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Sensitive Species Data in Colorado's State and Local Government Decision-Making

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Sensitive Species Data in Colorado's State and Local Government Decision-Making

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Authors

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These interviews were helpful in reaching our findings, however, the findings included do not represent the views of anyone interviewed.

Contents

In order to best protect the sensitive plant and wildlife species in Colorado, this report recommends **five** key actions for the **state legislature and state agencies**:

1. Update regulations to provide more detailed requirements in the Colorado Parks and Wildlife Commission's consultation process

2. Amend regulations or statutes to provide more requirements under the Colorado Nongame, Endangered, or Threatened Species Conservation Act

3. Include mandatory review of "best available science" throughout agency regulations

4. Include protections for plant species and habitats

5. Remove or amend balancing tests that promote the consideration of economic factors

Additionally, in order to better protect the sensitive plant and wildlife species in Colorado, this report recommends **two** key actions for **local governments**:

1. Standardize processes for data consideration

2. Consult with outside data to create site-specific maps

Introduction

Colorado is home to some of the country's most unique and pristine landscapes. State and local governments are responsible for protecting these natural areas for both people and wildlife. Agencies routinely make decisions that impact the state's plants and wildlife. However, the quality of scientific data used in these decisions is lacking, raising concerns among interested constituents regarding the reasoning behind and the process of decision-making.

Through interviews with local professionals in the scientific and advocacy communities, the University of Denver's Environmental Law Clinic recognized the importance of using the best scientific evidence in Colorado's decision-making. The research in this report identifies areas in the law where data for Colorado's sensitive plant and wildlife species could and should be improved to promote consistency, legitimacy, and transparency in state and local government decision-making. This report was compiled to highlight significant findings and provide recommendations for the improvement of state and local governments' uses of environmental data in decision-making. The research collected, along with the recommendations provided, represents an effort to promote access to sensitive species data in decision-making and regulatory processes.

This report addresses the use of sensitive species data in Colorado at both the state and local levels. At the state level, this research focuses on environmental statutes and regulations, permitting authority in various state agencies, and processes for identifying and dealing with sensitive species. At the local level, the focus is on the role of sensitive species data in development proposals, as well as the varying level of detail required for considering sensitive species data in local government decision-making.

Principally, this report identifies: (1) areas where statutes and regulations require the consideration of sensitive species data; (2) areas where data could be used but are not used currently; and (3) impediments to the best data being used in decision-making. Finally, this report offers suggested best practices and recommendations for statutory and regulatory changes to ensure that decision-makers are using the best available sensitive species data.

The recommendations provided in this report include statutory changes, regulatory amendments, and changes to policy documents. Ultimately, each of these recommendations serve to increase transparency in decision-making processes and improve considerations of environmental impacts. While this report recognizes that the overarching goal of more complete considerations for sensitive species may be achieved through recommendations not included in this report, the recommendations provided intend to serve as a framework to guide potential changes to the law.

Methodology

In preparing this report, the University of Denver’s Environmental Law Clinic conducted interviews of staff members of conservation organizations, former government employees, as well as experts in the fields of wildlife, conservation, and environmental law. The interviews helped identify barriers to the use of the best environmental data in decision-making and areas of concern in the law that would benefit from the use of more environmental data. The interviews specifically highlighted concerns of the environmental community regarding the lack of data considerations in the state agencies’ permitting processes. Through these interviews, the Environmental Law Clinic recognized the need for improved treatment of federally or state protected species in addition to unlisted species that warrant protection. The interviewees also noted the lack of protections and considerations for plant life in many areas of Colorado law and regulation. At the conclusion of the interviews, the information collected helped identify particular areas of research to investigate.

First, the Environmental Law Clinic researched existing requirements for the use of environmental data in Colorado. This research focused on statutes, regulations, policies, and agencies’ procedural rules. Specifically, the Environmental Law Clinic focused on state agencies concerned with environmental issues, as well as agencies that wield a significant amount of permitting authority for potentially ground-disturbing or environmentally degrading projects. The goal of this research was to develop a comprehensive picture of data considerations currently required by Colorado laws as well as areas where data use is overlooked. The findings informed the development of five recommendations to improve environmental protections at the state level.

Second, the Environmental Law Clinic investigated a selection of local governments in Colorado to understand how each jurisdiction considered sensitive plant and wildlife species in land use and development decisions. Specific local governments were selected based on their reputations regarding conservation and environmentalism. The Environmental Law Clinic contrasted jurisdictions with substantial conservation requirements against jurisdictions with fewer requirements for sensitive species data consideration. The local governments with thorough and comprehensive ordinances for assessing sensitive species serve as models for the recommendations and recommended language included in this report.

High Level Findings

While certain local governments and state agencies have implemented positive changes regarding the consideration of sensitive species data, there is still significant room for improvement. Although some of Colorado’s laws require decision-makers to consider environmental data, many agency procedures are encumbered by an insulated process, a high level of discretion, and a lack of transparency. Thus, it is unclear whether the agencies

are using the best available environmental data in practice. State agencies could and should use environmental data to aid decision-making and protect a larger number of endangered or threatened wildlife and plant species. At the local level, city and county governments take a varied approach to sensitive species considerations, with certain jurisdictions requiring more inclusion of sensitive species data than others. The local governments that include wildlife assessments or impacts on sensitive species as criteria for decision-making serve as examples for other counties and cities where environmental data is not considered in decisions.

A significant finding that emerged from the research is the extent of discretionary powers provided to state and local decision-makers. It is important to recognize the benefits of discretion, such as allowing different administrations to implement stronger policies without the need for time-consuming legislative or rulemaking changes. This power also plays a key role in allowing for expert input in agency decision-making and provides for quicker administrative processes. However, discretionary authority can result in overlooking sensitive species considerations in favor of other factors. This authority can produce an insulated process that removes the public's ability to comment on agency decisions.

Colorado state agencies and local governments enjoy broad authority over land use projects within their respective jurisdictions. For example, at both levels of government, decision-makers enjoy substantial control over actions like granting permit applications. Even where discretion is limited, processes for considering sensitive species data remain unclear. Various state agencies have built-in requirements for consulting with Colorado Parks and Wildlife when conducting certain activities that may impact protected species or natural areas.¹ However, the Colorado Parks and Wildlife regulations do not outline any specific procedures for any consultation process.² Likewise other agency's regulations that include a consultation requirement say little about required procedure.³ While there may be requirements for whom to consult, there are rarely indicators as to what else goes into the consultation process.

There is an additional lack of clarity in the processes for listing or delisting threatened or endangered species. The research indicates limited protections for unlisted wildlife, and further, the Colorado Threatened and Endangered Species List only protects listed wildlife species in the state. However, the statutory and regulatory procedures for listing and delisting species contain few requirements regarding expert input, public participation, and transparency in general.

Recommendations

Based on these findings, Colorado state government should amend its statutes and regulations to:

1. Clarify and establish specific practices for agency consultation with Colorado Parks and Wildlife Commission
2. Update the procedures for listing and delisting species under the Colorado Nongame, Endangered, or Threatened Species Conservation Act
3. Include the required use of the “best available science” in agency regulations
4. Include protections for endangered and threatened plant species
5. Eliminate or amend balancing tests and qualifiers from statutes and regulations that prioritize economic development

In addition to state level changes, local governments should amend or adopt ordinances to:

1. Standardize processes for sensitive species data consideration
2. Consult with outside data to create site-specific maps

Applying each of these recommendations will lead to a more efficient and data driven decision-making system throughout Colorado.

The first recommendation is that the Colorado Parks and Wildlife Commission should amend its regulations to include procedural and substantive requirements for its consultation process. Additionally, the Commission should amend its regulations to require a published document elaborating on why, and based on what environmental data, the Commission chose to waive consultation. In implementing these changes, the Commission would promote transparency and public involvement in its processes. With these changes, the Commission would also have the opportunity to clarify when it requires and uses environmental data in decision-making. All agencies that require consultation with Colorado Parks and Wildlife would benefit from the Commission outlining a more transparent and explicit requirement for consultation in its regulations. The public and Colorado plants and wildlife would benefit as well. Appendices A and B demonstrate options for how the Commission can integrate these recommendations into existing laws.

The second recommendation is for the Commission to amend its regulations, or for the state legislature to amend statutory requirements, for the listing and delisting of species from the Colorado Threatened and Endangered Species List. The Commission maintains the Colorado Threatened and Endangered Species List,⁴ but the list is inconsistent with other data sources that track and rank imperiled species in the state. The discrepancies suggest the need for more data in the review and amending of the list to ensure vulnerable wildlife are afforded protections. Colorado’s processes for listing and delisting threatened species fall well short of the specificity and detail of endangered species laws in neighboring states, such as New Mexico,⁵ and Colorado should look to these laws to improve its own. At a

minimum, Colorado should update its Colorado Nongame, Endangered, or Threatened Species Conservation Act with clearer requirements and higher standards for scientific evidence when deciding whether to add or remove species from endangered or threatened species lists.

To provide the necessary expertise and oversight for the listing and delisting process, Colorado should consult a panel of experts outside of the Colorado Parks and Wildlife Commission to review the source of data upon which the Commission relies in decisions to list or delist species. Additionally, Colorado laws should require an extended period for public comment on any listing or delisting, as well as an obligation for the Commission to address any comment with biological data attached. The language of the Colorado Nongame, Endangered, or Threatened Species Conservation Act and any connected regulations should be updated to expand the use of scientific data in the listing and delisting processes. This would ensure that the various decision-making bodies are affording the most vulnerable species the intended levels of protection. Appendices A and B demonstrate methods for how the Commission can integrate these recommendations into existing laws.

The third recommendation is for state agencies to amend regulations to include more requirements for use of the “best available science.” Specifically, agencies should increase reliance on peer review and public participation to ensure that broad and credible sensitive species data form the basis for state and local decisions. Where these decision-makers must assess wildlife impacts at the state and local level, existing laws rarely require the use of best available science. Even in recent legislation that attempts to broaden requirements for environmental considerations, such as Senate Bill 19-181 for the Colorado Oil and Gas Conservation Commission,⁶ there remains a lack of requirements for the use of environmental data. In addition, the Colorado Mined Land Reclamation Board’s regulations include general requirements to consult with relevant state and federal wildlife agencies but lack explicit standards for the quality of data.⁷ These agencies, along with others, should adopt specific requirements to use the best available data within their regulations and require that the scientific data submitted with any applications are verified by an independent panel of experts. Additionally, agencies should make data sources and any unrestricted data available to the public during a comment period.

The fourth recommendation is that Colorado amend its statutes and regulations to require protections for endangered and threatened plant life. The majority of state-level regulations and statutes do not include considerations for plant life or plant communities. Statutes and regulations limit the mention of plant life to controlling invasive species, protecting vegetation, and the rare inclusion of plants in the definitions sections of some agencies’ regulations. Colorado’s statutes and regulations do not reflect the great risk that development and ground-disturbing projects pose to Colorado’s native plant species. The state should provide plant life protections similar to those of animals. This may require clarifying definitions of “wildlife” in agency regulations to include plants, or in some cases, giving plants their own discrete protections through amendments to agency regulations or legislative changes to statutes.

One improvement would be the inclusion of plants in Colorado's endangered and threatened species lists, thus subjecting them to the same processes for listing and delisting. Alternatively, the state could propose a new statute that provides similar protections for plants. See Appendix C. For existing regulations that consider plant life, there should be statutory or regulatory changes to require consultation with data or plant life experts before making a final a decision. Where agencies cannot collect data on their own, or expertise is lacking, requirements to consult outside data could prove useful in informing plant and plant community considerations. Colorado should implement these changes because plant life is vital to environmental conservation.

The fifth and last recommendation is that Colorado remove qualifiers and balancing tests from statutes and regulations. These balancing tests and qualifiers serve to increase discretion of decision-makers and prioritize economic interests over wildlife concerns. At the state level, the enacting statutes for the Colorado Oil and Gas Conservation Commission and the Colorado Mined Land Reclamation Board include balancing tests that prioritize economic factors over environmental protections.⁸ The legislature should amend these statutes, in line with Senate Bill 19-181's directives, to remove these balancing tests.⁹ Although Senate Bill 19-181 does not remove all qualifying language,¹⁰ the legislature should follow the bill's example to remove or minimize this language from other statutes. In addition, the Colorado Parks and Wildlife Commission's regulations reference economic factors in mitigation plans and require economic feasibility to be a concern in decision-making.¹¹ As the governing body in charge of the protection of wildlife, the Colorado Parks and Wildlife Commission should remove such emphasis on economic factors.

At the local level, we recommend two main changes. First, at the local government level, counties and cities should amend ordinances to standardize the processes for data consideration. Local governments that effectively consider wildlife in planning and land development also have clearly identified information for developers to consider.¹² Other counties and cities should follow these examples and implement laws to mandate a wildlife assessment for all new developments and land activities. This will prevent potential industry influence over decision-makers and ensure environmental impacts are adequately considered. Second, local governments should gather outside data from state agencies and independent groups in the development process in order to create site-specific maps. This change is especially relevant for local governments currently lacking sensitive species data. Consulting outside data and creating maps will ensure a comprehensive understanding of any potential environmental impacts from proposed activities.

Sensitive Species Data in Colorado State Government Decision- Making

Introduction

This report aims to provide an objective analysis of existing sensitive species data considerations in Colorado law at the state and local levels. While this report lays out a series of recommendations to improve Colorado's laws, it also acknowledges that some agencies and local governments already implement positive actions that consider sensitive species consideration during the decision-making process. For example, Colorado Parks and Wildlife's State Wildlife Action Plan is one of the few State Wildlife Action Plans nationwide that includes data for rare and imperiled plant species and communities.¹³ Colorado Parks and Wildlife also implements the Colorado Natural Areas Program, which protects rare plant occurrences, areas of geological interest, and other sites through voluntary agreements with landowners.¹⁴ Additionally, the Colorado State Land Board's Stewardship Trust is a unique tool that has benefitted conservation efforts statewide.¹⁵ The Stewardship Trust program designates land that has natural values, such as rare plants and plant communities, wildlife habitats that received high biodiversity rankings, wildlife that are on the state threatened and endangered species lists, and beautiful landscapes.¹⁶

While recognizing these positive examples, Colorado should continue to update its procedures and laws as environmental data evolves. Within this report, "environmental data" refers to empirical data on environmental factors including geology, climate, hydrology, biology, and chemistry. This report primarily focuses on environmental data with regard to individual plant and wildlife species, plant communities, and sensitive species habitats, as well as wetlands and any other aquatic and terrestrial habitats where plant or wildlife species and communities reside. The most defensible practice to support decision-making involves using the best and most current environmental data.

This report also acknowledges that many agencies may already engage with the best available science or decision-making using sensitive species considerations. However, without making this information available to the public, it is difficult to determine if adequate data is being considered. Finally, although this report strives to make informed

recommendations, it recognizes that there may be other ways to use the best environmental data in decision-making processes at the state and local levels. The recommendations provided here do not exclude any other potential alternatives, but instead furnish potential methods for improvement. Overall, this report aims to foster new ideas and creative solutions to improve the use of environmental data and outcomes for sensitive species across the state.

1. Update the Regulatory Requirements for Consultation with the Colorado Parks and Wildlife Commission

To better include environmental data in decision-making, the Colorado Parks and Wildlife Commission should update its regulations and policies with more procedural and substantive requirements for its consultation process. Currently, certain actions trigger mandatory consultation with the Commission.¹⁷ The consultation process allows the Commission to consider impacts to wildlife and potentially utilize data to scrutinize many ground-disturbing projects or permits through the lens of conservation.¹⁸



Pronghorn with young.

However, the Commission’s enacting statute and regulations provide no procedural or substantive requirements for this consultation process. While there may be a standard, internal process that occurs, individuals not involved in the consultation have no way to be informed of this process. Moreover, the legal obligation for consultation appears in other agency regulations or enacting statutes, but those rules do not provide any information as to the procedural or substantive requirements for consultation. These legal obligations can appear in a variety of places, including the statutes that create or delegate power to state agencies, divisions and commissions, as well as agency regulations or an agency’s published policies. One example of this is in the Colorado Department of Transportation’s mitigation requirements which mandate consultation with the Commission for a wildlife certification if construction is planned in “...any stream or its bank or tributaries...” in order to protect and preserve all fish and wildlife resources associated with streams in Colorado.¹⁹

The Colorado Oil and Gas Conservation Commission’s (“COGCC”) regulations contain the most notable example of regulations requiring consultation with the Colorado Parks and Wildlife Commission for Form 2A permit applications.²⁰ The Colorado Parks and Wildlife Commission may also request consultation under the COGCC’s rules if the location of a proposed oil and gas project is within areas of federally threatened or endangered species according to the Colorado Parks and Wildlife Commission’s Species Activity Mapping

system.²¹ Additionally, these rules suggest that the consultation process with the Colorado Parks and Wildlife Commission is necessary in order to create a mitigation plan for a project that will protect sensitive species in or surrounding a proposed project area.²² Practically, mitigation agreements and consultation with the Colorado Parks and Wildlife Commission have led to many energy companies creating plans with Colorado Parks and Wildlife to protect wildlife on the Western Slope.²³ The COGCC's rules, specifically the 1200-Series of the regulations devoted to wildlife protections, also require consultation with the Colorado Parks and Wildlife Commission "when a proposed new oil and gas location is located in sensitive wildlife habitat or a restricted surface occupancy area."²⁴ Lastly, both the Colorado Mined Land Reclamation Board's coal mining regulations and the Colorado State Land Board's policies require consultation with Colorado Parks and Wildlife.²⁵

Although many agencies require consultation in their respective statutes or regulations, the Colorado Parks and Wildlife Commission should amend its regulations to include a detailed and consistent consultation process, rather than rely on the regulations and policies of other agencies to better protect the wildlife within Colorado. Alternatively, the Commission could publish a guidance document elaborating on procedural and substantive requirements applicable to every consultation. Either a regulation change or a guidance document would promote more transparency in the discretionary decisions of the Commission.

Implement consultation requirements through regulatory change

As the current regulations are silent on the consultation procedures, there is little information available as to what the Colorado Parks and Wildlife Commission considers in the consultation process. The Commission as well as every agency that is required to consult with the Commission on projects and permits would benefit from the transparency that the inclusion of explicit consultation procedures in the regulations would accomplish. Colorado's Parks and Wildlife statute empowers the Commission to promulgate regulations concerning wildlife programs, which include threatened and endangered species.²⁶ Appendix B demonstrates how the Commission can implement the following recommendations into its regulations.

The Colorado Parks and Wildlife Commission should look to adopt the framework from the Nebraska Nongame and Endangered Species Conservation Act.²⁷ Specifically, Colorado should model its own regulations after the Nebraska Game and Parks Commission's regulations in order to improve consistency, efficiency, and transparency in its consultation process. Nebraska Game and Parks Commission's regulations include substantive and procedural requirements for agency consultation in Section 12 of its regulations, including a biological assessment and heavy reliance on surveys and independent research review.²⁸

The consultation procedures begin with the informal consultation, which consists of communication with the Nebraska Game and Parks Commission about an action that an agency believes may affect a listed species or its habitat.²⁹ This process can include, but is not limited to, a biological assessment that entails the consultation of biological data, and it

leaves open the possibility for the Nebraska Commission to do an on-the-ground survey.³⁰ If a Nebraska agency or department determines that a listed species or critical habitat may be affected, then formal consultation should be initiated.³¹ Alternatively, the Nebraska Commission may request to initiate formal consultation based on the biological assessment.³² Formal consultation requires the agency or department consulting with the Nebraska Commission to conduct its own assessments and studies of the effect that an action will have on an affected species or its habitat.³³ The review of the formal consultation process requires the Nebraska Commission to consider a number of factors, including the long-term effects on the species and reasonably prudent alternatives.³⁴ Lastly, the Nebraska Commission will provide a biological opinion that may include “suggestions for modifications in the action which would enhance the conservation and protection of a listed species or critical habitat.”³⁵

In addition to Nebraska’s statutory requirements for consultation, the Nebraska Game and Parks Commission utilizes their Conservation and Environmental Review Tool (“CERT”).³⁶ The Nebraska Nongame and Endangered Species Act provides authority for the Nebraska Game and Parks Commission to implement CERT.³⁷ CERT serves as an interactive tool to enable conservation planning and environmental review. CERT is an informational resource which allows users to access data concerning “biological diversity, protected lands, and other natural resources.”³⁸ Users are able to access this data to create maps for land use planning purposes. In Nebraska, state agency actions that require environmental review by the Nebraska Game and Parks Commission may either consult CERT or initiate consultation.³⁹

Similar to the Nebraska Game and Parks Commission’s Conservation and Environmental Review Tool, Colorado should work to develop an environmental review tool so decision-makers and researchers can access a more comprehensive source for data in order to implement consistent decisions in conservation planning. While scientists would share data with agencies in an environmental review tool, their data would also be kept confidential from outside parties. Ultimately, this proposed environmental review tool is a great first step towards the use of the best available science in decision-making.

In order to enact the necessary changes to its regulations, the Colorado Parks and Wildlife Commission would need to update a portion of its rules to detail the procedural and substantive requirements of the consultation process. *See Appendix B.* The initial obligations for the process may stay in other agency’s regulations, but the Commission should include and describe the different stages of consultation. The Commission should also include information that other agencies need to submit for review, and a decision on whether the Commission will engage in its own collection of data for the process or rely on

Nebraska Game & Parks Commission

Using the Conservation and Environmental Review Tool, the Nebraska Game & Parks Commission conducts a review for **any** project that requires a state-issued permit, uses state funds or is conducted by a state agency.

Source: Nebraska Game and Parks,
<http://outdoornebraska.gov/environmentalreview/>

the data submitted by the other agency. In doing this, the Commission should adopt some of the language and requirements from Nebraska's regulations. Specifically, the Commission should include the biological assessment procedure and the option to undertake on-the-ground surveys when necessary, as seen in Section 1 of Appendix B.

Additionally, an explicit data use requirement is necessary to ensure that the Commission is considering the best available science in the decision-making process. See Appendix B, Section 2. Without the consideration of the best available science during consultation, decision-makers may overlook species that the laws are meant to protect through this process. Moreover, this regulatory change should include a provision, such as the one included in Section 1(A)(4) of Appendix B, that prevents the Commission from waiving the consultation requirement without a written and publicly available document explaining the findings and the source of the scientific data that the Commission relied on in making its decision to bypass consultation. These additions would ensure that the Commission considers the best available science while providing the public with information on the process, which will ultimately further the goal of protecting Colorado's wildlife in the decision-making process.

Implement consultation requirements through policy documents

Alternatively, the Colorado Parks and Wildlife Commission can accomplish transparency and the inclusion of data requirements through policy documents. If the Commission were to publish a policy document providing more detail about the consultation process, consultation would be more organized and produce mitigation plans that efficiently protect Colorado's wildlife. This document could explain the adoption of procedures for when the Commission will engage in consultation, when it will choose to waive consultation, and what information it will consider in the consultation process. One benefit of this approach is that it is sometimes easier for agencies to produce policy documents than promulgate new regulations. Moreover, the Commission may already have internal procedures for each consultation since there are already some consultation requirements found in other regulations and statutes. Publication of a policy document clarifying that process would allow for public awareness, which is necessary in order to alleviate any public skepticism or concern for the effectiveness of the Commission's procedures and use of the best available environmental data.

2. Update the Procedures for the Review of Colorado's Threatened and Endangered Species List

Colorado's state legislature and agencies should update their statutes and regulations surrounding the modification of the state's Threatened and Endangered Species List to afford sensitive species more protection. This list provides the main impetus for review of many ground-disturbing projects and other potentially harmful activities in the state.⁴⁰ As

such, it is important that the Colorado Parks and Wildlife Commission updates this list with the best available science, ensuring that every necessary species is included within its protections. The Commission should also update the list to account for a public notice and comment period before modification. The state legislature may propose a bill similar to [Appendix A](#), or the Commission can amend the regulations in a manner similar to [Appendix B](#). Each appendix includes an option for how the state can implement the following recommendations, but the goals of transparency and the use of the best available science may be accomplished in avenues not explored in this section or the appendices.

The Colorado Parks and Wildlife Commission created the Threatened and Endangered Species List under the authority of the Colorado Nongame, Endangered, or Threatened Species Conservation Act.⁴¹ The Act declared “that species or subspecies of wildlife indigenous to this state which may be found to be endangered or threatened within the state should be accorded protection in order to maintain and enhance their numbers to the extent possible.”⁴² The Act also required the Commission to consult with “other available scientific and commercial data,” as well as



Ferruginous hawk, a species listed as endangered by Colorado Parks and Wildlife. *Source: Rick Bohn.*

a number of other state agencies, appropriate federal agencies, and other interested persons or organizations when establishing the Threatened and Endangered Species List.⁴³ Apart from these requirements, there is limited information about the sources the Commission considered when creating the list. Additionally, the Act and the Commission’s regulations lack detailed procedural guidelines for the delisting of a species.

Incorporate requirements through rulemaking or statutory amendments

The Colorado state legislature should amend the process of updating the Threatened and Endangered Species List. For example, the legislature could propose a bill with explicit procedural requirements for public participation in the listing and delisting process and give preference to the use of peer-reviewed data where available. Similar to the recommended changes for the consultation process, these requirements are important to ensure that the Colorado Parks and Wildlife Commission is using the best available science and to alleviate any public skepticism or concern for the effectiveness of the Commission’s procedures. Additionally, public participation in this process and the use of more comprehensive data will provide better and more complete protections for wildlife in the state.

To improve the Colorado Nongame, Endangered, or Threatened Species Conservation Act, Colorado should look to the procedures and requirements of New Mexico’s Wildlife Conservation Act.⁴⁴ For example, Colorado could implement a process akin to that of New Mexico to ensure the mandated five-year review of the Endangered Species List includes an investigation of indigenous wildlife species that the Colorado Parks and Wildlife Commission suspects are threatened or endangered but not yet listed.⁴⁵ [Appendix A](#) demonstrates how Colorado could incorporate language similar to New Mexico’s Wildlife Conservation Act in

order to specify procedural guidelines for when the Colorado Parks and Wildlife Commission amends the Threatened and Endangered Species List. To follow New Mexico's example, the Colorado legislature could amend the Colorado Nongame, Endangered, or Threatened Species Conservation Act to include discrete steps that the Colorado Parks and Wildlife Commission must take when considering evidence as part of a decision to ultimately list, delist, or change the status of a species.⁴⁶

Additionally, Colorado could adopt a procedure similar to New Mexico's field research and peer review process.⁴⁷ New Mexico's peer review method includes the creation of a panel of independent experts who review and comment on investigatory research designs, examine the proposed methodology for data collection, and comment on summary draft reports.⁴⁸ The New Mexico State Game Commission determines whether to list, not list, or delist a species as endangered or threatened based upon the collection of data from the field research and accompanying peer review comments.⁴⁹ In recognizing the sensitivity of the data that organizations and agencies collect, Colorado could adopt analogous process with certain amendments to protect restricted data. For example, the Colorado Parks and Wildlife Commission could disclose the data source and any publicly shareable information that would allow others to verify the method of data collection without exposing privileged scientific information. Colorado could also implement a preference for peer-reviewed data where available to allow the Colorado Parks and Wildlife Commission to consult with wildlife experts to validate any environmental data used in decision-making. See [Appendix A](#). This requirement serves to prevent bias or an under-inclusive investigation and could greatly improve the quality of the data used in the Commission's decision-making.

Whether or not the Colorado legislature chooses to amend wildlife statutes, the Colorado Parks and Wildlife Commission should look to amend its regulations. For example, the Colorado Parks and Wildlife Commission could adopt regulatory procedures and requirements similar to the New Mexico State Game Commission's procedures to improve the process of listing and delisting species through public involvement and data validation.⁵⁰ See [Appendix B](#). The Colorado Parks and Wildlife Commission's regulations currently do not provide a procedure for listing or delisting species that involves public participation. Using New Mexico as an example, Colorado could amend these regulations to provide for public notice, an extended comment period, and a requirement for the Colorado Parks and Wildlife Commission to respond to any comment containing biological and ecological evidence.⁵¹ See [Appendix B](#), Revision 2 § (B)(1), (3), (4). Additionally, like New Mexico, Colorado could adopt a requirement that the Colorado Parks and Wildlife Commission submit a news release to the major newspapers of the state and publish its decision to traditional and electronic media outlets in the area most concerned.⁵²

These changes, based on the New Mexico State Game Commission's regulations, would maintain the Colorado Parks and Wildlife Commission's ultimate discretionary authority on these matters, but increase public awareness and involvement in the process. Colorado could look to adopt language from the federal Endangered Species Act as well, demonstrated in Revision 2 § (2)(d) of [Appendix A](#). Colorado's laws should ensure the Commission is using the best available science for decision-making, initiating public

involvement, and encouraging public discourse over proposed actions to add or strip protections from species.

The statutory and regulatory language should also include a requirement for the use of the best available science in the listing and delisting process. Since most statutes and regulations only protect listed species, it is crucial for the Colorado Parks and Wildlife Commission to consider the best available science when updating the Threatened and Endangered Species List to guarantee that protections are afforded to vulnerable wildlife and critical habitats. The legislature should amend the language of the Colorado Nongame, Endangered, or Threatened Species Conservation Act, or the Colorado Parks and Wildlife Commission should amend its regulations, to include a requirement to verify the data the Commission uses when updating the list. *See* Revision 2 § (2)(c) Appendix A. The consultation and incorporation of the best available science into the decision-making process for the listing and delisting process could ensure that the most current and comprehensive data are used to support decisions on the addition and removal of species from this list.

3. Include the Required Use of the “Best Available Science” in Agency Regulations

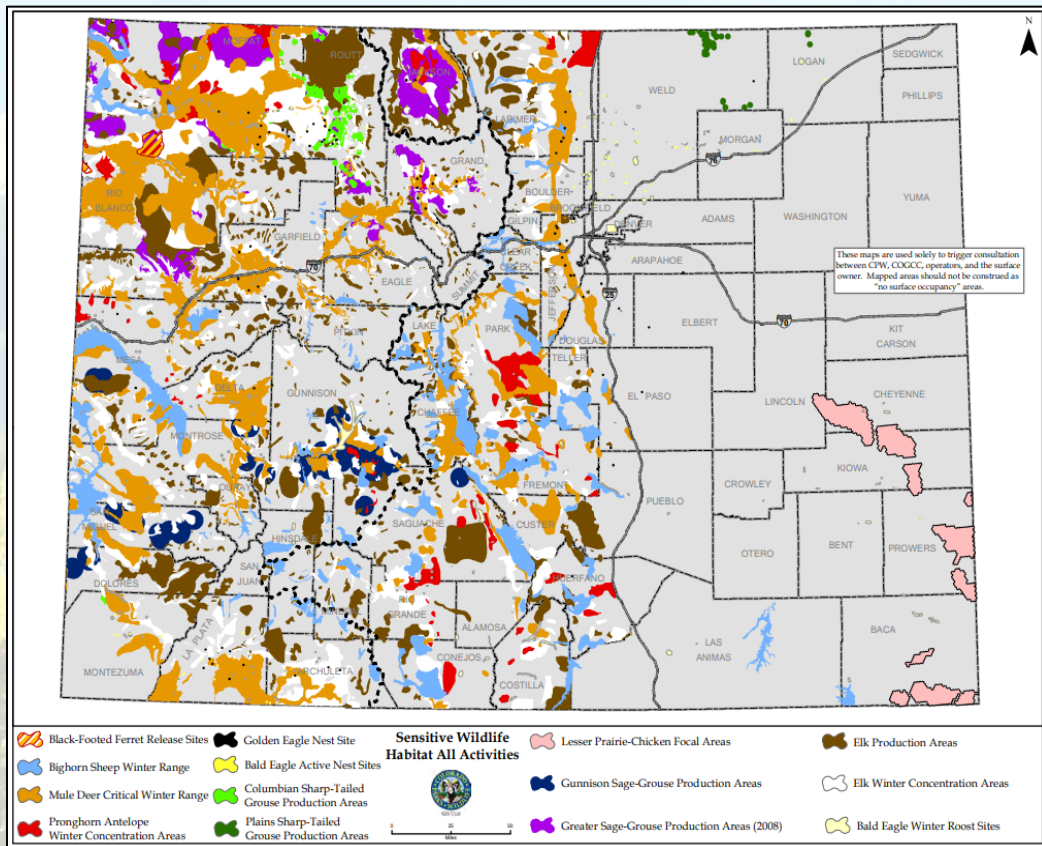
Colorado state agency regulations should require use of the best available data and science in decision-making to strengthen agency actions that affect the state’s wildlife and plants. However, the definition of the “best available science” is subject to different and changing interpretations. Therefore, the regulatory updates to include this language should include expert oversight to ensure the best available environmental data is actually used. Additionally, agencies may accomplish these changes through the publication of a policy or guidance document in lieu of the regulatory revision process. In order to confirm the use of the best available data, explicit data requirements should be implemented.

Amend agency regulations and policies to include the language of the “best available science”

The Colorado Parks and Wildlife Commission should amend its regulations with requirements to use the best available science. Because the sensitive species data maintained by the Commission is the primary source for regulations that provide protections of wildlife, it is important for this information to be as accurate and up to date as possible. In order to maintain current, reliable information, the Commission should consider working with outside organizations whose ongoing missions include monitoring vulnerable species. For example, the accuracy of the Colorado Threatened and Endangered Species List could be improved with information obtained from reliable outside sources. Potential sources of reliable data include the Colorado Natural Heritage Program and NatureServe, conservation data collection organizations.⁵³ The Colorado Natural Heritage Program and NatureServe assign conservation status to imperiled species in Colorado based on available empirical data.⁵⁴ The discrepancy between Colorado Natural Heritage Program’s Tracked Species in

Colorado and the state Threatened and Endangered Species List indicates potentially new information that the Commission should review. The consultation and incorporation of outside data into the decision-making process for the listing and delisting process could ensure that the most current and comprehensive data are used to support decisions on the addition and removal of species from this list.

Another way to ensure the inclusion of best available science in agency regulations is to mandate the use of best available science in the creation of maps. Many regulations include requirements for maps, whether agencies create them internally or outside sources submit maps to the agency.⁵⁵ Without assurance that these maps are created with the best available science, they serve little purpose in protecting sensitive species. For example, the Colorado Oil and Gas Conservation Commission should require that project proponents submit scientific data with applications requiring maps and make the source of the data available to the public with the application during the comment period. The COGCC should also change the internal procedures for the creation of Restricted Surface Occupancies and Sensitive Wildlife Habitat Maps⁵⁶ to require consultation with multiple databases when creating the maps, or require that the COGCC consult a non-biased scientific party to verify the information on these maps. Both regulatory changes and the publication of a guidance document would provide for a more comprehensive and scientifically sound decision-making process for oil and gas projects within Colorado, ultimately providing better protections to sensitive species.



Source: Colorado Oil and Gas Commission Regulation Appendix VII, <https://cogcc.state.co.us/documents/reg/Rules/LATEST/AppendixVIII.pdf>

The Colorado Mined Land Reclamation Board is another agency that requires facilities to submit maps to enhance and protect wildlife.⁵⁷ Section 2.10 of the Board's regulations detail the standards/requirements for maps included in surface coal mining plans.⁵⁸ The purpose of these maps is to use them in order "to protect and enhance fish and wildlife and related environmental values."⁵⁹ However, the Colorado Mined Land Reclamation Board's regulations do not articulate how these maps are used to protect wildlife.⁶⁰ Thus, the Colorado Mined Land Reclamation Board should amend its regulations to articulate specific standards to promote uniformity, transparency, and definitive protections for wildlife. Furthermore, like the Colorado Oil and Gas Conservation Commission, the Board should require consultation of the Colorado Parks and Wildlife Commission's Sensitive Wildlife Habitats and Restricted Surface Occupancy maps.⁶¹ To implement this requirement, the Colorado Mined Land Reclamation Board could adopt regulatory language in Section 2.10 to require consultation of the Colorado Parks and Wildlife Commission when wildlife are implicated and the review of the best available science to create any map submitted with a permit.⁶²

The Colorado Oil and Gas Conservation Commission ("COGCC") could also amend its regulations in numerous other places to include the best available science. For example, the COGCC could require the use of the "best available science" in applications in order to secure approval of any mitigation measures or permit decisions.⁶³ The COGCC could also amend the 500-Series regulations to include a process for submitting and verifying scientific data that it will use in the decision-making process.⁶⁴ Alternatively, the COGCC could implement this recommendation through the release of a guidance document. These suggestions represent just some of the ways in which the COGCC could amend its policies and regulations to include the best available science.

The Colorado Oil and Gas Conservation Commission's regulations in the voluntary 200-Series Comprehensive Drilling Plans also present an opportunity for sensitive species protections.⁶⁵ These plans are meant to "identify foreseeable oil and gas activities in a defined geographic area, facilitate discussions about potential impacts, and identify measures to minimize adverse impacts to public health, safety, welfare, and the environment, including wildlife resources, from such activities."⁶⁶ The operator, if they choose to submit a drilling plan, may include a description of the wildlife resources at each oil and gas location, as well as information from the consultation process with Colorado Parks and Wildlife and "[p]roposed best management practices or mitigation to minimize adverse impacts to resources such as air, water, or wildlife resources."⁶⁷ While the 200-Series does not explicitly require the inclusion of environmental data, there is potential for its use in the creation of the plan.⁶⁸ Independent data collection organizations could potentially provide these operators with helpful information for a wide-ranging analysis of the project's effects in order to create a comprehensive plan.

The Colorado Mined Land Reclamation Board's regulations would also greatly benefit from more broadly incorporating the use of the best available science in its permitting regulations. Specifically, the Colorado Mined Land Reclamation Board could amend Section 2.02, which details the general requirements for coal exploration.⁶⁹ Coal explorations

involving the removal of more than 250 tons are required to submit “narrative descriptions” of adverse impacts to wildlife.⁷⁰ In contrast, operations excavating less than 250 tons of coal must submit a statement with the relevant statutory references asserting that the mining activity “will not jeopardize the continued existence” of a federally or state listed species.⁷¹ The narrative descriptions and statements would greatly improve if the use of the best available science was required. The Colorado Mined Land Reclamation Board could also amend Section 2.04, which includes the minimum requirements for environmental resources information in permit applications.⁷² Specifically, the Fish and Wildlife Resources Information Section would be a much stronger section if applicants were required to use the best available science when conducting the requisite studies.⁷³ Currently, the applicant must only submit published data and other information, the applicant’s site-specific information, and written guidance from any agencies consulted.⁷⁴

The Colorado Mined Land Reclamation Board should also amend its permitting regulations to include consideration of the “best available scientific data” to promote uniformity in the Colorado Mined Land Reclamation Board’s assessments of potential impacts to wildlife. Alternatively, the Colorado Mined Land Reclamation Board could consider publishing a policy document explaining their intent to protect sensitive species using data requirements. A policy document would also allow data requirements to evolve with different administrations, the evolution of science, and the growing field of data collection. The publication of a policy document would be consistent with the Colorado Mined Land Reclamation Board’s statutory authority and regulations while still maintaining the level of discretion that is important to its decision-makers.

The Colorado Department of Transportation’s mitigation plans would also greatly benefit from the incorporation of the “best available science” in its regulations. The Department of Transportation could accomplish this incorporation through the release of a guidance document to clarify Senate Bill 40’s data use requirements.⁷⁵ SB 40’s declaration highlights the importance of the protection and preservation of Colorado’s fishing waters but the practical application of the statute is ambiguous.⁷⁶ Since the adoption of SB 40 in 1969, the language concerning applicability has largely been left to interpretation, leaving fish in waterways that do not fit the SB 40’s exact description vulnerable.⁷⁷ The ambiguity of SB 40 is detrimental to sensitive species, which is why the implementation of an additional guidance document may be beneficial. The Department of Transportation should release a guidance document articulating its policy for any data submitted to include the source, which the Department of Transportation will then verify and publish for public knowledge. This guidance document would provide clarity on SB 40’s requirements, language, and data use requirements. The guidance document could also include the suggestion of multiple data sources to provide accurate data to improve the efficiency of the Department of Transportation’s process.

These suggestions are just a few of the many changes that the state could adopt to better implement requirements for the best available science. These requirements will ensure that decision-making is not arbitrary or based on outdated or incomplete data. Such requirements will further improve protections for Colorado’s wildlife.

Include mandates for expert oversight

The addition of the use of the “best available science” should be accompanied by the inclusion of expert oversight. Expert consultation would improve the data relied on in decision-making by Colorado state agencies. Expert oversight would also provide the public with assurance that agencies are making the best decisions possible. Ultimately this change aims to improve overall decision-making through the use of reliable data.

State agencies should implement expert oversight requirements in addition to the use of “best available science” to ensure data used in decision-making is credible. For example, the Department of Transportation could amend its roadkill data collection processes to include expert oversight whenever possible. Currently, the employees and state officers in the field of duty are charged with collecting the Department of Transportation’s data for roadkill.⁷⁸ This method does not provide a valid or consistent data collection process. The Department of Transportation could collaborate with a data group to create a scientific method of collection and allow them to review the final data. This would streamline and improve data collection for the Department of Transportation. With more consistent and reliable data, the Department of Transportation would be better equipped to make strategic planning decisions and establish safer roadways for wildlife in Colorado.

Furthermore, since the Colorado Parks and Wildlife Commission plays a critical role in providing wildlife data used in state agency decision-making, the validity of their information is paramount. Expert oversight of the information the Commission collects and publishes would provide a heightened level of reliability of this data. The addition of expert oversight requirements to agency regulations will improve the quality of data used in agency decision-making, leading to improved protections of wildlife.

4. Increase Statutory and Regulatory Protections for Plants

In order to afford plant life the same considerations as wildlife, the legislature should amend existing statutes or enact new statutes. Plant communities and plant life are important to sustaining the biodiversity of Colorado.⁷⁹ Many threats including habitat destruction, the introduction of non-native plant species, and plant collecting jeopardize the native plants and plant communities throughout Colorado.⁸⁰ Common activities that contribute to habitat destruction include energy and residential development and road maintenance.⁸¹

The federal Endangered Species Act authorizes the inclusion of threatened or endangered plant species.⁸² Since Colorado ranks thirteenth in plant diversity and eighth for plant species at risk nationwide, the state should mandate protections for vulnerable plant species.⁸³ Furthermore, the Colorado Natural Heritage Program tracks over 500 species of plants in Colorado due to some level of imperilment.⁸⁴ The state made progress by adding 117 plant species to the State Wildlife Action Plan in 2015.⁸⁵ However, plants are not

included on Colorado's Threatened and Endangered Species List.⁸⁶ This is due in part to the fact that Colorado Parks and Wildlife believes it lacks the legal authority to implement formal protections for many imperiled plant communities.⁸⁷ Beyond the lack of legal protections for plants and plant communities, there is also a lack of comprehensive data.⁸⁸ Without complete data, effects from major habitat destroying activities on plants are not appropriately considered.

Include protection for plants in state statutes or agency regulations



Horrid Herrickia, *Herrickia horrida*. Source: Steve O'Kane.

Land development and ground-disturbing projects create great risk to Colorado's native plant species that agency statutes and regulations do not reflect. Statutory changes are required to afford plant life the same considerations as animals. This may mean expanding and clarifying definitions of wildlife in agency regulations to include plants, or in some cases, giving plants their own discrete protections.

One potential avenue for improvement is including plants in Colorado's Threatened and Endangered Species List, thus affording them to the same protections as wildlife. Another avenue would be to enact the Rare, Endangered, or Threatened Plant Life Conservation Act proposed in [Appendix C](#), which would protect the state's native, rare, and endangered plant species. Other states have statutes dedicated to the sole purpose of recognizing and protecting endangered and threatened plant species that work in tandem with their endangered species acts.⁸⁹ In contrast, Colorado provides protection for plant species only through the Colorado Noxious Weed Act and the Colorado Natural Areas Program.⁹⁰ As demonstrated in [Appendix C](#), a proposed bill should include protections for all rare or endangered native plant species and would determine a list of these species using the best available science, neutral party peer review of the data whenever possible, and a notice and comment period following the publication of the list. The State Wildlife Action Plan's Tier 1 Plants of Greatest Conservation Need is a potential source to draw from in the creation of the list.⁹¹ These protections should also include a five-year review, like the Colorado Nongame, Endangered or Threatened Species Conservation Act,⁹² or a rolling review for the listing and delisting of any potential sensitive plant species. Furthermore, a proposed bill should include protections for the plants' habitats, implemented through the creation of a Sensitive Plant Species map, and a requirement for agency consultation before the approval of a new project proposal or permit. See [Appendix C](#). Care should be given to ensure the locations of rare plants are not publicized in a manner which makes plants vulnerable to collectors.

In lieu of proposing a new bill, the state legislature could amend the definition of "environment" in a number of statutes. Alternatively, agencies could amend their regulations to include "plant species and plant habitats" within the definition of environmental harms. These changes should also include a requirement to consult the best

available science in decisions on plant life and communities. For example, the Department of Transportation could provide a more detailed explanation of the data it considers and how it applies such data when considering permits under the Department's Harvesting of Native Grasses within State Highway Rights-of-Way regulation.⁹³

Additionally, the Colorado Oil and Gas Conservation Commission could amend its regulations to include plant species and plant habitats in its definitions section and could also amend its regulations to include plants wherever mitigation or consultation for wildlife resources is required.⁹⁴ Changes to these regulations are crucial for the protection of plant species because oil and gas activities in Colorado can cause significant harm to plant life.⁹⁵

Where agencies cannot collect data on their own, or where other expertise may be lacking, independent data collection organizations could provide verified information for plant and plant community considerations. Such data could help in agency consultations and the development of mitigation plans. Outside data could also facilitate the creation or amendment of existing maps that include rare and endangered plant species for the purposes of agency consultation. Lobbying efforts at the state level could push for the use of verified sources of plant data and incentivize private industries and local counties to collaborate with independent organizations to conduct comprehensive surveys of rare plants and plant communities. This would also increase the scope and number of surveys collecting rare and endangered plant species, which could be shared with Colorado Parks and Wildlife. With additional plant surveys and the creation of an environmental review tool, decision-makers would be able to access the plant species data more easily, and therefore, utilize the best available plant data in decision-making.



Narrow-leaved Milkweed, *Asclepias stenophylla*. Source: Fred Johnson.

5. Remove or Amend Balancing Tests

In order to protect the wildlife resources in Colorado from the harmful effects of various projects, the state legislature should update Colorado's statutes to reflect the importance of considering the environment in decision-making. Administrative bodies discussed in the previous sections can only enact regulations that are consistent with their statutory grants of authority. Therefore, agencies may not have the authority to provide regulations or policy documents with the necessary emphasis on sensitive species data. To shift focus onto the environmental impacts of projects, the Colorado legislature should remove any language in statutes that places a stronger emphasis on economic and industry development.

To continue prioritizing wildlife in decision-making, Colorado state agencies should implement stronger language and update other regulations. Some agencies could remove balancing tests through regulatory amendments or guidance documents. The ability to

publish policy documents allows administrations to adopt procedures that are consistent with current rules by elaborating on any vague language in the statutes. Agencies could improve considerations of wildlife in decision-making by prioritizing environmental factors over economic or technical factors.

Modify balancing tests in statutory language

The state legislature should update the language of the Colorado Oil and Gas Conservation Commission's enacting statute to emphasize the environmental impacts of oil and gas projects.⁹⁶ Currently, the COGCC's enacting statute forces it to balance the interests of oil and gas development against wildlife conservation, which limits the COGCC's ability to create any regulations that are inconsistent with the balancing test.⁹⁷ However, on April 16, 2019, the Colorado legislature signed Senate Bill 19-181 into law, which represents their effort to increase the emphasis on environmental impacts by addressing this balancing test.⁹⁸ Senate Bill 19-181 suggests adopting language that is more consistent with the legislative declaration of the Oil and Gas Conservation Act to protect the public health, safety, and welfare.⁹⁹ Specifically, Section Seven repealed the "cost-effectiveness and technical feasibility" requirement for the COGCC with regard to resource mitigation effects on wildlife.¹⁰⁰ Although Senate Bill 19-181 does not wholly remove consideration of economic factors, it allows the COGCC to amend its regulations to place a stronger emphasis on the environmental impacts.¹⁰¹ The COGCC could execute the suggested changes in Senate Bill 19-181 by specifying which of the balancing factors to emphasize in their consideration of projects and permits, prioritizing environmental factors over economic or technical factors.¹⁰²

SB 19-181 Summary

"[SB 19-181] prioritizes the protection of public safety, health, welfare, and the environment in the regulation the oil and gas industry by modifying the oil and gas statutes and by clarifying, reinforcing, or establishing various aspects of local governments' regulatory authority over the surface impacts of oil and gas development."

Source: <http://leg.colorado.gov/bills/sb19-181>

The enacting statute for the Colorado Mined Land Reclamation Board indicates an objective to protect the people and nature of the state, but emphasizes the need for economic reasonableness.¹⁰³ Similarly, the enacting statute for the Colorado State Land Board describes the obligation "to produce a reasonable and consistent income over time."¹⁰⁴ Without legislative changes to both of their enacting statutes, these agencies will remain ineffective in prioritizing Colorado's sensitive wildlife and plants. For instance, the state legislature could remove economic considerations from the Colorado Mined Land Reclamation Board's enacting statute to provide better protection for sensitive wildlife and plants in the reclamation process.¹⁰⁵

The purpose of the Colorado Mined Land Reclamation Act is to promote an “economically sound and stable mining and minerals industry” as well as “aid in the protection of wildlife and aquatic resources.”¹⁰⁶ The Colorado legislature should amend this statute to emphasize environmental concerns over the promotion of an economically sound mining and mineral industry. Additionally, the legislature should adopt new language in the Colorado Mined Land Reclamation Board’s enacting statute to protect wildlife and aquatic resources.¹⁰⁷ Deemphasizing economic factors and adding specific regulatory guidelines in the Colorado Mined Land Reclamation Act would allow the Colorado Mined Land Reclamation Board to update its regulations to more effectively protect wildlife resources.

The Colorado State Land Board’s enacting statute also creates an economic balancing test that prevents the regulations and policies from being as effective as possible to protect the environment in the leasing of state-owned lands.¹⁰⁸ The statute currently mandates that the Colorado State Land Board manage and sell the lands in its trust in order to produce a reasonable income over time.¹⁰⁹ The Colorado State Land Board’s duty to protect and enhance the use of land for future generations¹¹⁰ is weakened by focusing on the income the land can produce. The state legislature could amend the language of the statute to remove the effect of the required balancing test. Alternatively, the statutory language could be changed to place more emphasis on environmental impacts by requiring that the management and sale of lands produce a reasonable income while maintaining sustainability of the land and mitigating effects on wildlife habitats.

Modify balancing tests in regulatory language

The regulations of some decision-making bodies include balancing tests despite the enacting statutes providing no requirement for economic protections or development. Administrative bodies should engage in regulatory changes to remove or amend balancing tests. In addition to balancing tests, regulations often include qualifiers, such as “reasonably practicable” or “where economically feasible,”¹¹¹ that inhibit agencies from implementing the most environmentally protective requirements. The removal of these qualifiers and balancing tests would lead to improved regulatory protections of the environment in state decision-making.

For instance, as the primary decision-making body for the protection of wildlife, the Colorado Parks and Wildlife Commission should remove the emphasis on economic factors from its regulations.¹¹² In their procedural rules for wildlife, the Colorado Parks and Wildlife Commission considers whether a mitigation plan is “economically reasonable and reflects a balance between protecting the wildlife resources and the need to develop the state’s water resources.”¹¹³ The Commission should remove this language through a regulatory change, and require that the protection of fish and wildlife resources be the primary consideration in its decisions. The principal focus of the Commission should be to protect vulnerable wildlife in the state in accordance with the statutory purpose of the Commission.¹¹⁴ The emphasis on economic factors in balancing tests creates loopholes for project proponents, allowing industries to avoid mitigation measures because of potential economic harm.

To permit consideration of environmental factors over economic development, the Colorado Mined Land Reclamation Board must update their regulations and policies to reflect this new balance. For instance, the Colorado Mined Land Reclamation Board could amend the language of Section 2.07.6 to require that the criteria of permit reviews emphasize environmental impacts before other factors.¹¹⁵ The Colorado Mined Land Reclamation Board could also ensure review of these factors by changing the organization and language of 2.07.6(2).¹¹⁶ For example, criteria considered in Section 2.07.6(2) could be listed in order of importance, with environmental impacts and review of submitted environmental data first.¹¹⁷ Additionally, the Colorado Mined Land Reclamation Board could deny advancement in the permitting process if environmental impacts are unreasonable or if Colorado Parks and Wildlife determines a significant impact on the sensitive species in the project area. The Colorado Mined Land Reclamation Board could also remove the qualifier of “to the extent possible” for environmental protections from many of its regulations.¹¹⁸ Furthermore, a policy document could be released in place of regulatory changes to explain the Colorado Mined Land Reclamation Board’s intent to prioritize the protection of wildlife and aquatic species over the economic benefit of a project.

Conclusion - State Level Data Use

To improve protections for sensitive species throughout Colorado, the state legislature can amend statutes or state agencies can amend their regulations or publish policy documents. The recommendations for increasing sensitive species protections include: (1) clarifying and establishing specific practices in agency consultation; (2) updating the procedures for listing and delisting species under the Colorado Nongame, Endangered, or Threatened Species Conservation Act; (3) incorporating the required use of “best available science” in agency regulations; (4) increasing protections for endangered and threatened plant species; and (5) eliminating or amending balancing tests and qualifiers from statutes and regulations that place an improper focus on economic development. Each of these recommendations will lead to a more efficient and more data driven decision-making system throughout Colorado.

Sensitive Species Data in Colorado Local Government Decision-Making

Introduction

Colorado law delegates broad authority to local governments to regulate land uses within their respective jurisdictions to best address human needs and environmental concerns.¹¹⁹ Land use and development activities like residential development, agriculture, and recreation are common in Colorado and vital to the social and economic interests of communities.¹²⁰ However, as development continues and as human activity expands into previously undeveloped lands, sensitive species habitats are increasingly impacted.¹²¹ Many of Colorado's natural habitats are susceptible to conversion or degradation from human activities.¹²² For example, all seven types of shrubland communities in Colorado are affected by residential development, commercial development, or agricultural practices.¹²³ As such, it is extremely important that local governments consider impacts to plants and wildlife prior to approving new land use activities.

This section will explore the similarities and differences in several local land use ordinances from various counties and one city in Colorado. This comparison is centered on the extent to which each county or city considers environmental data in decision-making. This includes their criteria for determining: (1) when wildlife assessments or impact reports are necessary; (2) the level of specificity required in the assessments or reports; and (3) when a development proposal is exempt from conducting a wildlife impact report, assessment, or mitigation actions. In the counties and city this report examines, development and other land use permit applications commonly require the consideration of effects on wildlife.

Using these findings, this report recommends that: (1) local governments amend their land use ordinances to mandate specific minimum standards for all new land use activities; and (2) local governments currently lacking comprehensive sensitive species data and maps require consultation of outside data from state agencies and independent groups. The implementation of both of these recommendations will ensure local governments rely on higher-quality environmental data in decision-making.

Findings

Local governments employ a variety of approaches to consider environmental data in decision-making. Some county and municipal ordinances contain specific requirements for the initiation of environmental review and consultation of wildlife data.¹²⁴ However, the ordinances of other jurisdictions contain unclear requirements, if any, for considering impacts to plants and wildlife.¹²⁵ Counties with the strongest plant and wildlife considerations incorporate specific, uniform practices for evaluating and addressing plant and wildlife resources before approving development or other land use activities.¹²⁶

Boulder County exemplifies a jurisdiction with specific requirements to assess wildlife data when considering development applications.¹²⁷ Unless exempted, all land use development applications that require a development report under Boulder County Land Use Code 3-203(F) must include a wildlife impact report when the property meets certain criteria.¹²⁸ Specifically, a wildlife impact report is mandated whenever a development is proposed within a significant natural community or a riparian corridor.¹²⁹ A wildlife impact report is also required when a proposed activity or development is located within any critical habitat for state or federally designated threatened or endangered species.¹³⁰ In addition to outlining the circumstances that trigger an impact report, Boulder County's ordinances delineate specific substantive requirements.¹³¹ For example, the County Parks and Open Space Department must approve a wildlife expert to conduct the impact report.¹³² Moreover, Boulder County's ordinances require an impact report to include information, such as an inventory of species of special county concern and an assessment of whether an area is a significant habitat for those species.¹³³ Boulder County effectively exercises its local authority to regulate land use by factoring in environmental impacts during the permitting process.¹³⁴ To increase the consideration of impacts on sensitive species, other counties could implement Boulder County's impact report requirements before issuing development permits.

Similar to Boulder County, Jefferson County devotes an entire section of its land use regulations to plant and wildlife considerations.¹³⁵ However, Jefferson County puts a greater emphasis on federally endangered and threatened species and does not require special considerations for species of unique county concern.¹³⁶ Jefferson County has a two-tiered process for considering a proposed development's impacts to plants and wildlife.¹³⁷ First, a Wildlife and Vegetation Assessment ("Assessment") must be completed for all developments unless otherwise exempted.¹³⁸ An Assessment must be "prepared and signed by a qualified biologist, professional natural resource specialist, a Colorado state licensed landscape architect or environmental engineer."¹³⁹ The Assessment must include an inventory of wildlife species and habitats, an inventory of vegetative species and habitats, proof of consultation with U.S. Fish and Wildlife Service, and maps depicting the proposed development area along with wildlife habitats and vegetation areas.¹⁴⁰

The second tier of Jefferson County's process for considering a proposed development's impacts on sensitive species is a Wildlife and Vegetation Plan ("Plan"), which must be submitted if the Assessment deems it necessary.¹⁴¹ As with the Assessment, the Plan must be "prepared and signed by a qualified biologist, professional natural resource specialist, a Colorado state licensed landscape architect or environmental engineer."¹⁴² The purpose of the Plan is to "assure that wildlife and vegetation factors affected by the planning, design, and construction of the proposed development are recognized, adequately interpreted and presented for use in the development."¹⁴³ The Plan must include, among other things, the wildlife and vegetation habitat to be preserved or improved.¹⁴⁴ The preservation or improvement may include development of wildlife corridors or the creation of buffers between the habitat and development.¹⁴⁵

Larimer County is another example of a county with a comparably strong system in place for protecting critical wildlife and habitat.¹⁴⁶ For example, in specific areas, Larimer County Land Use Code aims to protect wildlife from activities that cause immediate or foreseeable harms.¹⁴⁷ The Larimer County Land Use Code also requires that any new development, unless exempt, "avoid adversely affecting wildlife and wildlife habitat to the maximum extent practicable."¹⁴⁸ Larimer County specifically excels in its requirement of Wildlife Conservation Plans, under Section 8.4.7 of its codes.¹⁴⁹ Section 8.4.7 specifies that "the applicant, at the applicant's expense, under the direction of a qualified person acceptable to Larimer County who has demonstrated appropriate expertise" must prepare a Wildlife Conservation Plan.¹⁵⁰ Larimer County's Land Use Code also requires specific minimum information in the Wildlife Conservation Plan, including, but not limited to, an analysis of potential mitigation measures and a plan to achieve such measures.¹⁵¹ However, this ordinance allows the planning director to waive some of the standards or review criteria when certain relevant factors are present.¹⁵² Collectively, Larimer County's use of Wildlife Conservation Plans still creates the opportunity for greater data consultation in the land development process.

In contrast, the City of Colorado Springs is an example of a local government that struggles to implement strong data considerations in its decision-making.¹⁵³ In Chapter Seven of its Planning, Development, and Building Code, Colorado Springs is less stringent than other counties when it comes to considering sensitive species data.¹⁵⁴ The subsection on Environmental Quality in Chapter Seven references both plants and wildlife.¹⁵⁵ The goal of this section is to enhance environmental quality, including the "[c]onservation of native plant communities, significant vegetation, and natural features" and the "[p]rovision of ecological diversity and richness that furnishes habitat for species not otherwise found in urban environs."¹⁵⁶ While Chapter Seven mentions the conservation and protection of wildlife, habitat, and plant species throughout its code, the considerations are lacking in detail with no specific methods or processes for data consultation, permitting, or planning.¹⁵⁷ The most direct and explicit mentions of sensitive species considerations are in the Hillside Area Overlay and Streamside Overlay Zone codes, and even these sections are vague.¹⁵⁸ For example, these sections list objectives including the preservation of "wildlife habitat and

wetland areas which provide wildlife migration corridors,” but provide no information as to how that objective will be achieved.¹⁵⁹

Weld County is another example of a county that lacks requirements for the consultation of sensitive species data.¹⁶⁰ While wildlife data are considered in Weld County’s regulations for zoning, subdivisions, planned unit developments, and building regulations, Weld County does not employ a consistent process for wildlife considerations when issuing development permits.¹⁶¹ The county policy, codified within Weld County’s land use ordinances, states that county decision-makers should coordinate with local, state, and federal agencies to conserve and protect critical fish and wildlife habitat.¹⁶² However, the county lacks unified requirements or concrete details of when and how to consider sensitive species when approving land use activities.¹⁶³ Despite Weld County’s policy to consider wildlife in its development proposals and processes, the land use code does not establish specific, detailed practices for the usage of wildlife data.¹⁶⁴

Local governments’ implementation and use of environmental data in land use and development planning varies drastically across Colorado. Some counties, such as Boulder and Larimer Counties, lay out detailed and stringent guidelines for data considerations in land use planning.¹⁶⁵ On the other hand, the City of Colorado Springs and Weld County fail to present codes with detailed requirements to utilize sensitive species data in land use planning.¹⁶⁶ Weld County and the City of Colorado Spring’s land codes allow for substantial discretion but lack specific procedures to consider environmental data in development and land use planning.¹⁶⁷



Source: <https://cnhp.colostate.edu/ourservices/surveys-inventories/>

Recommendations

Local governments could implement the two following recommendations to ensure the use of higher-quality data in decision-making processes. First, counties and cities could develop specific processes to ensure the consideration of minimum sensitive species data in all proposed development and land use activities. Second, local governments that currently lack detailed sensitive species data and maps could require consultation of outside data from state agencies and independent groups.

1. Standardized Processes for Data Consideration

The first recommendation is to develop certain minimum standards for all new land use activities. These standards should be clearly delineated and take into consideration sensitive species and their respective habitats to ensure that there are proper considerations of plant and wildlife information in the land use and development permitting process. A sensitive species assessment could be implemented in local ordinances in order to establish well-defined processes to guarantee a minimum amount of data is considered during local land use planning.

The assessment should be conducted by a qualified individual and include an inventory of plant and wildlife species and their habitats present in the development area, with special attention given to sensitive species. Additionally, the assessment should include the geographic features and map the proposed development area to allow those reviewing the assessment to better understand the impacts the decision would have on the area in question. In the event that significant plant and wildlife resources exist in the proposed development area, an assessment should require a detailed mitigation plan that includes the species and habitats that ought to be preserved, as well as steps that will be taken to avoid and mitigate potential harm.

Generally, a scientific professional should conduct or review an assessment or develop mitigation plans in order to limit bias and promote science-based evaluation. Moreover, review by a scientific professional can make the process more efficient and limit errors that could result in delay of development or harm to species. The use of scientific experts in developing and approving assessments and mitigation plans creates a checks and balances system on the information used to make scientific decisions at the local level. If third-party participation in local decision-making is not possible, third-party review of a wildlife assessment or mitigation plan could also be implemented. This third-party review should preferably be conducted by a member of the scientific community or panel of scientists with expertise in the applicable area. The use of expert oversight would ensure sensitive species considerations have not been overlooked at the local level.

2. Mapping and Outside Data Consultation

To improve the use of higher-quality data in decision-making, local governments should establish minimum requirements for consultation of certain data sources. First, local governments should create clear obligations mandating the consideration of wildlife data in their land use processes. In addition to the processes requiring the consideration of wildlife data, local governments should also require consultation with federal or state wildlife agencies, or an independent data resource. Consultation is important for local governments' understanding of the potential impacts of land use activities on sensitive species, particularly when local governments currently lack comprehensive data resources. The extent to which

local governments collect and compile environmental data is varied, thus a process to ensure that local governments utilize the best available science will improve the consideration of sensitive species data and maps in decision-making.

Very few counties and cities throughout Colorado use a mapping process. Mapping tools are extremely important to accurately consider wildlife data in the land use planning process, as they provide a resource for local decision makers to consult when proposed activities impact sensitive species. Although local governments may be the most informed

“CNHP’S CONTRIBUTION TOWARDS CONSERVATION OF MESA COUNTY HAS ALREADY SIGNIFICANTLY INFLUENCED FUTURE MANAGEMENT PLANS.”

- GREGORY TRAINOR, FORMER CITY OF GRAND JUNCTION UTILITY MANAGER

Source:

http://www.landscape.org/colorado/programs/goco_grants/

Colorado Natural Heritage Program to conduct an inventory of endangered and threatened species as well as sensitive flora and fauna within the County.¹⁶⁸ The City of Grand Junction utilizes this data to plan for land conservation and biodiversity protection.¹⁶⁹

source regarding specific local needs, they may be unable to consolidate this information due to a lack of resources. In such instances, counties and municipalities can rely on outside data sources to create maps or databases specific to certain localities.

For example, under the Great Outdoors Colorado Trust Fund Grant Program, Mesa County commissioned the

Similarly, by using data from the federal government, state government, and the Colorado Natural Heritage Program, Boulder County identified areas located within a Natural Area or Natural Landmark listed in the Environmental Resources Element of the Boulder County Comprehensive Plan and mapped in the Boulder County Zoning Map.¹⁷⁰ Special consideration is given to wildlife located within these areas.¹⁷¹ Additionally, Boulder County identifies and tracks species of special county concern and gives special considerations to such species before approving a development application.¹⁷² Other local governments should follow the lead of the Boulder County Open Space Department because local efforts to develop maps and records of sensitive species and their habitats could provide for a more accurate assessment than federal or state agencies.

When available, the data used by counties and cities to create local-level maps should be as specific to the local needs as possible. However, local governments that cannot create their own maps and maintain a local data collection should use the data collected by the state government or independent organizations. Whether the data originates from local governments or outside sources, counties and cities should implement the use of this data in detailed conservation plans.

Conclusion - Local Level Data Use

The development and land use codes of Colorado counties and cities vary greatly in terms of how much local governments use wildlife, plant, and habitat data in their land development processes. To create recommendations for local governments, the Clinic compared counties that effectively incorporate environmental data consultation into their planning processes to counties and one city that lack specific processes to consider data in their land use planning. Following this comparison of the environmental data considerations of several Colorado local governments, two recommendations emerged. First, counties and cities could develop specific processes to ensure the consideration of minimum sensitive species data in all proposed development and land use activities. Second, local governments that currently lack detailed sensitive species data and maps could require consultation of outside data from state agencies and independent groups. These two recommendations provide guidance to local governments in implementing specific processes to use reliable data in their land use and development decision-making. The adoption of clear, detailed processes using specific environmental data will guarantee improved consideration and outcomes for sensitive species and habitats at the local level.

Summary of Recommendations

The impacts of development on wildlife are a concern to a number of advocacy groups and communities in Colorado. Development has affected many sensitive species habitats, and as Colorado continues to grow, the impact on native sensitive species will also increase. As such, sensitive species considerations are gradually appearing in state and local government and agency regulations. However, these laws lack uniformity and transparency, impeding the emerging consideration of environmental data in decision-making processes.

This report ultimately finds that the existing framework of statutes, rules, and regulations in Colorado lacks explicit requirements to use data regarding sensitive species. Colorado should amend its existing framework to provide a stronger emphasis on the consideration of sensitive species data in decision-making. Any data used in decision-making processes should be credible and complete, and the processes themselves should be transparent. In order to achieve these objectives, this report offers recommendations for state and local governments. Additionally, this report provides model regulations at the state and local level that could serve as frameworks to incorporate the above recommendations to improve the use of environmental data in decision-making.

The Colorado state government should amend its statutes and regulations to:

1. Clarify and establish specific practices for agency consultation Colorado Parks and Wildlife Commission
2. Update the procedures for listing and delisting species under the Colorado Nongame, Endangered, or Threatened Species Conservation Act
3. Require the use of the “best available science” in agency decision-making
4. Include protections for endangered and threatened plant species
5. Eliminate or amend balancing tests and qualifiers from statutes and regulations that prioritize economic development.

The recommendations for local governments are for counties and cities to:

1. Develop specific processes to ensure the consideration of minimum sensitive species data in all proposed land use activities; and
2. Require consultation of outside data from state agencies and independent groups.

The findings of this report demonstrate the value of a uniform, statewide environmental review tool which ensures that decision-makers have the capacity to access accurate and specific data. Whether or not the state and local governments implement the aforementioned legal recommendations, an environmental review tool will allow for decision-making to be consistent across Colorado. By implementing these suggestions, Colorado can move toward decision-making processes that adequately consider sensitive

species data before development unduly effects vulnerable plants and wildlife. The current legal landscape in Colorado is primed for more environmental data requirements, better data funding, and overall greater conservation efforts. Outside of decision-making, Colorado should look to create more legal obligations in substantive policy changes or amendments. Beyond improving outcomes for individual sensitive species, applying these recommendations will be a step toward creating secure and thriving ecosystems, and will ensure preservation of Colorado's wildlife and wild places for future generations.

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Appendix A: Suggested Revisions* to the Colorado Nongame, Endangered, or Threatened Species Conservation Act

*Suggested revisions are marked in red font.

1 **REVISION 1:** In Colorado Revised Statutes, 33-2-104, **amend** (1) as follows:

2 **33-2-104. Nongame species - regulations.** (1) The division shall conduct
3 investigations on nongame wildlife in order to develop information relating to population,
4 distribution, habitat needs, limiting factors, and other biological and ecological data to
5 determine management measures necessary for their continued ability to sustain
6 themselves successfully. **Wherever reasonably feasible, the division shall consult with an**
7 **independent individual or organization with expertise in wildlife population, distribution,**
8 **habitat needs, limiting factors, and other biological and ecological data in order to create**
9 **these management measures.** On the basis of such determinations, the commission shall
10 issue regulations and develop management programs designed to ensure the continued
11 ability of nongame wildlife to perpetuate themselves successfully. Such regulations shall set
12 forth species or subspecies of nongame wildlife which the commission deems in need of
13 management pursuant to this section, giving their common and scientific names by species
14 and, where necessary, by subspecies. The commission shall conduct ongoing investigations
15 of nongame wildlife and may from time to time amend such regulations by adding or
16 deleting therefrom species or subspecies of nongame wildlife. **Wherever reasonably**
17 **feasible, the commission may consult with an independent individual or organization with**
18 **expertise in wildlife population, distribution, habitat needs, limiting factors, and other**
19 **biological and ecological data during these investigations.**

20 (2) The commission shall by regulation establish limitations relating to the taking,
21 possession, transportation, exportation, processing, sale or offering for sale, or shipment as
22 may be deemed necessary to manage nongame wildlife.

23 (3) Except as provided in regulations issued by the commission, it is unlawful for
24 any person to take, possess, transport, export, process, sell or offer for sale, or ship
25 nongame wildlife deemed by the commission to be in need of management pursuant to this
26 section. Subject to the same exception, it is also unlawful for any common or contract
27 carrier to knowingly transport or receive for shipment nongame wildlife deemed by the
28 commission to be in need of management pursuant to this section.

29 **REVISION 2:** In Colorado Revised Statutes, 33-2-105, **amend** (1) introductory
30 portion, and (2)(a); and **add** (2)(c), (2)(d), (2)(e), and (2)(f) as follows:

31 **33-2-105. Endangered or threatened species.** (1) On the basis of investigations of
32 nongame wildlife provided for in Section 33-2-104 and ~~other~~ **the best** available scientific
33 and commercial data and after consultation with other state wildlife agencies, the Colorado
34 water conservation board, the Colorado water and power development authority, water
35 conservancy districts, and other water conservation districts of the state, and other water
36 resource development agencies within the state, appropriate federal agencies, ~~and~~ other
37 interested persons and organizations, **and any necessary independent individual or**

1 organization with expertise in wildlife population, distribution, habitat needs, limiting
2 factors, and other biological and ecological data, the commission shall by regulation
3 adopted pursuant to the procedures specified in Sections 33-1-111 and 24-4-103, C.R.S.,
4 establish a list of those species and, where necessary, subspecies of wildlife indigenous to
5 this state which are determined to be endangered or threatened within this state, giving
6 their common and scientific names by species and, where necessary, by subspecies.

7 (2) The commission shall:

8 (a) Conduct, by July 1, 1986, and at least once every five years thereafter, a review of
9 all species included in the state lists of endangered or threatened species established
10 pursuant to subsection (1) of this section, or that the division or commission suspects are
11 threatened or endangered; and

12 (b) Determine on the basis of such review whether any such species should:

13 (I) Be removed from such list;

14 (II) Be changed in status from an endangered species to a threatened species; or

15 (III) Be changed in status from a threatened species to an endangered species.

16 (c) These determinations shall be made on the basis of the best available scientific
17 data, and, if appropriate, with the consultation of an independent panel of individuals to
18 verify that it is the best available scientific data

19 (d) Species shall be deemed threatened, endangered, or removed from the list
20 because of any of the following factors:

21 (I) The present or threatened destruction, modification, or curtailment of its habitat
22 or range;

23 (II) Disease or predation;

24 (III) Population trends;

25 (IV) Overutilization for commercial, sporting, scientific, education, or other
26 purposes;

27 (V) Other natural or manmade factors affecting its continued existence; or

28 (VI) Efforts, if any, being made by to protect such species, whether by predator
29 control, protection of habitat and food supply, or other conservation practice.

30 (e) If the commission determines that a species shall be listed as endangered or
31 threatened, or changes the status of the species, the commission shall:

32 (I) Notify the public of the change,

33 (II) Publish the source of the scientific data that the commission relied on in its
34 decision to list, delist, or change the status of a species,

35 (III) Allow for a 90-day comment period on the listing, delisting, or change of status,
36 and

37 (IV) Respond to comments that include biological or ecological data that are
38 inconsistent with or refute the commission's findings.

39 (f) Promulgate regulations to create a petition procedure for the public to engage
40 that allows for:

41 (I) A suggestion, based on scientific data, to include a species on the list as
42 endangered;

43 (II) A suggestion, based on scientific data, to include a species on the list as
44 threatened;

45 (III) A suggestion, based on scientific data, to change the status of a species from
46 endangered to threatened; or

1 (IV) A suggestion, based on scientific data, to change the status of a species from
2 threatened to endangered.

3 (3) Except as otherwise provided in this article, it is unlawful for any person to take,
4 possess, transport, export, process, sell or offer for sale, or ship and for any common or
5 contract carrier to knowingly transport or receive for shipment any species or subspecies
6 of wildlife appearing on the list of wildlife indigenous to this state determined to be
7 endangered within the state pursuant to subsection (1) of this section.

8 (4) Except as otherwise provided in this article, it is unlawful for any person to take,
9 possess, transport, export, process, sell or offer for sale, or ship and for any common or
10 contract carrier to knowingly transport or receive for shipment any species or subspecies
11 of wildlife appearing on the list of wildlife indigenous to this state determined to be
12 threatened within the state pursuant to subsection (1) of this section.

13 **REVISION 3:** In Colorado Revised Statutes, 33-2-107, **amend** as follows:

14 **33-2-107. Regulations.** The commission shall issue such regulations as are
15 necessary to carry out the purposes of this article **and do not weaken the division and**
16 **commission's dedication to protection of the wildlife and wildlife habitats in the state**

Appendix B: Recommended Revisions to Colorado Parks and Wildlife Commission Regulations for Consultation Procedures and Creation of an Endangered and Threatened Species List

1 **REVISION 1:** In 2 Colo. Code Reg. § 406-10 Chapter W-10 Nongame Wildlife, **adopt**
2 Article V, 1005 as follows:

3 A. When a project proposal, permit application, or other ground-disturbing
4 activity occurs under the authority of another state agency, and that agency's statute or
5 regulations require that agency to consult with the Colorado Parks and Wildlife
6 Commission, the Commission shall:

7 1. Conduct an analysis of the activity at issue's effect on wildlife or wildlife
8 habitats on and surrounding the site using the best available scientific data and perform
9 any on-the-ground surveys and assessments necessary for the Commission to make a
10 decision on the potential wildlife harm

11 2. Create a mitigation plan in consultation with the other state agency and
12 project proponent

13 3. Publish any findings for public comment

14 4. Publish a document, including scientific evidence, that provides the
15 reasoning behind the Commission's decision to waive consultation, if applicable

16 5. Make a final recommendation to the state agency on a mitigation plan, or if
17 necessary, a rejection of the activity

18 **REVISION 2:** In 2 Colo. Code Reg. § 406-10 Chapter W-10, **adopt** Article VI, 1006 as
19 follows:

20 A. In creating and amending the list of nongame, endangered, or threatened
21 wildlife species, according to the authority granted to the Commission by C.R.S. 33-2-105,
22 the commission shall:

23 1. Make determinations based on:

24 a. The best available scientific data;

25 b. Consultation of an independent panel of individuals or organization to verify
26 that it is the best available scientific data;

27 c. Any of the following factors:

28 1) The present or threatened destruction, modification, or curtailment of its
29 habitat or range;

30 2) Disease or predation;

31 3) Other natural or manmade factors affecting its continued existence;

32 4) Efforts, if any, being made by to protect such species, whether by predator
33 control, protection of habitat and food supply, or other conservation practice.

- 34 B. If the Commission determines that a species shall be listed as endangered or
35 threatened, or changes the status of the species, the Commission shall:
- 36 1. Notify the public of the change,
37 2. Publish the source of the scientific data that the Commission relied on in its
38 decision to list, delist, or change the status of a species,
39 3. Allow for a 90-Day comment period on the listing, delisting, or change of
40 status, and
41 4. Respond to comments that include biological or ecological data that are
42 contradictory to the commission's findings.
- 43 C. Create a Sensitive Plant Species Map:
- 44 1. Based on the best available science related to species population, dispersion,
45 habitat needs, and other limiting factors
46 2. Published with the source of the data
47 3. To be consulted during the Parks and Wildlife Consultation Procedure
48 outline in Chapter W-10, Article V of the Commission's Procedural Rules

Appendix C: Proposed Colorado Rare, Endangered, or Threatened Plant Life Conservation Act

1 In Colorado Revised Statute Title 33, **adopt** Article 61 as follows:

2 **SECTION 1. 33-61-101. Short title.** This article shall be known and may be cited as
3 the “Rare, Endangered, or Threatened Plant Life Conservation Act.”

4 **SECTION 2. 33-61-102. Legislative declaration.** The general assembly finds and
5 declares that it is the policy of this state to manage all plant life and plant habitats for
6 human enjoyment and welfare, for scientific purposes, and to ensure their perpetuation as
7 members of ecosystems; that species or subspecies of plants indigenous to this state which
8 may be found to be endangered or threatened within the state should be accorded
9 protection in order to maintain and enhance their numbers to the extent possible; that this
10 state should assist in the protection of species or subspecies of plants which are deemed to
11 be endangered or threatened elsewhere; and that adequate funding be made available to
12 the division annually by appropriations from the general fund.

13 **SECTION 3. 33-61-103. Definitions.** As used in this article, unless the context
14 otherwise requires:

15 (1) “Management” means the collection and application of biological information for
16 the purposes of increasing the number of individuals within species and populations of
17 plants up to the optimum carrying capacity of their habitat and maintaining such levels.
18 The term includes the entire range of activities that constitute a modern, scientific resource
19 program including, but not limited to, research, census, law enforcement, habitat
20 acquisition and improvement, and education. Also included within the term, when and
21 where appropriate, is the periodic or total protection of species or populations.
22 “Management” may include artificial propagation to maintain threatened or endangered
23 species populations, in concert with the exercise of water rights, and may also include
24 restriction of stocking of species which are in competition with threatened or endangered
25 species for the available habitat.

26 **SECTION 4. 33-61-104. Rare Plant Species - Regulations.** (1) The division shall
27 conduct investigations on rare plant species in order to develop information relating to
28 population, distribution, habitat needs, limiting factors, and other biological and ecological
29 data to determine management measures necessary for their continued ability to sustain
30 themselves successfully. Wherever reasonably feasible, the division shall consult with an
31 independent individual or organization with expertise in plant species population,
32 distribution, habitat needs, limiting factors, and other biological and ecological data in
33 order to create these management measures. On the basis of such determinations, the
34 commission shall issue regulations and develop management programs designed to ensure
35 the continued ability of rare plant species to perpetuate themselves successfully. Such
36 regulations shall set forth species or subspecies of rare plants which the commission deems
37 in need of management pursuant to this section, giving their common and scientific names
38 by species and, where necessary, by subspecies. The commission shall conduct ongoing

39 investigations of rare plant species and may from time to time amend such regulations by
40 adding or deleting therefrom species or subspecies of rare plant species. If necessary, the
41 commission may consult with an independent individual or organization with expertise in
42 wildlife population, distribution, habitat needs, limiting factors, and other biological and
43 ecological data during these investigations.

44 (2) The commission shall by regulation establish limitations related to the taking,
45 possession, transportation, exportation, processing, sale or offering for sale, or shipment as
46 may be deemed necessary to manage rare plant species.

47 (3) Except as provided in regulations issued by the commission, it is unlawful for
48 any person to take, possess, transport, export, process, sell or offer for sale, or ship rare
49 plant species deemed by the commission to be in need of management pursuant to this
50 section. Subject to the same exception, it is also unlawful for any common or contract
51 carrier to knowingly transport or receive for shipment rare plant species deemed by the
52 commission to be in need of management pursuant to this section.

53 **SECTION 5. 33-61-105. Endangered or threatened plant species.** (1) On the basis
54 of investigations of rare plant species provided for in Section 33-61-104 and the best
55 available scientific data and after consultation with other state wildlife agencies, the
56 Colorado water conservation board, the Colorado water and power development authority,
57 water conservancy districts, and other water conservation districts of the state, and other
58 water resource development agencies within the state, appropriate federal agencies, other
59 interested persons and organizations, and any necessary independent individual or
60 organization with expertise in plant population, distribution, habitat needs, limiting factors,
61 and other biological and ecological data, the commission shall by regulation adopted
62 pursuant to the procedures specified in Sections 33-1-111 and 24-4-103, C.R.S., establish a
63 list of those plant species and, where necessary, subspecies of plants indigenous to this
64 state which are determined to be endangered or threatened within this state, giving their
65 common and scientific names by species and, where necessary, by subspecies.

66 (2) The commission shall:

67 (a) Conduct, by July 1, 2020, and at least once every year thereafter, a review of all
68 plant species included in the state lists of endangered or threatened species established
69 pursuant to subsection (1) of this section, or that the division or commission suspects are
70 threatened or endangered; and

71 (b) Determine on the basis of such review whether any such species should:

72 (I) Be removed from such list;

73 (II) Be changed in status from an endangered species to a threatened species; or

74 (III) Be changed in status from a threatened species to an endangered species.

75 (c) These determinations shall be made on the basis of the best available scientific
76 data, and with the consultation of an independent panel of individuals or organization with
77 expertise in plant species to verify that it is the best available scientific data

78 (d) Species shall be deemed threatened, endangered, or removed from the list
79 because of any of the following factors:

80 (I) The present or threatened destruction, modification, or curtailment of its habitat
81 or range

82 (II) Disease or predation

83 (III) Other natural or manmade factors affecting its continued existence

84 (IV) Efforts, if any, being made by to protect such species, whether by predator
85 control, protection of habitat and food supply, or other conservation practice.

86 (E) If the commission determines that a plant species shall be listed as endangered
87 or threatened, or changes the status of the species, the commission shall:

88 (I) Notify the public of the change,

89 (II) Publish the source of the scientific data that the commission relied on in its
90 decision to list, delist, or change the status of a species,

91 (III) Allow for a 90-day comment period on the listing, delisting, or change of status,
92 and

93 (IV) Respond to comments that include biological or ecological data that are
94 contradictory to the commission's findings.

95 (f) Promulgate regulations to create a petition procedure for the public to engage
96 that allows for:

97 (I) A suggestion, based on scientific data, to include a species on the list as
98 endangered;

99 (II) A suggestion, based on scientific data, to include a species on the list as
100 threatened;

101 (III) A suggestion, based on scientific data, to change the status of a species from
102 endangered to threatened; or

103 (IV) A suggestion, based on scientific data, to change the status of a species from
104 threatened to endangered.

105 (g) The commission shall develop a sensitive plant species map, using the best
106 available scientific data, showing the location and distribution of endangered or threatened
107 plant species throughout the state.

108 (3) Except as otherwise provided in this article, it is unlawful for any person to take,
109 possess, transport, export, process, sell or offer for sale, or ship and for any common or
110 contract carrier to knowingly transport or receive for shipment any species or subspecies
111 of plants appearing on the list of plants indigenous to this state determined to be
112 endangered within the state pursuant to subsection (1) of this section.

113 (4) Except as otherwise provided in this article, it is unlawful for any person to take,
114 possess, transport, export, process, sell or offer for sale, or ship and for any common or
115 contract carrier to knowingly transport or receive for shipment any species or subspecies
116 of plants appearing on the list of plants indigenous to this state determined to be
117 threatened within the state pursuant to subsection (1) of this section.

118 **SECTION 6. 33-61-106. Consultation.** (1) The commission shall initiate consultation
119 with any state agency that has authority over permitting or project proposals that may
120 have an effect on a listed plant species.

121 (2) Consultation shall include:

122 (a) Commission review of project proposal or permit including the location of the
123 project or permit in relation to the Sensitive Plant Species Map developed according to
124 C.R.S. 33-61-105(2)(g), the individual or organization requesting approval, and the length
125 of the project or duration of the permit.

126 (b) Commission review of, and response to, all biological or ecological data
127 submitted by the project or permit proponent.

128 (c) Recommended mitigation strategies for the proponent to adopt if the proposal
129 or permit is approved.

130 (d) A final recommendation on whether the respective agency should approve or
131 deny the project proposal or permit application.

132 (3) The commission may waive the consultation process as it sees fit, after a written
133 and published explanation of the reason it chose to waive, including the scientific data it
134 used to make the determination that the project proposal or permit would not harm any
135 plant species listed.

136 **SECTION 7. 33-61-107. Regulations.** The commission shall issue such regulations as
137 are necessary to carry out the purposes of this article and do not weaken the division and
138 commission's dedication to the protection of the plants, wildlife, and wildlife habitats in the
139 state.

Appendix D: Model Sensitive Species Conservation and Protection Ordinance

1 **Part 1 General Provisions**

2 **1.0: Title**

3 (A) This Land Use Ordinance is hereby known and cited to as the Sensitive Species
4 Conservation and Protection Ordinance. References to “Ordinance” or to “SSCPO” shall be
5 interpreted as meaning references to this Sensitive Species Conservation and Protection
6 Ordinance.

7 **1.1: Authority**

8 (A) This Sensitive Species Conservation and Protection Ordinance is enacted
9 pursuant to the authority of Colorado Revised Statute 29-20-104, Powers of Local
10 Governments.

11 **1.2: Regulated Areas**

12 (A) SSCPO applies to all lands in (X) jurisdiction [in the case of county zoning, list the
13 names of the towns that have adopted county zoning. For communities that have their own
14 zoning, list the name of the city, village, town, or tribal nation].

15 **1.3: Findings of Fact**

16 (A) Land use and development activities like residential development, recreation,
17 and agriculture are common in Colorado and vital to the social and economic interests of
18 communities. However, as development continues and as human activity expands into
19 previously undeveloped lands, sensitive species habitats are increasingly impacted. Many
20 of Colorado’s natural habitats are susceptible to conversion or degradation from human
21 activities.

22 **1.4: Purpose and Intent**

23 (A) This Ordinance is enacted for the purposes of promoting the overall protection
24 of wildlife, plant life, sensitive species habitat, and natural resources throughout Colorado.
25 This Ordinance is further enacted to take sensitive species and habitat data in to
26 consideration before beginning any ground-disturbing project. This Ordinance has been
27 established in order to:

28 (1) Aid in decision-making at the state and local level to support land use decisions
29 that have protective wildlife and plant life considerations.

30 (2) Support the integration of conservation plans into land use planning decisions at
31 the state and local level.

32 (3) Create and implement sensitive species assessments into local land use and
33 development decision-making.

34 (4) Provide information, data, support, and technical assistance to local decision-
35 makers and land use planners.

36 (5) Establish guidelines and methods for review of local decisions to further
37 discourage direct and indirect impacts to wildlife, plant life, and habitats from ground-
38 disturbing projects and activities.

39 (6) Assist localities and cities throughout Colorado to create and tailor land use
40 ordinances to their local needs by developing a general ordinance to use when creating
41 local regulations.

42 (7) Promote wildlife, plant life, and habitat considerations in all decision-making,
43 and to promote healthy ecosystems throughout the state of Colorado.

44 **1.5: Definitions**

45 (A) Land Disturbing Activity: any human-made land alterations, disturbances, or
46 construction activities including, but not limited to: clearing and grubbing, grading,
47 excavation, drainage, and the discharge of dredged or fill material, that results in a change
48 to existing topography, drainage patterns, rates of soil erosion, or hydrologic conditions.

49 (B) Plant Life: vegetative communities, ground cover, native grasses, shrubs, trees,
50 flowers, and any other variety of native or non-native species.

51 (C) Sensitive Habitat: habitat for plant or wildlife species listed as endangered or
52 threatened under the Federal or State Endangered Species Act, habitat for any sensitive
53 species classified as S1, S2, or S3 under Colorado's State Wildlife Action Plan, any plant or
54 wildlife species of special community importance, or habitat uniquely vulnerable to
55 destruction from development or other land use activities.

56 (D) Sensitive Species: any plant or wildlife species listed as endangered or
57 threatened under the Federal or State Endangered Species Act, any sensitive species
58 classified as S1, S2, or S3 under Colorado's State Wildlife Action Plan, or any plant or
59 wildlife species of special community importance.

60 (E) Wildlife Habitat: vegetative communities, conditions, and physical features
61 necessary to support fish, wildlife and plants throughout their lifecycle. For fish and
62 wildlife, this includes conditions which provide protective cover, food, and breeding,
63 nesting, and rearing areas. Healthy wildlife habitat is generally dominated by native, non-
64 invasive plants, shrubs, and/or trees, and is most likely to be present in areas with minimal
65 vegetative or hydrologic disturbance.

66 **1.6: Administration**

67 The [name of appropriate local or tribal government department, commission,
68 board, or committee responsible for administering the SSCPO] is responsible for complying
69 with all parts of this ordinance.

70

71 **Part 2 Standards**

72 **2.0: Applicability**

73 (A) Unless exempted by the SSCPO, any person or entity shall comply with the
74 requirements of the SSCPO for any permits or approvals proposing ground-disturbing
75 activities that directly or indirectly impact wildlife, or wildlife habitat, including but not
76 limited to the following:

77 (1) Land use permits

78 (2) Zoning permits

79 (3) Conditional use permits

80 (4) Rezoning

81 (5) Variances

82 (6) Plat approvals

83 **2.1: Wildlife Conservation Standard**

84 (A) Sensitive wildlife habitats are generally unsuitable locations for ground-
85 disturbing activities, unless the applicant clearly demonstrates that the proposed ground-
86 disturbing activity can be sited and designed in compliance with the standards below and
87 other requirements of this SSCPO.

88 (B) To protect, preserve, restore, and enhance the benefits that wildlife and plants
89 provide to our community, the proposed ground-disturbing activity shall not:

- 90 (1) Harm public interests;
- 91 (2) Adversely impact wildlife habitat; or
- 92 (3) Adversely impact sensitive wildlife species.

93 **Part 3 Sensitive Species Assessment**

94 **3.1: General Requirements**

95 (A) Preparation: The Sensitive Species Assessment shall be prepared and signed by
96 a qualified biologist, professional natural resource specialist, or other qualified sensitive
97 species expert.

98 (B) Content: The Assessment shall include, but not be limited to, the following
99 minimum information:

- 100 (1) A description of the ownership, location, type, size, and other attributes of the
101 wildlife habitat on the site;
- 102 (2) A description of the populations of sensitive species that inhabit or use the site,
103 including a qualitative description of their spatial distribution and abundance;
- 104 (3) An analysis of the potential adverse impacts of the proposed development on
105 wildlife, plants, and their habitats on or off-site;
- 106 (4) A list of proposed mitigation measures and an analysis of the probability of
107 success of such measures;
- 108 (5) Proof of consultation with Colorado Parks and Wildlife, U.S. Fish and Wildlife
109 Service shall be submitted, as applicable; and
- 110 (6) A map showing:
 - 111 (a) The proposed development including lots, tracts, and street/road alignments;
 - 112 and
 - 113 (b) Existing wildlife habitat and existing and proposed vegetation areas.

114 **3.2: Procedures and Data**

115 (A) The consultation of data requirement for Sensitive Species Assessments is
116 mandatory for each assessment completed for a proposed project site. The data required
117 for the Sensitive Species Assessments is as follows:

- 118 (1) A complete inventory of all wildlife, plant life, and habitat found on the proposed
119 site.
- 120 (2) A complete assessment of the habitat on the proposed site using the best
121 scientific data available. This includes:
 - 122 (a) Type of habitat present on the site;
 - 123 (b) The type and number of wildlife present;
 - 124 (c) The type and number plant life present;
 - 125 (d) The natural features of the site; and
 - 126 (e) A complete list of resources on the site.
- 127 (3) A written assessment of the potential impacts of the habitat with proposed
128 development.
- 129

130 (4) A detailed consultation with Colorado Parks and Wildlife, or another appropriate
131 governmental or non-governmental agency.

132 (B) Before a ground-disturbing project may begin, there must also be a clear
133 threshold for precluding a development from beginning:

134 (1) Where there is a recommendation from the scientific expert to stop the
135 development, and that recommendation is supported by peer review, the local agency,
136 department, or director must not issue a permit.

137 (C) If the Assessment completed by the expert recommends mitigation measures,
138 the [name of appropriate local or tribal government department, commission, board, or
139 committee responsible for administering the SSCPO] must require the submission of a
140 mitigation plan prior to approval.

141 **3.3: Approval**

142 (A) The Sensitive Species Assessment prepared following the requirements in
143 Section 3.0 and the standards for the underlying permit or approval of a ground-disturbing
144 activity shall be submitted to [name of appropriate local or tribal government department,
145 commission, board, or committee responsible for administering the SSCPO]. Within ten
146 (10) days after submission, the [name of appropriate local or tribal government
147 department, commission, board, or committee responsible for administering the SSCPO]
148 will notify the applicant if the materials submitted for review are complete, incomplete, and
149 if a mitigation plan is necessary.

150 **Part 4 Mitigation Plan**

152 **4.1: General Requirements:** A Mitigation Plan shall, at a minimum:

153 (A) Assure that wildlife and vegetation factors affected by the planning, design, and
154 construction of the proposed development are recognized, adequately interpreted, and
155 presented for use in the development;

156 (B) Include the wildlife and vegetative habitat conditions which should be preserved
157 or improved within the proposed development;

158 (C) Be compiled by a wildlife or plant biologist or other plant or wildlife expert;

159 (D) Include a plan for implementation, maintenance and monitoring of mitigation
160 measures;

161 (E) Plan for any relevant enhancement or restoration measures;

162 (F) Demonstrate fiscal, administrative, and technical competence of the applicant or
163 other relevant entity to successfully execute the plan;

164 (G) Include considerations of solutions and alternatives to preserve and/or improve
165 the wildlife and vegetative habitat including but not limited to:

166 (1) Preserving wildlife corridors; or

167 (2) Buffering.

168 **4.2: Procedures**

169 (A) Preparation: The Mitigation Plan shall be prepared and signed by a qualified
170 biologist, professional natural resource specialist, or other qualified sensitive species
171 expert.

172 (B) After the Mitigation Plan is prepared, it shall be reviewed by an independent
173 wildlife biologist, natural resource specialist, or other qualified sensitive species expert
174 assigned by the state.

175 **4.3: Approval**

176 Approve the proposed land disturbing activity if the land is suitable for the
177 proposed ground-disturbing activity, and the applicant demonstrates that the proposed
178 ground-disturbing activity is designed and can be implemented in compliance with the
179 Wildlife Conservation Standards in Section 2.1. The [name of appropriate wildlife expert]
180 shall review the Mitigation Plan to determine if the proposed ground-disturbing activity
181 will generate direct or indirect impacts to onsite, or adjacent, sensitive species and
182 habitats.

183 **4.4: Denial**

184 (A) Deny any proposed ground-disturbing activity if it is not possible for the activity
185 to comply with the Wildlife Conservation Standards in Section 2.1 and other requirements
186 of the SSCPO.

Endnotes

- ¹ 2 COLO. CODE REGS. § 404-1:1202.b, § 407-2:4.18(3)(b) (2019); Colo. State Land Bd., RENEWABLE ENERGY LEASING POLICY No. 300-003 (July 2017); Colo. State Land Bd., SOLID MINERALS DEVELOPMENT POLICY No. 500-002 (July 2018).
- ² 2 COLO. CODE REGS. §§ 405-1 to 406-17 (2019).
- ³ 2 COLO. CODE REGS. § 404-1:306.c.; Colo. Parks and Wildlife and Dep't of Transp., *Guidelines for Senate Bill 40 Wildlife Certification* (2013), <https://www.codot.gov/programs/environmental/wildlife/guidelines/sb-40-wildlife-certification-guidelines-2018>; *See also* COLO. REV. STAT. §§ 33-5-101 to 107 (2019).
- ⁴ COLO. REV. STAT. § 33-2-105 (2019).
- ⁵ N.M. STAT. ANN. §§ 17-2-37 to 46 (2019).
- ⁶ S.B. 181, 72nd Gen. Assemb., 1st Reg. Sess. (Colo. 1969).
- ⁷ 2 COLO. CODE REGS. § 407-2:2.02.3(1)(c)(i), 2:2.04.
- ⁸ COLO. REV. STAT. § 34-60-102(1)(b) (2019); COLO. REV. STAT. § 34-60-105(1) (2019); COLO. REV. STAT. § 34-32-102(1) (2019).
- ⁹ COLO. GEN. ASSEMB., SB19-181: PROTECT PUBLIC WELFARE OIL AND GAS OPERATIONS (2019), <https://leg.colorado.gov/bills/sb19-181> (last visited Oct. 14, 2019).
- ¹⁰ *Id.*
- ¹¹ 2 COLO. CODE REGS. § 406-16:1604(B).
- ¹² BOULDER COUNTY, COLO., LAND USE CODE § 7-1700, § 3-203(F) (2019); JEFFERSON COUNTY, COLO., LAND DEVELOPMENT REGULATIONS § 28(B), (C) (2019); LARIMER COUNTY, COLO., CODE OF ORDINANCES § 8.4.7.
- ¹³ Colo. Parks and Wildlife, *Colorado State Wildlife Action Plan*, (2015), https://cpw.state.co.us/Documents/WildlifeSpecies/SWAP/CO_SWAP_MainDocOnly.pdf.
- ¹⁴ COLO. REV. STAT. § 33-33-104 (2020).
- ¹⁵ Colo. State Land Bd., STEWARDSHIP TRUST POLICY No. 400-001 (June 2015).
- ¹⁶ *Id.*
- ¹⁷ 2 COLO. CODE REGS. § 404-1:306.c.; Colo. Parks and Wildlife and Dep't of Transp., *Guidelines for Senate Bill 40 Wildlife Certification* (2013), <https://www.codot.gov/programs/environmental/wildlife/guidelines/sb-40-wildlife-certification-guidelines-2018>; *See also* COLO. REV. STAT. §§ 33-5-101 to 107 (2019).
- ¹⁸ *See* 2 COLO. CODE REGS. § 404-1:306.c.; Colo. Parks and Wildlife and Dep't of Transp., *Guidelines for Senate Bill 40 Wildlife Certification* (2013), <https://www.codot.gov/programs/environmental/wildlife/guidelines/sb-40-wildlife-certification-guidelines-2018>; *See also* COLO. REV. STAT. §§ 33-5-101 to 107 (2019).
- ¹⁹ Colo. Parks and Wildlife and Dep't of Transp., *Guidelines for Senate Bill 40 Wildlife Certification* (2013), <https://www.codot.gov/programs/environmental/wildlife/guidelines/sb-40-wildlife-certification-guidelines-2018>.
- ²⁰ 2 COLO. CODE REGS. § 404-1:306.c.
- ²¹ *Id.* at § 404-1:306.c.(1)(A)(iii).
- ²² *Id.* at § 404-1:306.c.(2)(A)(iii).
- ²³ Colo. Dep't of Nat. Res., *Memo Re: Status Report on Efforts to Address Impacts of Oil and Gas Operations on Wildlife Habitat* (2010),

<https://cpw.state.co.us/Documents/LandWater/BRMemo-RpttoCOGCConWildlife-081210II.pdf>.

²⁴ 2 COLO. CODE REGS. § 404-1:1202.b.

²⁵ 2 COLO. CODE REGS. § 407-2:4.18(3)(b); Colo. State Land Bd., RENEWABLE ENERGY LEASING POLICY NO. 300-003 (July 2017); Colo. State Land Bd., SOLID MINERALS DEVELOPMENT POLICY NO. 500-002 (July 2018).

²⁶ COLO. REV. STAT. §§ 33-1-104; 33-2-104 (2019).

²⁷ NEB. REV. STAT. §§ 37-801 to 811 (2019).

²⁸ 163 NEB. ADMIN. CODE § 4-012.02(B)(2) (2019).

²⁹ *Id.* at § 4-012.02(A).

³⁰ *Id.* at §§ 4-012.02(A) to (B)(2).

³¹ *Id.* at § 4-012.02(A)(1).

³² *Id.* at § 4-012.02(B)(9).

³³ *Id.* at § 4-012.02(C)(1).

³⁴ 163 NEB. ADMIN. CODE § 4-012.02(C)(3).

³⁵ *Id.* at § 4-012.02(C)(4).

³⁶ NEB. GAME AND PARKS COMM'N, *Conservation and Environmental Review Tool*, <https://cert.outdoornebraska.gov/> (last visited Oct. 10, 2019).

³⁷ NEB. REV. STAT. §§ 37-801 to 811 (2019).

³⁸ NEB. GAME AND PARKS COMM'N, *Conservation and Environmental Review Tool*, <https://cert.outdoornebraska.gov/> (last visited Oct. 10, 2019).

³⁹ NEB. GAME AND PARKS COMM'N, *Environmental Review*, <http://outdoornebraska.gov/environmentalreview/> (last visited Mar. 12, 2020).

⁴⁰ *See generally* COLO. REV. STAT. §§ 33-2-107 (2019); 2 COLO. CODE REGS. § 404-1:306.c.

⁴¹ 2 COLO. CODE REGS. §§ 406-10:1002 to 1003.

⁴² COLO. REV. STAT. § 33-2-102 (2019).

⁴³ *Id.* at § 33-2-105(1).

⁴⁴ N.M. STAT. ANN. §§ 17-2-37 to 46 (2019).

⁴⁵ *Id.* at § 17-2-40(A).

⁴⁶ *Id.*

⁴⁷ *Id.* at § 17-2-40(C).

⁴⁸ *Id.* at § 17-2-40(C) to (I).

⁴⁹ *Id.* at § 17-2-40(L).

⁵⁰ N.M. CODE R. § 19.33.3.8(A) to (B) (2019).

⁵¹ *Id.*

⁵² *Id.* at § 19.33.3.8(D).

⁵³ *See* COLO. NAT. HERITAGE PROGRAM, *About CNHP Data*, <https://cnhp.colostate.edu/ourdata/cnhp-data/> (last visited Mar. 12, 2020).

⁵⁴ *Id.*

⁵⁵ 2 COLO. CODE REGS. § 404-1:1201; § 407-2:2.05.6(2)(b).

⁵⁶ 2 COLO. CODE REGS. § 404-1:1201.

⁵⁷ 2 COLO. CODE REGS. at §§ 407-2:2.05.6(2)(b), 2:2.10.

⁵⁸ *Id.*

⁵⁹ *Id.* at § 407-2:2.10.

⁶⁰ *Id.* at §§ 407-2:2.05.6(2)(b), 2:2.10.

⁶¹ 2 COLO. CODE REGS. § 404-1:1201.

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- ⁶² 2 COLO. CODE REGS. at § 407-2:2.10.
- ⁶³ 2 COLO. CODE REGS. § 404-1:305 (2019).
- ⁶⁴ *Id.* at § 404-1:500.
- ⁶⁵ *Id.* at § 404-1:216.
- ⁶⁶ *Id.* at § 404-1:216.a.
- ⁶⁷ *Id.* at § 404-1:216.c.
- ⁶⁸ *Id.* at § 404-1:216.
- ⁶⁹ 2 COLO. CODE REGS. § 407-2:2.02.
- ⁷⁰ *Id.* at § 407-2:2.02.3(1)(c)(i).
- ⁷¹ *Id.* at § 407-2:2.02(2)(h).
- ⁷² *Id.* at § 407-2:2.04.
- ⁷³ *Id.* at § 407-2:2.04.11.
- ⁷⁴ *Id.* at § 407-2:2.02.4.11(3).
- ⁷⁵ See Colo. Parks and Wildlife and Dep't of Transp., *Guidelines for Senate Bill 40 Wildlife Certification* (referencing S.B. 40, 47th Gen. Assemb., 1st Reg. Sess. (Colo. 1969)).
- ⁷⁶ *Id.*
- ⁷⁷ *Id.*
- ⁷⁸ Colo. Dept. of Transp., *Wildlife Programs Data*, <https://www.codot.gov/programs/environmental/wildlife/data> (last visited Feb. 15, 2020).
- ⁷⁹ *Colorado State Wildlife Action Plan: State of Colorado's Biodiversity*, app. G at 4-5, 8 (2015), https://cpw.state.co.us/Documents/WildlifeSpecies/SWAP/CO_SWAP_MainDocOnly.pdf.
- ⁸⁰ *Colorado State Wildlife Action Plan: 2015 Rare Plant Addendum*, app. A at A-v (Jill Handwerk, Lee Grunau, and Susan Spackman-Panjabi, eds., 2015), https://cpw.state.co.us/Documents/WildlifeSpecies/SWAP/CO_SWAP_MainDocOnly.pdf.
- ⁸¹ *Id.* at A-7.
- ⁸² 16 U.S.C. § 1541 (2019).
- ⁸³ Bruce A. Stein and Kelly Gravuer, *Hidden in Plain Sight: The Role of Plants in State Wildlife Action Plans*, NatureServe p. 24, (2008), https://www.natureserve.org/sites/default/files/publications/files/hidden_in_plain_sight_0.pdf.
- ⁸⁴ *Colorado State Wildlife Action Plan: 2015 Rare Plant Addendum*, app. A at A-10 (Jill Handwerk, Lee Grunau, and Susan Spackman-Panjabi, eds., 2015), https://cpw.state.co.us/Documents/WildlifeSpecies/SWAP/CO_SWAP_MainDocOnly.pdf.
- ⁸⁵ *Id.* at A-6.
- ⁸⁶ See 2 COLO. CODE REGS. §§ 406-10:1002 to 1003.
- ⁸⁷ Colo. Parks and Wildlife, *Colorado State Wildlife Action Plan*, at p. 16 (2015), https://cpw.state.co.us/Documents/WildlifeSpecies/SWAP/CO_SWAP_MainDocOnly.pdf.
- ⁸⁸ *Colorado State Wildlife Action Plan: 2015 Rare Plant Addendum*, app. A at A-v (Jill Handwerk, Lee Grunau, and Susan Spackman-Panjabi, eds., 2015), https://cpw.state.co.us/Documents/WildlifeSpecies/SWAP/CO_SWAP_MainDocOnly.pdf.
- ⁸⁹ See FLA. STAT. § 581.185 (2008).
- ⁹⁰ See COLO. REV. STAT. § 35-5.5-104 to 118 (2019); COLO. REV. STAT. § 33-33-104 (2019).
- ⁹¹ Colo. Parks and Wildlife, *Colorado State Wildlife Action Plan*, (2015), https://cpw.state.co.us/Documents/WildlifeSpecies/SWAP/CO_SWAP_MainDocOnly.pdf.

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- ⁹² COLO. REV. STAT. § 33-2-105(2)(a) (2019).
- ⁹³ *See generally* 2 COLO. CODE REGS. § 601-16 (2019).
- ⁹⁴ 2 COLO. CODE REGS. §§ 404-1:100, 404-1:216.c (2019).
- ⁹⁵ *Colorado State Wildlife Action Plan: 2015 Rare Plant Addendum*, app. A at A-23 (Jill Handwerk, Lee Grunau, and Susan Spackman-Panjabi, eds., 2015), https://cpw.state.co.us/Documents/WildlifeSpecies/SWAP/CO_SWAP_MainDocOnly.pdf.
- ⁹⁶ COLO. REV. STAT. § 34-60-102(1)(b) (2019); COLO. REV. STAT. § 34-60-105(1) (2019).
- ⁹⁷ *Id.*
- ⁹⁸ COLO. GEN. ASSEMB., SB19-181: PROTECT PUBLIC WELFARE OIL AND GAS OPERATIONS (2019), <https://leg.colorado.gov/bills/sb19-181> (last visited Oct. 14, 2019); *See generally* COLO. REV. STAT. § 34-60-101 to 130 (2019).
- ⁹⁹ S.B. 181, 72nd Gen. Assemb., 1st Reg. Sess. (Colo. 1969).
- ¹⁰⁰ *Id.* at § 7.
- ¹⁰¹ S.B. 181, 72nd Gen. Assemb., 1st Reg. Sess. (Colo. 1969).
- ¹⁰² *Id.*
- ¹⁰³ COLO. REV. STAT. § 34-32-102 (2019).
- ¹⁰⁴ COLO. REV. STAT. § 36-1-101.5 (2020).
- ¹⁰⁵ COLO. REV. STAT. § 34-32-102 (2019).
- ¹⁰⁶ *Id.* at § 34-32-102(1).
- ¹⁰⁷ *Id.* at § 34-32-106.
- ¹⁰⁸ COLO. REV. STAT. § 36-1-101.5(6)(c) (2020).
- ¹⁰⁹ *Id.* at § 36-1-101.5(5)(c) (2020).
- ¹¹⁰ *Id.* at § 36-1-101.5(6)(a).
- ¹¹¹ 2 COLO. CODE REGS. § 404-1:1202(a), 1205(a); 2 COLO. CODE REGS. § 407-1:6.4.21(1)(d).
- ¹¹² 2 COLO. CODE REGS. § 406-16:1604.
- ¹¹³ *Id.* at § 406-16:1604(B)(3).
- ¹¹⁴ COLO. REV. STAT. § 33-1-101(1) (2019).
- ¹¹⁵ 2 COLO. CODE REGS. § 407-2:2.07.6.
- ¹¹⁶ *Id.* at § 407-2:2.07.6(b).
- ¹¹⁷ *Id.*
- ¹¹⁸ 2 COLO. CODE REGS. § 407-2:4.01.1(5), 2:4.03.2(1)(b), 2:4.04(1), 2:4.18(1).
- ¹¹⁹ COLO. REV. STAT. § 29-20-102(1) (2019).
- ¹²⁰ Colo. Parks and Wildlife, *Colorado State Wildlife Action Plan*, at p. 69–70, 73 (2015), https://cpw.state.co.us/Documents/WildlifeSpecies/SWAP/CO_SWAP_MainDocOnly.pdf.
- ¹²¹ *Id.* at p. 274.
- ¹²² *Id.* at p. 273.
- ¹²³ Colo. Parks and Wildlife, *State Wildlife Action Plan* at 42, https://cpw.state.co.us/Documents/WildlifeSpecies/SWAP/CO_SWAP_MainDocOnly.pdf (last visited Dec. 2, 2019).
- ¹²⁴ BOULDER COUNTY, COLO., LAND USE CODE § 7-1700(A), § 3-203(F) (2019); JEFFERSON COUNTY, COLO., LAND DEVELOPMENT REGULATIONS § 28(B) (2019); LARIMER COUNTY, COLO., CODE OF ORDINANCES, § 8.4.2 (2019).
- ¹²⁵ COLO. SPRINGS, COLO., COLO. SPRINGS COLO.: CITY CODE §§ 7-4-302(C), 7-3-504(A)(1), 7-3-504(A)(3)(g) (2019); WELD COUNTY, § 22-5-20 (2019).

126 BOULDER COUNTY, COLO., LAND USE CODE §§ 7-1700(A), 3-203(F); JEFFERSON COUNTY, COLO., LAND DEVELOPMENT REGULATIONS § 28(B); LARIMER COUNTY, COLO., CODE OF ORDINANCES, § 8.4.2 (2019).

127 BOULDER COUNTY, COLO., LAND USE CODE §§ 7-1700(A), 3-203(F).

128 *Id.*

129 *Id.* at § 7-1700(A).

130 *Id.*

131 *Id.* at §§ 7-1700, 3-203(F).

132 BOULDER COUNTY, COLO., LAND USE CODE § 7-1700(A).

133 *Id.*

134 *Id.* at §§ 7-1700, 3-203(F).

135 JEFFERSON COUNTY, COLO., LAND DEVELOPMENT REGULATIONS § 28(B),(C) (2019).

136 *Id.* at § 28(B).

137 *Id.* at § 28(B)(2).

138 *Id.*

139 *Id.*

140 JEFFERSON COUNTY, COLO., LAND DEVELOPMENT REGULATIONS § 28(B)(2).

141 *Id.* at § 28(C).

142 *Id.* at § 28(B)(1), (C)(1)(a).

143 *Id.*

144 *Id.* at § 28(C)(2)(a).

145 *Id.* at § 28(C)(2)(b).

146 LARIMER COUNTY, COLO., CODE OF ORDINANCES, §§ 4.2.3, 8.4.7, 8.4.8 (2019).

147 *Id.* at § 4.2.3(B)(6).

148 *Id.* at § 8.4.4(B) Note.

149 *Id.* at § 8.4.7.

150 *Id.* at § 8.4.7(A).

151 LARIMER COUNTY, COLO., CODE OF ORDINANCES § 8.4.7(B).

152 *Id.* at § 8.4.8.

153 COLO. SPRINGS, COLO., COLO. SPRINGS COLO.: CITY CODE §§ 7-4-302, 7-3-504 (2019).

154 *Id.* at § 7-4-302.

155 *Id.* at § 7-4-302(C).

156 *Id.*

157 *Id.*

158 *Id.* at § 7-3-504(A)(1).

159 *Id.* at § 7-3-504(A)(3)(g).

160 WELD COUNTY, § 22-5-20, 30 (2019).

161 *Id.* at § 22-5-30.

162 *Id.* at § 22-5-30(c).

163 *Id.* at § 22-5-20.

164 *Id.*

165 BOULDER COUNTY, COLO., LAND USE CODE §§ 7-1700(A), 3-203(F); LARIMER COUNTY, COLO., CODE OF ORDINANCES, §§ 4.2.3, 8.4.7, 8.4.8.

166 COLO. SPRINGS, COLO., COLO. SPRINGS COLO.: CITY CODE §§ 7-4-302, 7-3-504; WELD COUNTY, § 22-5-20, 30 (2019).

167 *Id.*

¹⁶⁸ Colo. Nat. Heritage Program, *Natural Heritage Inventory of Mesa County, Colorado*, (1996) [https://cnhp.colostate.edu/wp-content/uploads/download/documents/1996/Natural Heritage Inventory of Mesa County.pdf](https://cnhp.colostate.edu/wp-content/uploads/download/documents/1996/Natural_Heritage_Inventory_of_Mesa_County.pdf) (last visited Oct. 9, 2019).

¹⁶⁹ *Great Outdoors Colorado Trust Fund Grant Programs*, LandScope America (Oct. 9, 2019), http://www.landscape.org/colorado/programs/goco_grants/.

¹⁷⁰ BOULDER COUNTY, COMPREHENSIVE PLAN, County-Wide Elements: Environmental Resources (2018).

¹⁷¹ BOULDER COUNTY, COLO., LAND USE CODE § 7-1700(A).

¹⁷² *Id.*