintaining, protecting, enhancing and restoring habitat connectivity and for guiding planning and decision-making in the future with a high priority on wildlife.

Existing Wildlife Conditions

It is recommended that a municipality or county include an introductory section that identifies key wildlife resources within the municipality or county. This section is important for contextualizing a community's goals, objectives and strategies. Most, if not all, General Plans in Utah have some sort of overview of the community's environmental resources, including existing wildlife conditions.



Iron County's Existing Wildlife Conditions Section

There are many aspects of wildlife management in Iron County due to the number of species and diverse nature of the county. Issues to consider are development and human population growth, habitat types (lush mountains vs dry deserts), changing habitats (encroaching plant communities), status of crucial ranges, migration, impacts of predation, etc. Populations of many species of wildlife have declined over the past 30 years due to a variety of factors. Adequate measures are needed to recover and conserve species populations and habitats of concern or some of these species may become federally listed in the future. Best management practices for wildlife focus on principles and actions that allow people and wildlife to coexist, and are creating or maintaining healthy wildlife populations and habitat. UDWR, in conjunction with local sportsmen groups and interested parties have developed species management plans to provide guidance and direction for a number of species in the State and County. These plans are taken through a public process to gather input from interested constituents and presented to the Utah Wildlife Board for approval. Species in Iron County covered by these plans include wild turkey, chukar, greater sage-grouse, mule deer, elk, pronghorn, Utah prairie dog, beaver, black bear, cougar, bobcat, and wolf. A few important programs that provided funding and partnerships to properly manage habitat and wildlife include: Watershed Restoration Initiative, Utah Conservation Permit Program, Pittman and Robertson Funds, Dedicated Hunter Program.

Model Existing Wildlife Conditions:

Utah is known for its love of wildlife, and **our community** is no different. Our residents see thriving local wildlife as a part of the community's identity. **Our community** understands that suitable, connected habitat and open space are necessary to support wildlife's ability to move. Connectivity is essential not only for wildlife but also for our residents who value hunting, wildlife-viewing, eco-tourism and outdoor recreation.

Our community is home to diverse wildlife resources. Key species in the area include: [list valued and priority wildlife, e.g., mule deer, migratory birds or native fish].

By integrating habitat connectivity into planning, our community will ensure that both residents and wildlife can coexist and thrive.

Overall Goal

Model Goal: To identify, maintain, protect, enhance and restore habitat connectivity

Objectives and Implementation Strategies

OBJECTIVE 1: Integrate habitat connectivity into the Municipality/County's decision-making process.

STRATEGY: Habitat Connectivity in Municipal/County Plans

BEST: The Municipality/County **shall integrate** habitat connectivity goals and objectives **into all elements of the General Plan** to ensure that wildlife movement is **maintained and enhanced** across land use, transportation and environmental policies and practices.

BETTER: The Municipality/County **should consider** habitat connectivity goals and objectives **in all relevant elements of the General Plan** so that wildlife movement is **addressed** in land use, transportation and environmental policies and practices.

GOOD: The Municipality/County **may include** habitat connectivity goals and objectives **in the General Plan**, ensuring that wildlife is **accounted for in** land use, transportation and environmental policies and practices.

STRATEGY: Municipal/County Wildlife Advisory Board *(See Minimum Recommendations for Conservation Designs)*

BEST: The Municipality/County **shall establish** a wildlife advisory board made up of wildlife biologists, managers, planners, and other qualified experts and community stakeholders to **evaluate development proposals, ensuring they are designed and sited to avoid, minimize and mitigate impacts to habitat connectivity.**

BETTER: The Municipality/County **may establish** a wildlife advisory board made up of wildlife biologists, managers, planners, and other qualified experts and community stakeholders **to evaluate development proposals and provide siting and design recommendations that avoid, minimize and mitigate impacts to habitat connectivity.**

GOOD: The Municipality/County **may establish** a wildlife advisory board made up of wildlife biologists, managers, planners, and other qualified experts and community stakeholders **to review development proposals for potential impacts to habitat connectivity.**

STRATEGY: Municipal/County Infrastructure and Public Works *(See Minimum Recommendations for Conservation Designs)*

BEST: The Municipality/County **shall** site and design municipal/county infrastructure and public works projects, including roads, parks and utilities, to avoid, minimize and mitigate barriers to habitat connectivity.

GOOD: The Municipality/County **will prioritize** siting and designing municipal/county infrastructure and public works projects, including roads, parks and utilities, to avoid, minimize and mitigate barriers to habitat connectivity.

STRATEGY: Agriculture

BEST: The Municipality/County **shall actively support** agriculture **as a critical means** of maintaining habitat connectivity and **will develop best management practices for how to maintain and enhance wildlife movement on agricultural lands.**

BETTER: The Municipality/County **will support** agriculture **as a means** of maintaining habitat connectivity and **will encourage practices that enable wildlife movement on agricultural lands.**

GOOD: The Municipality/County **will support** agriculture **as a means** of maintaining habitat connectivity.

STRATEGY: Siting

BEST: The Municipality/County **shall require** that industrial, commercial and residential land uses and development be sited in areas where impacts to habitat connectivity **are** avoided, minimized or mitigated.

BETTER: The Municipality/County **shall recommend** that industrial, commercial and residential land uses and development be sited in areas where impacts to habitat connectivity **are** avoided, minimized or mitigated.

GOOD: The Municipality/County **will encourage** that industrial, commercial and residential land uses and development be sited in areas where impacts to habitat connectivity **can** be avoided, minimized or mitigated.

STRATEGY: Mitigation Hierarchy

BEST: The Municipality/County **shall encourage** private development projects **to follow and implement** a mitigation hierarchy — avoidance, minimization, restoration and offsetting — to address impacts on habitat connectivity.

GOOD: The Municipality/County **will recommend** that

private development projects **follow** a mitigation hierarchy — avoidance, minimization, restoration and offsetting — to address impacts to habitat connectivity.

STRATEGY: Plan Adoption and Implementation

BEST: The Municipality/County shall prioritize habitat connectivity and crucial wildlife habitats identified in this plan by adopting and implementing this plan.

OBJECTIVE 2: Identify crucial wildlife habitat, migration corridors and stopover sites within the Municipality/County.

STRATEGY: Partnership with UDWR

BEST: The Municipality/County **shall collaborate** with UDWR and **other relevant state and federal wildlife and land management agencies** to identify crucial wildlife habitat, migration corridors and stopover sites.

GOOD: The Municipality/County **will consult** with UDWR and **other state and federal wildlife and land management agencies** to identify crucial wildlife habitat, migration corridors and stopover sites.

STRATEGY: Habitat Connectivity Maps

BEST: The Municipality/County **will identify and integrate** crucial wildlife habitat, migration corridors and stopover sites **into** the Municipality/County's General Plan and Land Use Plan, Open Space Plan and/or any other relevant plans, **ensuring that these maps are considered and prioritized in all planning efforts.**

BETTER: The Municipality/County **will identify** crucial wildlife habitat, migration corridors and stopover sites in the Municipality/County's General Plan and Land Use Plan, Open Space Plan and/or any other relevant plans, **to the extent possible.**

GOOD: The Municipality/County **may consider** crucial wildlife habitat, migration corridors and stopover sites as part of the Municipality/County's General Plan and Land Use Plan, Open Space Plan and/or any other relevant plans.

STRATEGY: Land Use Classification System

BEST: The Municipality/County **shall** develop a land use classification system designating lands **for open space, wildlife habitat, environmental and/or conservation**

management, and **shall** include this classification system in the Municipality/County's Future Land Use Map.

GOOD: The Municipality/County **will consider** developing a land use classification system designating lands **for various management purposes, which may include open space, wildlife habitat and/or conservation,** and **may** include this classification system in the Municipality/County's Future Land Use Map.

OBJECTIVE 3: Enable and encourage private landowners to protect habitat connectivity.

STRATEGY: Conservation Easements and Other Funding Resources *(See Open Space Acquisition Strategies)*

BEST: The Municipality/County **shall** develop resources on conservation easements and potential funding sources **to protect, maintain and enhance** crucial wildlife habitat, migration corridors and stopover sites on private lands.

GOOD: The Municipality/County will develop resources on conservation easements and potential funding sources **to maintain** crucial wildlife habitat, migration corridors and stopover sites on private lands.

STRATEGY: Wildlife-Friendly Fencing Guidelines

BEST: The Municipality/County **shall develop guidelines** for wildlife-friendly fences on private property that reduce wildlife mortality and allow for wildlife movement.

BETTER: The Municipality/County **will encourage best management practices** for wildlife-friendly fences on private property that reduce wildlife mortality and allow for wildlife movement.

GOOD: The Municipality/County **will share information** on wildlife-friendly fences on private property that reduce wildlife mortality and allow for wildlife movement.

STRATEGY: Wildlife-Friendly Fence Modification Funding Resources *(See Minimum Recommendations for Conservation Designs)*

BEST: The Municipality/County **shall develop** a financial incentive program to encourage private landowners to implement wildlife-friendly fences.

GOOD: The Municipality/County **will share information** on wildlife-friendly fences on private property that reduce wildlife mortality and allow for wildlife movement.

STRATEGY: Incentive Programs for Habitat Connectivity

BEST: The Municipality/County shall develop incentive programs for private landowners to encourage maintenance and enhancement of habitat connectivity and restoration on private lands within identified crucial wildlife habitat, migration corridors and stopover sites.

OBJECTIVE 4: Ensure that energy development projects avoid or minimize impacts on habitat connectivity.

STRATEGY: Land Use Ordinances for Energy Development

BEST: The Municipality/County **shall** develop and adopt land use ordinances to **avoid, limit and mitigate** impacts on habitat connectivity.

GOOD: The Municipality/County **may consider** adopting land use ordinances to **avoid and limit** impacts on habitat connectivity.

STRATEGY: Wildlife Impact Assessments for Energy Development

BEST: The Municipality/County **shall require** wildlife impact assessments that **specifically** address **crucial wildlife habitat, migration corridors and stopover sites,** and **propose** mitigation measures for any proposed energy development projects.

BETTER: The Municipality/County **may require** wildlife impact assessments that **consider wildlife movement** and propose mitigation measures for certain proposed energy development projects.

GOOD: The Municipality/County **will recommend and encourage** wildlife impact assessments that **address wildlife movement** and propose mitigation measures for any proposed energy development projects.

STRATEGY: UDWR Consultation

BEST: The Municipality/County **shall** consult with UDWR when permitting energy development projects to ensure that habitat connectivity is **fully integrated into project planning and implementation.**

GOOD: The Municipality/County **will** consult with UDWR when permitting energy development projects to ensure that habitat connectivity is **considered when planning and implementing energy development projects.**

OBJECTIVE 5: Establish a connected network of undeveloped open space areas to maintain and enhance habitat connectivity.

STRATEGY: Open Space Plans and Habitat Connectivity

BEST: When developing, adopting and **periodically** updating an Open Space Plan, the Municipality/County **shall** identify and map suitable lands for the protection of wildlife movement and wildlife-related recreation.

GOOD: When developing, adopting, and updating an Open Space Plan **as needed**, the Municipality/County **may** identify and map suitable lands for the protection of wildlife movement and wildlife-related recreation.

STRATEGY: Open Space Acquisition *(See Open Space Acquisition Strategies)*

BEST: The Municipality/County **shall** develop and implement strategies to acquire and maintain suitable lands for the protection of wildlife movement and recreation.

GOOD: The Municipality/County **may** develop and implement strategies to acquire and maintain suitable lands for the protection of wildlife movement and recreation.

STRATEGY: Open Space Set-Asides *(See Minimum Recommendations for Conservation Designs)*

BEST: The Municipality/County **will require** new developments to set aside a portion of land as open space that connects to identified crucial wildlife habitats, migration corridors and stopover sites.

GOOD: The Municipality/County **will recommend and encourage** that new developments set aside a portion of land as open space that connects to identified crucial wildlife habitats, migration corridors or stopover sites.

OBJECTIVE 6: Establish and enforce requirements for new and existing development that protect and enhance habitat connectivity.

STRATEGY: Permitting and Review Process

BEST: The Municipality/County **shall integrate** habitat connectivity as a key factor in the permitting and review process for new developments above XXX size. (This applies to new developments exceeding a certain acreage, number of units, density or other threshold to be determined by the Municipality/County in consultation with UDWR.)

GOOD: The Municipality/County **may include** habitat connectivity as a key factor in the permitting and review process for new developments. (This applies to new developments exceeding a certain acreage, number of units, density or other threshold to be determined by the Municipality/County).

STRATEGY: UDWR Consultation

BEST: The Municipality/County **shall** consult with UDWR to evaluate any potential impacts that **a new or existing development** will have on habitat connectivity and **develop mitigation measures.**

GOOD: The Municipality/County **may** consult with UDWR to evaluate any potential impacts that **a new development** will have on habitat connectivity and **develop strategies for maintaining and enhancing habitat connectivity if necessary.**

STRATEGY: Land Use Ordinances and Habitat Connectivity

BEST: The Municipality/County **shall develop and adopt** new land use ordinances and review and update existing ones to ensure that habitat connectivity is **prioritized** in Municipality/County policies, programs, partnerships and practices.

BETTER: The Municipality/County **shall consider the need** for new land use ordinances and review and update existing ones to ensure that habitat connectivity is **considered** in Municipality/County policies, programs, partnerships and practices.

GOOD: The Municipality/County **may consider the need** for new land use ordinances and reviewing and updating existing ones to ensure that habitat connectivity is **acknowledged** in Municipality/County policies, programs, partnerships and practices.

STRATEGY: Localized and Cumulative Impacts

BEST: When evaluating a proposal for a new development project, the Municipality/County **shall consider** the development's **potential project-specific/localized and cumulative impacts** on the movement of wildlife **at a range of spatial scales, including local scales (e.g., hundreds of feet) and regional scales (e.g., tens of miles).**

BETTER: When evaluating a proposal for a new development project, the Municipality/County **may consider** the development's **potential impacts** on the movement of wildlife **at a range of spatial scales, including local scales (e.g., hundreds of feet) and regional scales (e.g., tens of miles).**

GOOD: When evaluating a proposal for a new development project, the Municipality/County **may encourage consideration** of the development's **potential impacts** on the movement of wildlife.

STRATEGY: Habitat Connectivity Overlay Zones *(See Habitat Connectivity Overlay Zone)*

BEST: The Municipality/County **shall develop and adopt** habitat connectivity overlay zones.

BETTER: The Municipality/County **may develop and adopt** habitat connectivity overlay zones.

GOOD: The Municipality/County **will consider developing and adopting** habitat connectivity overlay zones.

STRATEGY: Sensitive Lands Overlay Zones

BEST: If they exist, the Municipality/County **shall** include crucial wildlife habitats, migration corridors and stopover sites as applicable areas in the existing Sensitive Lands Overlay Zone, or any other equivalent land use ordinance. If none exist, the Municipality/County **shall** develop and adopt sensitive lands overlay zones that include crucial wildlife habitats, migration corridors and stopover sites as applicable areas.

GOOD: If they exist, the Municipality/County **may consider** including crucial wildlife habitats, migration corridors and stopover sites as applicable areas in the existing Sensitive Lands Overlay Zone, or any other equivalent land use ordinance. If none exist, the Municipality/County **may consider** developing and adopting sensitive lands overlay zones that include crucial wildlife habitats, migration corridors and stopover sites as applicable areas.

STRATEGY: Conservation Design Standards *(See Minimum Recommendations for Conservation Design)*

BEST: The Municipality/County **shall** develop and adopt an ordinance that requires developers to **integrate** conservation design standards that **specifically address** habitat connectivity.

BETTER: The Municipality/County **will** develop and adopt an ordinance that requires developers to **incorporate** conservation design standards that **consider** habitat connectivity.

GOOD: The Municipality/County **will establish** conservation design standards that specifically address habitat connectivity and **will recommend and encourage developers** to adopt these standards for all proposed development projects.

STRATEGY: Incentives for Developers *(See Minimum Recommendations for Conservation Designs)*

BEST: The Municipality/County shall develop incentive programs for developers, including, but not limited to, streamlined permitting processes and preferential property taxes, to adopt development design standards that specifically address habitat connectivity.

OBJECTIVE 7: Improve wildlife movement where crucial wildlife habitats, migration corridors or stopover sites intersect with roadways and reduce wildlife-vehicle collisions.

STRATEGY: Partnership with UDWR and UDOT

BEST: The Municipality/County **shall collaborate** with UDWR and UDOT to identify wildlife-vehicle collision hotspots and other barriers to habitat connectivity, and to mitigate any hotspots and barriers.

GOOD: The Municipality/County **will support** UDWR and UDOT's efforts to identify wildlife-vehicle collision hotspots and other barriers to habitat connectivity, and to mitigate any hotspots and barriers **as needed**.

STRATEGY: Funding and Partnerships

BEST: The Municipality/County shall actively seek funding and partnerships to implement strategies to reduce wildlife-vehicle collisions and other barriers to habitat connectivity.

STRATEGY: Documentation of Wildlife Trends

BEST: The Municipality/County **shall assist** UDWR and UDOT in documenting wildlife trends, including enabling and encouraging the Municipality/County staff to utilize tools such as a wildlife-vehicle collision reporter.

BETTER: The Municipality/County **may assist** UDWR and UDOT in documenting wildlife trends, including enabling and encouraging the City/County staff to utilize tools such as a wildlife-vehicle collision reporter.

GOOD: The Municipality/County **will support** UDWR and UDOT's efforts to document wildlife trends.

STRATEGY: Wildlife Crossings Maps

BEST: The Municipality/County **shall** identify and map locations for wildlife crossings and **integrate** these locations into all existing and future Transportation Plans.

BETTER: The Municipality/County **may** identify and map locations for wildlife crossings and **include** these locations in all existing and future Transportation Plans.





Case Study

Eagle Mountain, Utah, has proactively created and adopted a General Plan that has strong objectives and implementation strategies for identifying, maintaining, protecting, enhancing and restoring habitat connectivity and for guiding planning and decision-making in the future with a high priority on wildlife. Eagle Mountain understands that important habitat is lost as the City continues to grow, develop and urbanize, that Eagle Mountain residents value healthy, diverse and connected wildlife and habitats, and that proactive, strategic planning is essential to ensure that residents and wildlife can coexist and thrive.

A notable part of Eagle Mountain's General Plan is the establishment of the Wildlife Corridor Overlay Zone (WCOZ), making Eagle Mountain the first city in Utah to implement such a zoning ordinance. It protects important corridors by restricting development in areas critical for wildlife movement, especially the mule deer migration route. The WCOZ is integrated directly into the City's zoning maps and is supported by spatial data. However, Eagle Mountain's efforts go beyond zoning. The Plan also outlines specific goals to strategically site residential subdivision development with the intention to protect wildlife habitat and corridors.

Eagle Mountain's General Plan provides an exemplary framework for balancing growth, development and urbanization with protecting the community's valued wildlife. Through thoughtful and thorough planning, the City is taking significant and pioneering steps to ensure that habitat connectivity becomes and remains a priority in planning and decision-making processes in local governments across Utah.



Model Resource Management Plan

To reiterate, in 2015, Utah became the first state to require each county to develop county-wide Resource Management Plans. Every county is required to prepare and adopt a Resource Management Plan that addresses how natural resources on public lands within the county's jurisdiction will be used, managed and preserved. The purpose of developing Resource Management Plans is to communicate and coordinate with the federal government on land and resource management issues. County Resource Management Plans offer federal land managers a vision from counties, which federal law requires them to consider in their planning processes. Additionally, they must attempt to fix any conflict between federal, state, county and local plans. County Resource Management Plans are required to address a variety of elements, including mining, livestock, wetlands, land access and wildlife. See Utah Code §17-27a-401(3)(b)-(d).

The required Wildlife section in a Resource Management Plan must (1) establish findings pertaining to wildlife, (2) establish defined objectives and (3) outline general policies and guidelines on how the objectives are to be accomplished. See Utah Code §17-27a-401. Typically, a Resource Management Plan has a Findings section with Definitions, Existing Wildlife Conditions, Legal Context, and Desired Future State subsections, as well as Management Objectives and Associated Policies and Guidelines sections with the county's wildlife management goals and the general approaches to achieve those goals.

The Model Resource Management section in this toolkit has findings, objectives, and policies and guidelines for identifying, maintaining, protecting, enhancing and restoring habitat connectivity and for guiding planning and decision-making in the future with a high priority on habitat connectivity.

Wildlife

Model Definition:
Wildlife is the population of undomesticated animals living in a natural environment, including both game and nongame species. In Utah, "wildlife" includes vertebrate animals (fish, amphibians, reptiles, birds, mammals) as well as brine shrimp, crayfish and mollusks. This Section does not specifically address sensitive species or aquatic wildlife.

Rich County's Wildlife Definition Section

In Utah, "wildlife" includes brine shrimp and crayfish, mollusks, and vertebrate animals (fish, amphibians, reptiles, birds and mammals) living in nature, except for feral animals. Wildlife are protected, except for coyotes, field mice, gophers, ground squirrels, jack rabbits, muskrats, raccoons and skunks. Rare species and those subject to federal listing under the Endangered Species Act are referenced more fully in the chapter entitled "Threatened, Endangered, and Sensitive Species." Although fish are legally considered "wildlife," fisheries and angling-related benefits for local economies are addressed in the "Fisheries" chapter.

Wildlife and their habitat contribute to a productive natural environment. They improve our quality of life and provide a rich source of aesthetic enjoyment, inspiration and outdoor recreation for many people. At the same time, we all need to recognize that wildlife can have an impact on the economic activities of mankind, influencing how people experience the benefits of their private property. Wildlife can affect local economies in both positive and negative ways. Most people support efforts to find a balance between the habitat requirements of wildlife populations and the economic activities of man. Wildlife are capable of yielding important social and economic values, including hunting, photography and wildlife observation.

Findings

Model Legal and Regulatory Context:

Under Title 23A Wildlife Resources Act, all wildlife found in the state are property of the state, and the Utah Department of Wildlife Resources (UDWR) is the primary wildlife management authority for the state. It is UDWR's responsibility to protect, propagate, manage, conserve and distribute protected wildlife throughout the state, regardless of land ownership and jurisdiction. The state Wildlife Board and five Regional Advisory Committees (RACs) help UDWR with decision-making and planning by providing local input on wildlife-related issues. Each RAC is made up of interest-group representatives from agriculture, sportsmen, federal land agencies and elected officials. The County recognizes the authority of UDWR, the Wildlife Board and RACs in managing the wildlife in the County.



UDWR has published species-specific statewide and unit management plans for big game (i.e., bighorn sheep, bison, mule deer, elk, moose, mountain goat, pronghorn and black bear), furbearers (i.e., beaver, bobcat, Gunnison and white-tailed prairie dog, and northern river otter), upland game (i.e., chukar and sage-grouse) and turkeys. UDWR collaborates and coordinates with federal agencies, such as the Bureau of Land Management (BLM), the U.S. Forest Service (USFS) and the U.S. Fish and Wildlife Service (USFWS), to ensure that management plans are aligned with wildlife's needs. It is also important to note that federal land managers must consider wildlife and their habitats in Forest Plans (for the USFS) and Resource Management Plans (for the BLM), as well as during National Environmental Policy Act (NEPA) analysis.

Utah's Wildlife Action Plan (UWAP) is a statewide conservation strategy to protect and manage Species of Greatest Conservation Need (SGCN) and their crucial habitats with the intention of preventing species from being listed under the Endangered Species Act (ESA). The UWAP inventories key species and habitats, identifies threats to these species and habitats, and provides strategies to manage these habitats and to reduce threats. It is important to note that habitat for wildlife crosses jurisdictional boundaries and is best managed by cooperative means. See Utah's Species of Greatest Conservation Need by County.

With the loss, fragmentation and degradation of crucial habitat because of increasing road construction, off-highway vehicle use, energy development, drought, wildfire and urbanization, wildlife populations have declined, and adequate and appropriate measures are needed to maintain, enhance and recover wildlife populations, habitats and connectivity.

(This language is standard across Resource Management Plans and represents the "best" language to include in the Definition and Findings sections. Almost all Utah counties are already including this language.)

Model Existing Wildlife Conditions:

The County is home to diverse and abundant wildlife resources. Species in the area include: [list wildlife found in the County that have been identified as a SGCN by UDWR, e.g., mule deer, elk and pronghorn].

The County's residents see thriving local wildlife as a part of the community's identity. The County understands that suitable, connected habitat and open space are necessary to support wildlife's ability to move. Connectivity is essential not only for wildlife but also for our residents who value hunting, wildlife-viewing, eco-tourism and outdoor recreation.

By integrating habitat connectivity into resource management planning, the County will ensure that both residents and wildlife can coexist and thrive.

Model Desired Future State:

The County is committed to maintaining and enhancing diverse, abundant and healthy native wildlife populations for important environmental, social and economic reasons. County residents believe that wildlife populations, habitat and connectivity should be integrated into future resource management planning and decision-making. To support wildlife, the County desires to identify, maintain, protect, enhance and restore habitat connectivity. The County desires to mitigate conflicts between wildlife and other land use objectives. The County desires to actively participate in statewide wildlife management by collaborating and coordinating with the state Wildlife Board, RACs and UDWR.

Overall Goal

Model Overall Goal: To adequately and appropriately manage wildlife resources and lands for important environmental, social and economic reasons by supporting Utah's Wildlife Action Plan (UWAP) and species-specific management plans.



Management Objectives, Policies and Guidelines

OBJECTIVE 1: Maintain and enhance habitat connectivity.

POLICY: Provide access to suitable habitat for big game populations in coordination and collaboration with UDWR, other state and federal wildlife and land management agencies, and other stakeholders.

GUIDELINE: Identify key habitats for priority migratory and wide-ranging species, such as elk, mule deer and pronghorn, using and referring to wildlife data provided by UDWR, UDOT and other sources on federal public lands within the County.

GUIDELINE: Identify key barriers and threats to habitat connectivity using and referring to wildlife data provided by UDWR, UDOT and other sources on federal public lands within the County to inform mitigation and restoration priorities.

GUIDELINE: Retrofit existing fences to wildlife-friendly specifications and remove unnecessary or inoperative fences in identified key habitats on federal public lands within the County (see Wildlife-Friendly Fencing).

GUIDELINE: Work with UDOT, UDWR and other stakeholders to site and construct wildlife crossings (underpasses and overpasses) on high-risk road segments to improve safe wildlife movement across roads on federal public lands within the County.

POLICY: Maintain connectivity of large, continuous blocks and corridors of land for migratory and wide-ranging species, such as elk, mule deer and pronghorn.

GUIDELINE: Identify existing large and intact habitat blocks and corridors using and referring to wildlife data provided by UDWR, UDOT and other sources on federal public lands within the County.

GUIDELINE: Identify potential lands that support the connectivity of large, continuous habitat blocks or corridors. This includes assessing and mapping parcels that, if managed appropriately, would maintain and enhance habitat connectivity. Prioritize lands for acquisition or cooperative management.

GUIDELINE: Adopt land use designations, such as Area of Critical Environmental Concern (ACEC), Conservation Lands Designation or Habitat Management Area (HMA), on identified key habitats to prevent or limit future fragmentation.

Federal Land Use Designations

Federal agencies do not "zone" like municipalities do — but through land use designations, they can effectively prevent or limit fragmentation on federal public lands.

Most Restrictive:
Conservation Lands Designations (e.g., National Conservation Areas, Wilderness Study Areas, Wild and Scenic Rivers) — Administered by the Bureau of Land Management (BLM). "Conservation Lands" is a broad umbrella for areas managed by the BLM with significant conservation value. It includes National Monuments, National Conservation Areas, Wilderness Areas, and Wild and Scenic Rivers, among others. Conservation Lands designations are more restrictive than standard BLM lands and typically prioritize the protection of ecologically important large landscapes, such as migration corridors and habitat blocks. Conservation Lands often link together protected areas across jurisdictional boundaries, creating larger, more connected landscapes. Conservation Lands typically prohibit or heavily restrict intensive activities. This land use designation usually has strong protections in place with explicit wildlife protection mandates.

Moderately Restrictive:
Area of Critical Environmental Concern (ACEC) — Administered by the Bureau of Land Management (BLM). An ACEC is a BLM land designation that identifies areas where special management is needed to protect important natural, cultural or scenic values, including wildlife habitat. Management guidelines are customizable — based on the resources at risk and of interest (e.g., seasonal closures, development exclusions, habitat restoration or improvement).

ACECs can restrict intensive activities, such as mining, energy exploration and extraction and road-building. This land use designation's level of protection varies by site — some ACECs may have strong protections in place, while others may allow more activities with conditions. Unlike Conservation Lands, ACECs are not permanent designations. They can be revised in BLM RMPs.

Least Restrictive:
Habitat Management Areas (HMA) - Administered by the Bureau of Land Management (BLM). An HMA is a BLM land management unit specifically designated for the protection of wildlife habitat, with management guidelines tailored to the needs of key species. HMAs are identified in BLM Resource Management Plans (RMPs) as priority habitat areas and management objectives prioritize maintaining or enhancing habitat conditions. HMAs can restrict intensive activities. HMAs generally operate within the broader multiple-use mandate. More intensive land uses can still happen, but with modified management to minimize impacts on wildlife habitat.

POLICY: Provide for sustained diversity of species at the genetic, population, community and ecosystem levels.

GUIDELINE: Protect diverse habitat types, such as riparian corridors, wetlands, shrublands, forests and sagebrush-steppe, to support species diversity.

GUIDELINE: Continue efforts to maintain and enhance wildlife movement across large landscapes to support genetic connectivity among populations.

GUIDELINE: Encourage habitat restoration projects, such as native plant reseeding and invasive species control.

GUIDELINE: Continue to support species monitoring efforts, such as big game collaring, to guide adaptive management.

GUIDELINE: Manage federal public lands to prevent or limit habitat bottlenecks or outright fragmentation that isolates populations.

POLICY: Provide adequate big game winter range habitat to reduce urban conflicts.

GUIDELINE: Identify key winter ranges for big game using and referring to wildlife data provided by UDWR, UDOT and other sources on federal public lands within the County.

GUIDELINE: Protect key winter ranges for big game from intensive land uses and infrastructure and development projects by implementing protective designations or land use exclusions in plans and permitting processes.

GUIDELINE: Encourage winter range restoration projects, such as pinyon-juniper removal.

POLICY: Continue efforts to improve and increase forage for wildlife on federal public lands.

GUIDELINE: Continue to collaborate on habitat restoration and improvement projects.

GUIDELINE: Continue to participate in and support Utah's Watershed Restoration Initiative (WRI) and projects that improve and increase forage.

GUIDELINE: Partner with nongovernmental organizations and wildlife interest groups for project implementation to improve and increase forage.

POLICY: Develop federal land and resource management plans that include policies that maintain and enhance habitat connectivity within the County.

GUIDELINE: Encourage collaborative and coordinated participation by UDWR, other state and federal wildlife and land management agencies, and other stakeholders in federal land and resource management plan development and redevelopment.

GUIDELINE: Refer to state and locally available wildlife data to inform general planning decisions. Consult early and often with UDWR and UDOT to inform federal-level planning and decision-making.

GUIDELINE: Support UDWR and any other appropriate state and federal wildlife and land management agencies and other stakeholders' efforts to identify lands that are important for wildlife connectivity on federal public lands within the County.

POLICY: Encourage collaboration and coordination among the County, municipalities, and state and federal land and wildlife agencies to identify opportunities to establish and manage connected open space parcels.

GUIDELINE: Pursue joint open space acquisition with other entities, such as the County. This can be done through cooperative agreements, the Land and Water Conservation Fund (LWCF), land exchanges or other collaborative acquisition efforts.

GUIDELINE: Establish collaborative management processes across boundaries and jurisdictions with state and federal agencies and the County, such as creating joint landscape-level management plans between the Bureau of Land Management (BLM), the U.S. Forest Service (USFS) and the County.



Collaborative Open Space Acquisition Efforts

Collaborative open space acquisition efforts can leverage financial and technical resources and expertise and ensure long-term protection of priority open spaces that span jurisdictional boundaries.

Cooperative agreements are formalized agreements between two or more entities that outline shared responsibilities and financial contributions related to the joint acquisition and management of open space.

The Land and Water Conservation Fund (LWCF) is a federally funded program that provides matching grants to state and local governments to support the acquisition of open spaces and the development of recreation.

Other collaborative acquisition efforts may include joint fundraising campaigns, joint grant applications and conservation easements purchased in partnership, among others.



POLICY: Coordinate federal public land management decisions with state wildlife management agencies. Support state-led initiatives or programs designed to balance wildlife populations that may be experiencing a scientifically proven decline in numbers.

GUIDELINE: Enable and encourage the County to participate in federal public land management planning and decision-making processes as a cooperating agency.

GUIDELINE: Continue to support UDWR's initiatives and programs, such as the Utah Migration Initiative.

POLICY: Support wildlife management that seeks an optimal balance between wildlife, livestock and humans.

GUIDELINE: Engage in local, multi-stakeholder working groups that focus on managing land, wildlife and natural resources at the local, county and regional levels to ensure that wildlife interests are represented.

GUIDELINE: Continue to support multiuse land planning and decision-making that values wildlife, recreation, livestock and other interests.

GUIDELINE: Engage landowners and permittees in habitat restoration and improvement projects, such as fencing retrofits.

POLICY: Support responsible wildlife management.

GUIDELINE: Ensure that wildlife interests are given due consideration in all public land use and resource development decisions.

OBJECTIVE 2: Avoid, minimize or mitigate threats and stressors that impact species and habitats.

POLICY: Minimize or avoid intensive land uses, developments and infrastructure projects in and near identified areas important for habitat connectivity.

GUIDELINE: Avoid siting intensive land uses, developments or infrastructure projects, such as mining, grazing, roads or utility corridors, within or adjacent to identified key habitats. Consult with the County during permitting processes and travel management plan updates to ensure consistency with the County's wildlife priorities.

GUIDELINE: Proposed projects within or adjacent to identified areas important for habitat connectivity that cannot be avoided should be redesigned, downsized or relocated to maintain habitat connectivity.

GUIDELINE: Collaborate and coordinate with UDOT and UDWR to site, design, maintain

and update roads to avoid, minimize and/or mitigate wildlife-vehicle collisions.

GUIDELINE: Encourage the development of wildlife crossings on new and existing roads based on available wildlife movement and WVC hotspot data. Support mitigation measures that aim to mitigate WVCs.

POLICY: Enable and encourage responsible recreation that maintains and enhances habitat connectivity.

GUIDELINE: Support the County's efforts to maintain or enhance the economic and social benefits that come from wildlife-related recreation.

GUIDELINE: Encourage the monitoring and management of recreation to minimize, avoid and/or mitigate impacts on crucial wildlife habitats and populations.

GUIDELINE: Consider locating fee areas at certain trailheads on federal lands to reduce disturbance during sensitive wildlife seasons, such as big game breeding and calving.

POLICY: Enable and encourage responsible agricultural practices that maintain and enhance habitat connectivity.

GUIDELINE: Ensure that livestock grazing practices on federal public lands are managed in a way that maintains or enhances the quality and availability of forage for both livestock and wildlife, including big game such as mule deer, elk and pronghorn, by developing guidelines for managing grazing in identified key habitats.

GUIDELINE: Provide technical and financial assistance to grazing permittees on federal public lands to enable and encourage compliance with management guidelines.



Case Study

Summit County, Utah, has created and adopted a strong Wildlife section in its Resource Management Plan that establishes clear goals, policies and guidelines to maintain and enhance healthy, diverse wildlife populations and habitats, encourage coordinated management practices, and minimize wildlife-human conflicts.

Summit County's Wildlife section was developed specifically with the County's distinct local wildlife in mind, including its bighorn sheep populations. This approach is encouraged, as it ensures that policies and guidelines are targeted and actionable to the specific habitat and species, as well as management capacity and challenges in the area. Each county has unique existing wildlife conditions. Each county should take advantage of the flexibility built into this toolkit to develop a wildlife section in its resource management plan that aligns with the community. The goal of this toolkit is not to provide a one-size-fits-all approach but to provide a framework that counties can adapt to address wildlife specific to them.

Summit County's Wildlife section emphasizes the importance of protecting areas critical to wildlife movement, such as migration corridors and winter ranges, and encourages integrating wildlife considerations into county planning and decision-making processes, such as private development review processes. The Plan also highlights maintaining and enhancing connected open space parcels in collaboration with municipalities and state and federal agencies.

Summit County's Wildlife section is distinctive and noteworthy because it provides targeted management policies and guidelines for maintaining and enhancing habitat connectivity and offers implementable recommendations for planning and decision-making at the county and federal levels.

Model Open Space Plan

Open Space Plans are not required in Utah, though many municipalities and counties are either including open space sections in their General Plans or developing and adopting separate Open Space Plans.

Because Open Space Plans are relatively uncommon in Utah, there is no standard structure for them. However, an Open Space Plan should have sections including an Introduction, an Inventory of Open Space with maps of existing open space, Goals, and Objectives and Strategies detailing the municipality or county's general approaches to achieve those goals.

The Model Open Space Plan section in this toolkit has goals, objectives and strategies for identifying, maintaining, protecting, enhancing and restoring open space for habitat connectivity purposes and for guiding planning and decision-making in the future with a high priority on habitat connectivity.

Introduction

Model Introduction:
Utah is known for its unparalleled access to open space. It is a defining feature of the state, and the Municipality/County is no different. The Municipality/County's open space is a unique and valued resource for our community's environmental, social and economic identity and success. [Insert descriptions of important open spaces found in the Municipality/County, e.g., Washington County is surrounded by thousands and thousands of acres of protected open space in Zion National Park, or Box Elder County is known for large expanses of de facto open space in agricultural lands].

The Municipality/County understands that connected tracts of open space are necessary to support wildlife's ability to move. Open space is essential not only for wildlife but also for our residents who value hunting, wildlife-viewing and other outdoor recreation. The Municipality/County's important undeveloped sensitive lands should be protected for wildlife, outdoor recreation, aesthetics, and the overall well-being of our residents and our environment.

By integrating habitat connectivity into open space planning, the Municipality/County will ensure that both residents and wildlife can coexist and thrive.

Springdale, Utah's Introduction Section

In its General Plan, the Town of Springdale has identified the need to preserve additional open spaces within the Town boundaries. These preserved open spaces will complement the protected open space in the Park. Open space in the Town can protect viewsheds, provide connections from the protected open space in the Park to the Virgin River for wildlife and enhance community character. As directed by the General Plan, the Town will actively seek to preserve open space within the community to achieve these goals.

Overall Goal

Model Goal:
To use various open space acquisition strategies to protect important undeveloped sensitive lands, such as crucial wildlife habitats.



Objectives and Implementation Strategies

OBJECTIVE 1: Identify and prioritize important undeveloped sensitive lands.

STRATEGY: Open Space Lands Identification and Inventory

BEST: Using available spatial data, the Municipality/County shall identify and inventory lands that are important for maintaining and enhancing wildlife, open space and recreation. **These lands may include crucial wildlife habitat, migration corridors, wetlands, farmland and trails.**

GOOD: Using available spatial data, the Municipality/County may identify and inventory lands that are important for maintaining and enhancing wildlife, open space and recreation. **These lands may include any lands that are considered valuable to the community for wildlife, open space or recreational purposes.**

STRATEGY: Open Space Lands Prioritization

BEST: The Municipality/County **shall** create a ranking system to score and prioritize certain parcels of land that have been identified as important for maintaining and enhancing wildlife, open space and recreation. The Municipality/County shall collaborate and coordinate with UDWR, UDOT, and other relevant state and federal agencies to create this ranking system. Ranking criteria may include habitat quality; presence of certain species, such as mule deer, elk or pronghorn; proximity to or inclusion of migration corridors; proximity to existing or expanding developments; or habitat connectivity potential.

GOOD: The Municipality/County **may** create a ranking system to score and prioritize certain parcels of land that have been identified as important for maintaining and enhancing wildlife, open space and recreation.

STRATEGY: Integrating Prioritized Lands

BEST: The Municipality/County **shall** integrate lands identified for open space acquisition in the Open Space Plan into other relevant plans, such as the General Plan, Transportation Plan and, if applicable, Resource Management Plan.

GOOD: The Municipality/County **may** integrate lands identified for open space acquisition in the Open Space Plan into other relevant plans, such as the General Plan, Transportation Plan and, if applicable, Resource Management Plan.

STRATEGY: Open Space Acquisition Planning

BEST: The Municipality/County shall use these lists and maps of prioritized lands to create a plan for open space acquisition, which may include identifying key parcels for acquisition, estimating potential costs and funding sources, creating an implementation plan, and creating a public-facing open space lands map for the community.

GOOD: The Municipality/County may use these lists and maps of prioritized lands to plan for future open space acquisition and may create a public-facing open space lands map for the community.

OBJECTIVE 2: Use open space acquisition strategies to achieve open space goals.

STRATEGY: Open Space Acquisition Strategies

BEST: The Municipality/County **shall** utilize conservation easements, transfer of development rights and other acquisition strategies to support open space protection.

GOOD: The Municipality/County **may** explore the use of conservation easements, transfer of development rights and other acquisition strategies to support open space protection.

STRATEGY: Open Space Acquisition Fund

BEST: The Municipality/County **shall** create an open space acquisition fund and **develop new** funding sources, such as bonds, to finance the fund.

GOOD: The Municipality/County **may** create an open space acquisition fund and **explore potential** funding sources, such as bonds, to finance the fund.

STRATEGY: Development Incentives

BEST: The Municipality/County **shall** provide tax incentives to protect open space in new developments on prioritized lands.

GOOD: The Municipality/County **may consider** providing incentives, such as preferential property taxes (which keep taxes lower on agricultural and open space lands), to protect open space within new developments on prioritized lands.

STRATEGY: Regional Open Space Acquisition

BEST: The Municipality/County **shall collaborate and coordinate** with state and federal agencies, conservation land trusts, willing landowners, and other stakeholders **to identify and apply** for grant funding available with the intention of jointly acquiring open space for regional-scale protection.

GOOD: The Municipality/County **may explore opportunities to apply** for grant funding available for the protection of open space. **When possible,** the Municipality/County shall collaborate and coordinate with state and federal agencies, conservation land trusts, willing landowners, and other stakeholders to collectively research and apply for grant funding with the intention of jointly acquiring open space for regional-scale protection.

OBJECTIVE 3: Enable and encourage development in desired and appropriate locations.

STRATEGY: Siting for Habitat Connectivity

BEST: The Municipality/County **shall require** that industrial, commercial and residential land uses and development are sited in areas where impacts to habitat connectivity will be **avoided, minimized or mitigated.**

BETTER: The Municipality/County **may create incentive-based zoning tools, such as density bonuses or expedited/streamlined permitting**, for industrial, commercial and residential development projects that are sited in areas where impacts to habitat connectivity will be avoided or minimized.

GOOD: The Municipality/County **shall recommend and encourage** that industrial, commercial and residential land uses and development are sited in areas where impacts to habitat connectivity will be **avoided, minimized or mitigated.**

OBJECTIVE 4: Develop and adopt appropriate ordinances and zoning overlays for the protection of crucial wildlife habitat.

STRATEGY: Habitat Connectivity Overlay Zones *(See Habitat Connectivity Overlay Zone)*

BEST: The Municipality/County **shall develop and adopt** habitat connectivity overlay zones.

GOOD: The Municipality/County **will consider developing** habitat connectivity overlay zones.

STRATEGY: Existing Sensitive Lands Overlay Zones

BEST: The Municipality/County **shall** include crucial wildlife habitats, migration corridors and stopover sites as applicable areas in the existing Sensitive Lands Overlay Zone, or any other equivalent land use ordinance.

GOOD: If one exists, the Municipality/County **may consider** including crucial wildlife habitats, migration corridors and stopover sites as an applicable area in the existing Sensitive Lands Overlay Zone, or any other equivalent land use ordinance.

STRATEGY: New Sensitive Lands Overlay Zones

BEST: The Municipality/County **shall** develop and adopt sensitive lands overlay zones that include crucial wildlife habitats, migration corridors and stopover sites as applicable areas.

GOOD: The Municipality/County **may consider** developing and adopting sensitive lands overlay zones that include crucial wildlife habitats, migration corridors and stopover sites as applicable areas.

STRATEGY: Conservation Design Standards *(See Minimum Recommendations for Conservation Designs)*

BEST: The Municipality/County **shall develop and adopt an ordinance** that industrial, commercial and residential development projects follow wildlife-friendly conservation design standards (e.g., open space set-asides, wildlife-friendly fencing). Specific wildlife-friendly conservation design standards will be outlined within the ordinance (see the appendix for potential standards to be included).

GOOD: The Municipality/County **shall recommend and encourage** that industrial, commercial and residential development projects follow wildlife-friendly conservation design standards (e.g., open space set-asides, wildlife-friendly fencing). The Municipality/County shall provide wildlife-friendly conservation standards for developers

to refer to (see the appendix for potential standards to be included).

STRATEGY: Conservation Design Standards
(See Minimum Recommendations for Conservation Designs)

BEST: The Municipality/County **shall** develop and adopt an ordinance that requires developers to **integrate** conservation design standards that **specifically address** habitat connectivity.

BETTER: The Municipality/County **will** develop and adopt an ordinance that requires developers to **incorporate** conservation design standards that **consider** habitat connectivity.

GOOD: The Municipality/County **will establish** conservation design standards that specifically address habitat connectivity and **will recommend and encourage developers** to adopt these standards for all proposed development projects.

OBJECTIVE 5: Ensure a network of connected open spaces remains connected to maintain and enhance environmental and recreational value.

STRATEGY: Expanding Protected Open Space

BEST: The Municipality/County shall proactively seek out properties for open space acquisition that fill gaps between existing municipal, county, state or conservation land trust holdings.

GOOD: **When possible,** the Municipality/County shall proactively seek out properties for open space acquisition that fill gaps between existing municipal, county, state or conservation land trust holdings.

STRATEGY: Regional Habitat Connectivity

BEST: The Municipality/County **shall** create multi-jurisdictional and regional-scale collaboration and coordination mechanisms, such as municipal or county coalitions or regional planning documents, to maintain and enhance cross-boundary habitat connectivity.

GOOD: The Municipality/County **may** consider multi-jurisdictional and regional-scale collaboration and coordination mechanisms, such as municipal or county coalitions or regional planning documents, to maintain and enhance cross-boundary habitat connectivity.



Case Study

Eagle Mountain, Utah, has created and adopted a Parks, Trails and Open Space Master Plan that has a strong section on open space acquisition goals and strategies to maintain and enhance habitat connectivity and to guide planning and decision-making in the future with a high priority on open space protection for both residents and wildlife.

The Parks, Trails and Open Space Master Plan outlines specific goals for acquiring open space to both ensure recreational opportunities for residents and maintain and enhance important habitat for wildlife. The Plan emphasizes the importance of prioritizing areas that have significant environmental value, such as migration corridors, and encourages including open spaces within new developments to balance habitat connectivity and recreational opportunity.

To maintain and enhance habitat connectivity, the Plan includes strategies like:

- Building on the existing Wildlife Corridor Overlay Zone (WCOZ) by expanding corridors to help protect movement between habitats, especially for the mule deer herd that resides and moves in and through the city
- Designing wildlife-friendly infrastructure, which includes features like wildlife crossings and wildlife-friendly fencing

The Plan is an important tool for the city. It provides clear policies that prioritize open space acquisition and protection, recommendations for developers to include in project planning and implementation, and strategies to involve residents in open space acquisition, such as conservation easements.

Model Transportation Plan

Many Utah counties have a Transportation Plan separate from the required Transportation and Traffic Circulation section in their General Plans. However, very few Utah municipalities have a Transportation Plan.

Because Transportation Plans are not as common as other plans, there is no standard structure. However, a Transportation Plan should have an Introduction and sections identifying Goals, Objectives and Strategies that establish the municipality or county's transportation vision and the general approaches to achieve it.

The Model Transportation section in this toolkit includes potential goals, objectives and strategies for reducing wildlife-vehicle collisions and other conflicts while maintaining and enhancing habitat connectivity in the context of transportation planning and decision-making.

Overall Goal

Model Overall Goal:
To reduce wildlife-vehicle conflicts/collisions while improving habitat connectivity.



Objectives and Implementation Strategies

OBJECTIVE 1: Identify wildlife-vehicle conflict areas.

STRATEGY: Identification of Wildlife-Vehicle Conflict areas

BEST: The Municipality/County **shall coordinate and collaborate** with UDWR and UDOT and **any other appropriate state and federal wildlife management agencies, land management agencies and transportation agencies to identify high-risk wildlife-vehicle conflict areas, as well as barriers to habitat connectivity.** The Municipality/County shall work with these agencies to mitigate identified wildlife-vehicle conflict risks.

BETTER: The Municipality/County **shall support** UDWR, UDOT and **other state and federal agencies and utilize existing wildlife movement and conflict hotspot data to identify areas prone to wildlife-vehicle conflicts.** The Municipality/County shall work with these agencies to mitigate identified high-priority wildlife-vehicle conflict risks.

GOOD: The Municipality/County **may refer to available state and federal wildlife-vehicle conflict data to guide transportation planning and decisions and shall consider mitigation measures when possible.**

STRATEGY: Documentation of Wildlife Trends

BEST: The Municipality/County **shall assist** UDWR and UDOT in documenting wildlife trends, **including enabling and encouraging the Municipality/County staff to utilize tools such as a wildlife-vehicle collision reporter.**

GOOD: The Municipality/County **will support** UDWR and UDOT's efforts to document wildlife trends.

STRATEGY: Mapping Potential Wildlife Crossings

BEST: The Municipality/County **shall** identify and map locations for wildlife crossings and **integrate** these locations into all existing and future Transportation Plans.

GOOD: The Municipality/County **may** identify and map locations for wildlife crossings and **include** these locations in all existing and future Transportation Plans **as needed.**

OBJECTIVE 2: Integrate habitat connectivity policy into transportation planning.

STRATEGY: Habitat Connectivity Overlay Zones *(See Habitat Connectivity Overlay Zone)*

BEST: The Municipality/County **shall** establish habitat connectivity overlay zones that **require** mitigation measures, such as wildlife crossings or wildlife-friendly fencing, when new roads are built **or existing roads are maintained.**

GOOD: The Municipality/County **may** establish habitat connectivity overlay zones that **may** include mitigation measures, such as wildlife crossings or wildlife-friendly fencing, when new roads are built.

STRATEGY: Integrating Habitat Connectivity Standards

BEST: The Municipality/County **shall coordinate and collaborate with UDOT and UDWR** to develop habitat connectivity standards for new and existing roads, including wildlife crossings, right-of-way widths and other features that can reduce wildlife-vehicle collisions and maintain connectivity.

GOOD: The Municipality/County **may integrate** habitat connectivity standards into road design policies and ordinances.

OBJECTIVE 3: Improve habitat connectivity infrastructure.

STRATEGY:Wildlife-Vehicle Conflict Mitigation Funding

BEST: The Municipality/County **shall proactively seek and secure** funding and partnerships to implement strategies to reduce wildlife-vehicle conflicts and other barriers to habitat connectivity.

BETTER: The Municipality/County **shall explore funding and partnership opportunities** to implement strategies to reduce wildlife-vehicle conflicts and other barriers to habitat connectivity.

GOOD: The Municipality/County **may consider funding and partnership opportunities** to implement strategies to reduce wildlife-vehicle conflicts and other barriers to habitat connectivity.

STRATEGY: High-Risk Road Retrofits

BEST: The Municipality/County **shall implement** wildlife-vehicle collision (WVC) mitigation measures on any existing roads that are within identified high-risk WVC areas or within an identified habitat connectivity overlay zone. This may include speed reduction, warning signs and systems, road lighting, road narrowing, vegetation management, and other measures that can influence wildlife or human activity on a project-by-project basis.

GOOD: The Municipality/County **may consider implementing** wildlife-human conflict mitigation measures on any existing roads that are within identified high-risk wildlife-vehicle conflict areas or within the identified habitat connectivity overlay zone. This may include wildlife crossings, exclusionary fencing, speed reduction, warning signs and systems, road lighting, road narrowing, vegetation management, and other measures that can influence wildlife or human activity on a project-by-project basis.

STRATEGY: New Road Policies and Regulations

BEST: The Municipality/County **shall require** that new roads include wildlife crossings or other wildlife-human conflict mitigation measures that help maintain and enhance wildlife movement within the identified habitat connectivity zone.

GOOD: The Municipality/County **shall strongly encourage** that new roads include wildlife crossings or other wildlife-human conflict mitigation measures that help maintain and enhance wildlife movement within the identified habitat connectivity zone.

OBJECTIVE 4: Encourage alternative transportation solutions that reduce wildlife-vehicle conflicts.

STRATEGY: Wildlife-Friendly Active Transportation

BEST: The Municipality/County **shall design and implement active transportation infrastructure, such as trails and bike lanes, in a way that avoids wildlife-sensitive areas or includes wildlife-friendly accommodations, like limited lighting and wildlife-friendly fencing.**

GOOD: The Municipality/County **may consider habitat connectivity when planning active transportation infrastructure.**

STRATEGY: Public Transit

BEST: The Municipality/County **shall coordinate and collaborate with UTA and UDOT to expand alternative transportation options** that reduce the need for private vehicle use in or near wildlife-sensitive areas.

GOOD: The Municipality/County **will support UTA's efforts to expand alternative transportation options** that reduce the need for private vehicle use in or near wildlife-sensitive areas.

OBJECTIVE 5: Increase regional collaboration and coordination.

STRATEGY: Regional Habitat Connectivity Partnership

BEST: The Municipality/County **shall establish a regional partnership** with neighboring municipalities and counties, UDOT, UTA, Metropolitan Planning Organizations (MPOs) (e.g., Cache, Wasatch Front Regional Council, Mountainland Association of Governments, and Dixie), state and federal land and wildlife management agencies, and other stakeholders to collaborate and coordinate on integrating habitat connectivity into transportation planning.

GOOD: The Municipality/County **shall regularly communicate and work** with neighboring municipalities and counties, UDOT, UTA, Metropolitan Planning Organizations (MPOs) (e.g., Cache, Wasatch Front Regional Council, Mountainland Association of Governments, and Dixie), state and federal land and wildlife management agencies, and other stakeholders to collaborate and coordinate on integrating habitat connectivity into transportation planning.



Metropolitan Planning Organizations (MPOs)

Metropolitan Planning Organizations (MPOs) are federally mandated and federally funded regional organizations responsible for coordinating transportation planning and decision-making in urbanized areas with populations of 50,000 or more. They develop long-term transportation plans and short-term transportation improvement programs that guide how federal transportation dollars are spent within their regions.

In Utah, examples of MPOs include:

- Cache MPO (Logan area)
- Wasatch Front Regional Council (WFRC) (Salt Lake, Davis, Weber and southern Box Elder counties)
- Mountainland Association of Governments (MAG) (Utah, Summit and Wasatch counties)
- Dixie MPO (St. George area and Washington County)

Although MPOs are predominantly focused on transportation planning, they are also required under federal law (e.g., NEPA) to consider environmental impacts, including habitat connectivity, in their planning processes.

The extent to which Utah MPOs have directly addressed wildlife in transportation varies, but there is a growing track record of integrating wildlife considerations, especially around WVCs.

An example includes: MAG has engaged in transportation projects that intersect with migration corridors in rapidly growing Utah and Summit counties and frequently coordinates with UDWR and UDOT to integrate mitigation strategies, such as wildlife crossings, in the project planning stages of federally funded transportation projects. For example, projects like the expansion of U.S. 40 and improvements to Provo Canyon (U.S. 189) have considered wildlife crossing needs and habitat connectivity concerns.

It's important to note that, while Utah MPOs aren't wildlife agencies, they are important regional partners in integrating habitat connectivity considerations into transportation planning. They play a key role in funding decisions, project prioritization, and interagency coordination, making them essential for implementing strategies to reduce WVCs and maintain and enhance habitat connectivity.

OBJECTIVE 5: Increase regional collaboration and coordination.

STRATEGY: Regional Wildlife-Vehicle Conflict Planning

BEST: The Municipality/County **shall coordinate and collaborate with regional partners to develop a shared regional plan that identifies high-risk wildlife-vehicle collision areas, prioritizes mitigation strategies and aligns with regional transportation planning efforts.**

GOOD: The Municipality/County **shall work to identify high-risk wildlife-vehicle collision areas across the region and consider coordinating mitigation strategies with nearby jurisdictions when possible.**

STRATEGY: Wildlife Data Sharing

BEST: The Municipality/County **shall share WVC data and roadkill reports with UDOT and, when necessary, develop new data-sharing agreements and databases with regional partners to identify and prioritize areas for mitigation.**

GOOD: The Municipality/County **shall regularly communicate with transportation planners in neighboring counties to share best practices and to coordinate joint efforts where possible.**

STRATEGY: Regional Funding Efforts

BEST: The Municipality/County **shall coordinate and collaborate with regional partners on joint grant applications** to fund wildlife crossing and fencing projects **that cross jurisdictional boundaries.**

GOOD: The Municipality/County **shall seek and secure funding** for wildlife crossing and fencing projects and **shall explore opportunities to coordinate and collaborate with nearby jurisdictions when possible.**



Case Study

Eagle Mountain, Utah's Transportation Plan is a strong example of integrating habitat connectivity considerations into transportation planning. The Plan explicitly addresses the designated wildlife corridor within the City and outlines precise, actionable policies to reduce VWCs and to maintain and enhance habitat connectivity across transportation infrastructure.

To maintain and enhance habitat connectivity, the Plan includes resources and objectives and strategies like:

- Clearly identifying a wildlife corridor and conflict hotspots on both existing and future planned roads, supported by a Wildlife Corridor Conflict Map
- Requiring mitigation measures, coordinating with the City, for any transportation project that intersects the wildlife corridors, such as wildlife crossings, fencing, speed reductions, signage and lighting, and vegetation management
- Requiring the Wildlife Corridor Conflict Map and mitigation measures to be regularly updated to align with growth and new available data
- Discouraging new roads within the wildlife corridor
- Only allowing new roads within the wildlife corridor when absolutely necessary and requiring impact studies and mitigation measures
- Complying with the Federal Highway Administration's (FHWA's) best practices for wildlife crossing design standards
- Proactively seeking and securing funding and collaborating with local, state, federal and external organizations to implement wildlife crossings and other wildlife-human conflict mitigation measures

Eagle Mountain's Transportation Plan is unparalleled in Utah for its detailed and workable policies to maintain and enhance habitat connectivity and reduce WVCs, and provides a replicable plan for other communities interested in integrating wildlife considerations into their transportation planning.

Model Land Use Ordinances

While General Plans, Open Space Plans and Transportation Plans are considered aspirational and reflect the desires of a municipality or county, a land use ordinance contains detailed specifications and requirements that must be followed. In other words, land use ordinances are the means of implementing the broad vision laid out in the General Plan. General Plans are required to be updated regularly, and so should the Land Use Ordinances and other relevant documents to be consistent with the General Plan. There is no mandated schedule for updating General Plans or land use ordinances. Typically, a municipality or county updates as needed. Updates are necessary when there's a state legislative change, a General Plan update, or an emerging specific need or trend. Some municipalities or counties schedule regular updates, around every four or five years, though this varies widely.

An Overlay Zone is a land use ordinance used in local planning that applies additional requirements or restrictions to a specific geographic area within a zoning area. Typically, zoning divides areas based on different land use categories, such as residential, commercial or industrial. An Overlay Zone applies additional regulations to existing zoning areas to address unique issues and priorities without changing the existing zoning. Municipalities across the country utilize overlay zones to protect sensitive environmental areas, important agricultural lands or historic sites. This type of land use ordinance usually includes certain requirements or restrictions on development, such as limits on building heights or types of permitted disturbances, or a more rigorous permitting process, to make sure that any new development aligns with the unique goals of the overlay zone. An Overlay Zone provides flexibility for a municipality or county to address the needs and interests of a community while also maintaining the underlying zoning area.

Best: Habitat Connectivity Overlay Zone

A Habitat Connectivity Overlay Zone could impose additional regulations on an existing zoning area that includes identified crucial wildlife habitats, migration corridors or stopover sites with the intention of maintaining and enhancing habitat connectivity for a single species or suite of species. The purpose of implementing a Habitat Connectivity Overlay Zone is to decrease fragmentation of crucial landscapes, including winter range and stopover sites, for native and migratory species. This would be most applicable to large ungulates such as deer, elk and pronghorn, but could be applicable to other species like the desert tortoise or migratory birds. By adopting a Habitat Connectivity Overlay Zone, municipalities and counties can maintain connected lands that are essential for wildlife movement, foraging, breeding, dispersal, and other key wildlife functions and behaviors while also decreasing human-wildlife conflicts and increasing opportunities for recreation and hunting.



Case Study

Eagle Mountain, Utah, has created and adopted an ideal example of a Habitat Connectivity Overlay Zone ordinance.

Eagle Mountain's Wildlife Corridor Overlay Zone (codified in Chapter 17.49 of the Eagle Mountain Municipal Code) is a trailblazing land use ordinance that maintains and enhances wildlife movement corridors within the city. In 2021, Eagle Mountain became the first city in Utah to implement this type of zoning regulation, demonstrating the city's commitment to wildlife.

The Wildlife Corridor Overlay Zone protects critical wildlife movement corridors, especially for the mule deer herd that resides and moves in and through the city, by helping protect movement between habitats in the northwest and southeast regions of the city. It also ensures that growth and development projects consider the needs of wildlife, encouraging coexistence between humans and wildlife.

Specifically, this ordinance establishes a Wildlife Corridor Overlay Zone (WCOZ) as a special zoning layer that applies additional requirements to areas identified as important for wildlife movement. The WCOZ does not change the underlying zone, e.g., residential or commercial, but adds requirements that protect wildlife movement corridors.

- Any development within the overlay zone triggers additional review steps:
- Developers are required to coordinate and collaborate with city planners and wildlife experts to design projects that avoid, minimize or mitigate impacts.
- Developers may be required to submit a study that evaluates how the project may impact the corridor.
- Projects may be required to change plans to minimize impacts. Developers are encouraged and even required to change plans to maintain and enhance permeability for wildlife, such as wildlife-friendly fencing and open space set-asides.

Better: Sensitive Lands Overlay Zone

A Sensitive Lands Overlay Zone imposes certain regulations on an existing zoning area that is environmentally, ecologically or geologically sensitive. These areas typically include wetlands, riparian corridors, floodplains, wildlife habitats, steep slopes, ridgelines, and areas prone to natural hazards, such as earthquakes or landslides. The purpose of applying a Sensitive Lands Overlay Zone is to protect these areas from development, typically for public safety purposes. In contrast to a Habitat Connectivity Overlay Zone, a Sensitive Lands Overlay Zone is broader in scope. A Sensitive Lands Overlay Zone typically includes a provision that addresses crucial wildlife habitats, migration corridors or stopover sites in addition to provisions that address a wider range of environmentally sensitive areas, such as wetlands, steep slopes and ridgelines.



Case Study

Wasatch County, Utah, has created and adopted an ideal example of a Sensitive Lands Overlay Zone ordinance with a wildlife section.

Wasatch County's Sensitive Lands Overlay Zone (SLOZ) (codified in Chapter 16.28 of the Wasatch County Code) establishes certain restrictions on the development of environmentally sensitive lands. It includes a section (Wildlife Habitat Protection) that protects wildlife habitats as a part of broader environmental regulations within the ordinance.

Much like a WCOZ, Wasatch County's SLOZ is a special zoning layer that applies additional requirements to certain areas. The SLOZ does not change the underlying zone, e.g., residential or commercial, but adds requirements that protect sensitive lands.

Provisions of the Wildlife Habitat Protection section include:

- **Applicability:** This section applies to large-scale developments sited on wildlife habitats identified as critical and high-value use.
- **Buffers:** This section requires buffers between areas with high human activity and wildlife habitat cores.
- **Facilitate Wildlife Movement:** This provision requires the facilitation of wildlife movement by connecting open spaces, locating roads and trails away from important movement corridors, and prohibiting fencing that blocks safe and quick animal movement.
- **Mimic Local Features:** This provision requires that habitat be maintained and enhanced in developed areas by protecting large, intact vegetation patches, minimizing disturbance during construction and using native landscaping.
- **Clustering Development:** This provision requires development to be clustered in smaller areas to minimize disturbance.



Appendix — Other Resources

Minimum Recommendations for Conservation Design Standards

Municipalities and counties should require or, at the very least, recommend and encourage developers to implement the following wildlife-friendly design standards. Ideally, developers should proactively implement these standards for all new developments.

Open Space Set-Asides: A designated area of land "set aside" by developers to be protected or managed to maintain and enhance wildlife movement across habitats.

- Dedicate a certain percentage of land (typically a minimum of 40% in urban areas and up to 60% in rural areas) to be set aside as open space, especially in areas identified as crucial wildlife habitats, migration corridors or stopover sites.
- Set-aside open spaces that are contiguous and connected to larger landscapes.
- Manage set-aside open spaces to avoid, minimize or mitigate invasive species and maximize natural vegetation.

Lighting: Artificial lighting disrupts nocturnal wildlife functions and behaviors, such as migration or foraging, for bats, birds and insects. Municipalities and counties can avoid or minimize such disruptions by requiring or, at the very least, recommending and encouraging developers to design developments with shielded and directional lighting, motion-sensored or timed lighting, and warm, low-intensity lighting.

Shielded and Directional Lighting

- Use fully shielded, downward-facing lighting fixtures for all new developments.

Motion-Sensored and Timed Lighting

- Use motion-sensored lighting in areas near crucial wildlife habitats, migration corridors and stopover sites, especially in parks, parking lots and residential areas that are commonly adjacent to open spaces.
- Use timers to limit unnecessary lighting, especially during wildlife-sensitive seasons.

Warm, Low-Intensity Lighting

- Use light bulbs with a color temperature below 3,000 kelvins for outdoor lighting.
- Use dimmable lighting systems in wildlife-sensitive areas.
- Use high-intensity floodlights near crucial wildlife habitats, migration corridors and stopover sites.

Landscaping:

Native and Natural Vegetation

- Use native vegetation in landscaping for all new developments.
- Restore native vegetation in crucial wildlife habitats, migration corridors or stopover sites that have been degraded by development.
- Prohibit developers from planting invasive or non-native vegetation on all new developments.

Green Infrastructure

- Create wildways that connect fragmented crucial wildlife habitats, migration corridors or stopover sites for all new developments.
- Design parks as corridors between core habitats for all new developments.

Clustering: By concentrating new development in smaller sections of a property, a larger tract of the land can be maintained as intact open space for crucial wildlife habitat, migration corridors or stopover sites. Clustering reduces fragmentation, ensuring that large, connected stretches of land remain undisturbed and accessible for wildlife.

- Adopt an ordinance that requires clustering for all new subdivision developments.
- Provide incentives for developers to implement clustering standards for all new subdivision developments.

Wildlife-Friendly Fencing *(See A Wyoming Landowner's Handbook to Fences and Wildlife):*

- Top Wire Height: A maximum of 42 inches (40 inches or less is preferred)
- Spacing Between Top Wires: A minimum of 12 inches
- Spacing Between Bottom Wire and Ground: A minimum of 16 inches

- Wire Material: Smooth on both the top and the bottom wires
- Include gates or drop-down sections to allow wildlife movement
- Use high-visibility wires, flags or markers to increase visibility

Traffic Safety Measures:

Reduced or Seasonal Speed Limits

- Implement temporary speed limit reductions in areas with seasonal wildlife movement, e.g., reduce speeds by 10-15 mph in identified high-risk zones from dusk to dawn or during peak periods of wildlife movement, such as migrations.
- Designate certain road sections within identified movement corridors as "wildlife crossing zones" where speed limits are reduced year-round.

Reduced or Narrowed Lanes

- Reduce the number of lanes or narrow the width of lanes in areas identified as crucial wildlife habitats, migration corridors or stopover sites.
- Close one or more lanes temporarily during peak wildlife movement, such as migrations.

Vegetation Buffers

- Create wide vegetation buffers along roads in known areas with high wildlife movement to provide shelter, food and safe passage for wildlife, reducing the likelihood of wildlife crossing roads in dangerous areas.

Wildlife Crossings

- Build wildlife overpasses (bridges) and underpasses (tunnels) in wildlife-vehicle collision hotspots and in areas with known barriers to habitat connectivity.
- Install fencing and other naturally occurring physical barriers, such as rocks and vegetation, to guide wildlife towards crossing structures.
- Include jump-out points at regular intervals along fencing (gaps or openings in the fencing that allow wildlife to escape safely if they become trapped on the road side of the fence).

Warning Signs

- Install signs that alert drivers about frequent wildlife crossings on certain road sections within identified movement corridors.

Animal Detection Systems

- Install animal detection systems, with a variety of technologies, such as infrared sensors, radar and cameras, in areas with known wildlife movement or at wildlife-vehicle collision hotspots.

Open Space Acquisition Strategies

Fee Simple Purchase or Donation

Fee simple refers to the **full transfer of land ownership**, including all rights associated with the property (e.g., surface, subsurface, development), through either **purchase** or **donation**.

- A fee simple purchase is when a county or municipality (or other government entity) or land trust buys the land outright from a willing seller.
- A fee simple donation is when a landowner voluntarily transfers the land to a county or municipality (or other government entity), land trust or nonprofit organization for a public purpose, typically for conservation.

By owning a property, a municipality or county can **permanently prevent all future development** on high-priority open space lands. Whenever possible, a municipality or county should prioritize acquiring fee simple ownership of lands that are important for maintaining and enhancing habitat connectivity.

A municipality or county s**hould explore a variety of sources** to fund fee simple ownership, such as:

- Bonds
- Grants from state, federal or nonprofit organizations
- Local fundraising campaigns

A municipality or county should **make it as easy as possible** for property owners to voluntarily donate open space to the municipality, the county or a conservation land trust (e.g., the municipality or county can **cover all legal and real estate costs involved in a donation of property).**

Purchase of Development Rights (PDR)

Under a Purchase of Development Rights (PDR) program, a landowner **voluntarily sells the rights to develop their land but retains ownership and use** of the land for other purposes, such as farming, ranching or habitat management.

A county or municipality (or other government entity) or land trust **buys development rights** from a willing landowner, a conservation easement is placed on the land, permanently **preventing future development**, and the land stays in private ownership and can still be used, sold or transferred, but it can't be subdivided or developed

beyond the terms of the conservation easement.

Transfer of Development Rights (TDR)

Transfer of Development Rights (TDR) is a strategy that helps communities **balance** the protection of lands while concentrating growth in appropriate areas.

- **Sending areas** are lands that the community wants to **protect**, such as wildlife habitat. Landowners can **sell their development rights** voluntarily through a private market transaction where the community sets the terms for the transaction. Typically, sending areas are secured with a conservation easement that attaches to the land.
- **Receiving areas** are lands where the community wants to **encourage growth** — typically areas with existing infrastructure or services or already designated for higher-density development. Developers can **buy development rights from sending areas** to build at higher densities than normally allowed.

Conservation Easements

A Conservation Easement is **a voluntary legal agreement** between a private landowner and a municipality, county or land trust that **permanently restricts certain types of development or land use**, such as restrictions on building structures or converting land to nonagricultural use, to protect wildlife habitat, natural resources, scenic viewscapes or agricultural use.

Ultimately, a conservation easement protects the land indefinitely while **still allowing the private landowner to retain ownership and certain rights over the property.** Conservation easements are **permanent and binding**, meaning they are **attached to the land, not the landowner,** and any future landowners will be bound by the same restrictions.

To set up a conservation easement on a parcel of land, a municipality or county has to first **identify willing private landowners** to agree to a conservation easement. Then, a municipality or county can **hold the easement or partner with a conservation land trust.** Either way, the easement holder is responsible for compliance with the terms of the agreement.

A municipality or county should **make it as easy as possible** for private property owners to set up a conservation easement with the municipality or county or a conservation land trust. For example, the municipality or county can cover all legal and real estate costs involved in the process of setting up a conservation easement.

Land Swap

A Land Swap, also known as a Land Exchange, is a strategy where two parties — typically a municipal or county agency and a private landowner — **exchange parcels of land** to achieve a shared goal, such as protecting habitat connectivity.

A municipality or county **identifies a high-priority area in private ownership,** such as a migration corridor, and **offers land in public ownership for equal or comparable value in exchange.**

Tax Incentives

Landowners who take **voluntary actions** to protect their land — such as donating a conservation easement, donating or selling land outright, or selling development rights at a bargain sale — **may be eligible for various tax benefits.** Incentives can include income tax credits, property tax reductions or estate tax benefits.

Tax Incentives help **offset the financial burden** of protecting lands and can make voluntary land protection **more appealing and accessible** for landowners.

Public-Private Partnerships (PPPs)

A Public-Private Partnership (PPP) is **a collaborative agreement** between a municipality or county and a private entity, such as a landowner, nonprofit organization, business or developer, to achieve **a shared goal with shared risks, responsibilities and rewards.**

A municipality or county partners with a private entity to **leverage resources, expertise or funding.** A partnership **can take many forms,** such as jointly acquiring land or co-managing open space, and is **formalized** through contracts, memorandums of understanding (MOUs) or conservation agreements.

Land Banking

Land Banking is a strategy where a municipality, county or land trust **acquires and temporarily holds land for future use** — typically for conservation, affordable housing or open space — **until the time is right for permanent protection** or future development that aligns with the community's needs and interests.

A municipality, county or land trust either buys the land or receives it through donation or tax foreclosure. The land is **held in a "bank"** and temporarily managed. The land **can be leased for certain uses**, such as farming, ranching or recreation, or it can be left undeveloped. **When the timing, funding and planning align, ownership is transferred, or the land is converted for its long-term intended use.**

Recreational Use Agreements

A Recreational Use Agreement is a **voluntary agreement** between private landowners and a public entity, such as a municipality, county or land trust, that **allows the public to access private lands for recreation**, such as hunting, fishing or wildlife-viewing, **without transferring ownership.**

A landowner signs an agreement allowing specific public uses on their land. The agreement **can include certain conditions:** seasonal access, designated trails, no motorized vehicles, or limited or no legal liability for the landowner.

In Utah, like other states, Recreational Use Statutes **limit the landowner's liability** if they allow public access for free. Agreements are **customizable** in scale, scope and duration to align with the landowner's needs and interests.

Community Land Trusts (CLTs)

A Community Land Trust (CLT) is **a nonprofit organization** created to **acquire, hold and manage land on behalf of a community** for the benefit of residents, ensuring that the land remains accessible, affordable and protected from external pressures that might otherwise lead to development that does not align with a community's priorities and interests. A CLT typically focuses on local issues and community-driven initiatives like affordable housing, community agriculture and open space acquisition.

What makes a CLT unique is that a CLT **separates ownership of the land from ownership of the buildings on the land** so that the land is **a shared resource** that benefits the larger community. A municipality or county can help establish a new CLT or partner with an existing CLT to acquire, hold and manage open space.

Purchase Option Agreements

A Purchase Option Agreement is a **contract** that grants a **buyer** — typically a municipality, county or other government entity or a land trust — the **exclusive right to buy a parcel of land** at a future date and under agreed-upon terms, usually for conservation purposes.

- A landowner agrees to give the buyer an option to buy their land at a predetermined price within a specific timeline (e.g., 1-5 years).
- The buyer pays an option fee to secure the right to buy the land at a later date, without any obligation to follow through with the purchase.
- The agreement can include specific conditions for the future purchase, such as land use restrictions, conservation goals or funding sources.

If the buyer chooses not to exercise the option by the agreed deadline, the agreement expires, and the **landowner can sell the land to another buyer.**

Other Resources

A Wyoming Landowner's Handbook to Fences and Wildlife:

This handbook is a comprehensive guide designed to help landowners design, build and maintain fences that are both effective for managing livestock and for wildlife movement.

Key Elements:

- **Wildlife-Friendly Fencing:** This handbook emphasizes the importance of designing fences in a way that minimizes barriers to wildlife, reduces the risk of injury or even death, and helps ensure safe movement for various species.
- **Fence Design Recommendations:** This handbook provides specifications for fence design to allow animals like pronghorn, elk and mule deer to pass over or under fences.
- **Modifications for Varying Land Uses:** This handbook discusses modifications for fence design with varying uses, including seasonal pastures, ensuring that fencing balances both livestock and wildlife needs.
- **Retrofitting Existing Fences:** This handbook provides strategies for retrofitting existing fences to be more wildlife-friendly, including adding visibility markers or adjusting wire spacing.
- **Alternative Fencing Options:** This handbook suggests alternative fencing options for lands where fencing may not be necessary. Examples of alternative fencing options include natural vegetation barriers, partial fencing or let-down fencing.

Fish and Wildlife Recommendations for Subdivision Development in Montana:

This document provides recommendations to help local governments, developers and private landowners design subdivisions that minimize impacts on wildlife.

Key Elements:

- **Wildlife-Friendly Subdivision Design:** This document emphasizes the importance of designing subdivisions to maintain habitat connectivity, protect critical habitats and minimize wildlife-human conflict.
- **Site Planning:** This document provides strategies for site planning that preserve large, connected habitat blocks and cluster development away from sensitive areas.
- **Wildlife Habitat Protections:** This document highlights the importance of identifying and prioritizing key wildlife habitats for protection within subdivision plans, such as wetlands, riparian areas, winter range and breeding areas.
- **Minimizing Wildlife-Human Conflicts:** This document offers recommendations for reducing conflicts by managing attractants (like garbage) and using wildlife-friendly landscaping.

- **Best Management Practices:** This document includes best practices for construction, road design, fencing and open space management to ensure developments are compatible with habitat connectivity goals.
- **Resources for Local Governments:** This document provides planning tools, model regulations and examples of successful policies to help local governments integrate wildlife considerations into subdivision review and approval processes.

Identification of Wildlife-Vehicle Conflict Hotspots in Utah:

This report provides a comprehensive analysis designed to identify and prioritize locations in Utah with the highest rates of wildlife-vehicle collisions (WVCs), aiming to inform mitigation strategies that enhance road safety and wildlife movement.

Key Elements:

- Statewide Hotspot Identification: This report emphasizes the importance of using spatial data and modeling to pinpoint areas with frequent WVCs, guiding targeted mitigation measures.
- Data-Driven Analysis: This report provides an analysis of crash data from 2008 to 2017, revealing an average of 3,110 animal-related crashes annually in Utah, with 2,756 involving wild animals, resulting in an estimated cost exceeding $138 million.
- Top High-Risk Locations: This report identifies the top five road segments with the highest rates of WVCs:
  1. U.S. 191 near Monticello
  2. U.S. 89/North State Street in Lindon
  3. U.S. 40 from Heber to Jordanelle Reservoir
  4. U.S. 189 at Deer Creek State Park
  5. S.R. 224 between Kimball Junction and S.R. 248 near Park City
- Mitigation Recommendations: This report offers recommendations for reducing WVCs, including the construction of wildlife crossings, fencing and other mitigation measures at identified hotspots.
- Collaborative Approach: This report highlights the collaboration between UDOT and UDWR in addressing WVCs and implementing effective mitigation strategies.



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