

# WYOMING GAME AND FISH COMMISSION

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## MITIGATION

### Introduction

The Wyoming Game and Fish Commission (Commission) establishes this mitigation policy in recognition that growth, development, and land use change will continue to occur in Wyoming. It is mutually beneficial for project sponsors, permitting agencies, and land managers to establish early cooperative relationships with the Wyoming Game and Fish Department (Department), since early communication provides the best opportunity to mitigate impacts to wildlife. This mitigation policy provides a description of the Commission's approach to mitigation that is available when project or land use planning begins. The Commission expects project sponsors, permitting agencies, and land managers to seek early Department involvement to avoid adverse impacts to wildlife during project development and implementation of land use changes. When adverse impacts are unavoidable, the Department is directed to use this policy to develop and promote further mitigation that best protects wildlife.

### Philosophy, Objective, and Direction

One of Wyoming's most unique and valued resources is its abundant, free-ranging wildlife. The Commission is the principal advocate for maintaining and perpetuating wildlife for the citizens of Wyoming as development and land use changes occur. The Commission recognizes its responsibility to identify threats and insist on the best, monitored mitigation for wildlife and their habitats. The Commission believes all adverse impacts warrant mitigation and should be avoided, minimized, rectified, reduced, or compensated to the extent possible. By adequately dealing with each individual development or land use change, we can mitigate significant impacts, including the cumulative effects of numerous smaller projects that alone may have little impact.

The objective of this policy is to set forth a clear, consistent approach to formulate effective mitigation recommendations for adverse wildlife and habitat impacts.

For purposes of this policy, the Commission supports and adopts the definition of the term "mitigation" as defined by the President's Council on Environmental Quality in the National Environmental Policy Act regulations to include: "(a) avoiding the impact altogether by not taking a certain action or parts of an action; (b) minimizing impacts by limiting the degree or magnitude of the action and its implementation; (c) rectifying the impact by repairing, rehabilitating, or restoring the affected environment; (d) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and (e) compensating for the impact by replacing or providing substitute resources or environments" [40 CFR Part 1508.20 (a-e)].

The Department, under the direction of the Commission, shall pursue resolution of conflicts between development and land use activities and wildlife and their habitats. In conformance with Wyoming Statutes, and in cooperation with the U.S. Fish and Wildlife Service and other federal agencies under authority of the National Environmental Policy Act, the Federal Fish and

Wildlife Coordination Act, the Endangered Species Act, Section 404 of the Clean Water Act, and other applicable laws, the Commission directs the Department to:

1. Use Department databases and expertise to assist project sponsors, permitting agencies, and land managers in identifying important wildlife species and habitats in the area of each proposed development or land use change.
2. Identify and quantify wildlife species and habitat impacts associated with each project or land use change alternative, and assist with the formulation of alternatives compatible with wildlife.
3. Encourage the alternative least disruptive to wildlife species and habitats, and recommend practices to avoid or otherwise mitigate impacts resulting from the selected alternative. Specify and negotiate mitigation for unavoidable, adverse impacts that is consistent with the Department Strategic Plans and this Mitigation Policy.
4. Work cooperatively with private and public entities to assure mitigation efforts are implemented and monitored in a manner that will support evaluation of their success, including the securing of written commitments from participants to assure mitigation projects will be successfully completed.
5. Disclose irreversible and irretrievable impacts to wildlife resources to developers, permitting agencies, land managers, and the public, ensuring all parties are fully informed of the extent and consequences of the impending loss.
6. Utilize other documents such as the recommendations developed for oil and gas resources and habitats to determine specific mitigation recommendations.

### **Mitigation Approaches**

Mitigation approaches are placed into two broad classes, namely resource maintenance and resource compensation. Resource maintenance must be emphasized, with resource compensation considered only when there is no alternative and a complete and scientifically-based proposal is accepted by the Department.

1. Resource Maintenance = avoiding, minimizing, rectifying, or reducing adverse wildlife impacts through project planning.

The Commission believes it is better to maintain wildlife resources than to compensate for adverse impacts. By directing the Department to provide information and recommendations early in the planning process, the Commission seeks to avoid resource conflicts and adverse impacts to wildlife and thus avoid the need for compensation mitigation.

The Commission recognizes that, other than the avoidance approach, mitigation does not assure zero impacts, and that acceptance of mitigation is normally equivalent to accepting a degree of wildlife or habitat loss.

2. Resource Compensation = development and implementation of measures to replace or provide substitute resources to address impacts, including (in certain instances and only as a

last resort) financial compensation to be used by the Commission or another entity for that purpose.

Resource compensation should be based on replacement of habitat function, and is used when other forms of mitigation are not possible or practical. Several considerations will be used in specifying and negotiating the compensation method or payment, including location, duration, intensity, and types of impacts, and the species and habitats involved. Resource compensation can be used to address such impacts as loss of fishing opportunity (e.g., acquiring additional public access elsewhere or doing habitat improvements in response to an oil spill) or permanent removal of habitat (e.g., a conservation easement with habitat enhancements to assure replacement of habitat function lost to a power plant).

For handling compensation payments, the Commission can establish a mitigation account to accept funds, or recommend placement of funds in an account administered by a third party (such as the Wildlife Heritage Foundation of Wyoming). The amount of financial compensation will be based on the estimated cost of replacing habitat function, including costs to the Department for planning and processing the compensation action, and for implementation and maintenance of the action by the Department or third party implementing entity. An impacting entity using this approach will remain contractually obligated until mitigation is successfully completed.

Unless mitigation measures are to be implemented on Commission-owned lands, the measures recommended by the Department are advisory recommendations to project proponents and permitting agencies to be used as local, state and federal law provides. It is recognized that these mitigation recommendations may become binding through conditions in permits issued by other agencies. Nothing in this policy will be construed to vest authority in the Commission, Department, or other entities where no such authority exists.

### **Mitigation Costs**

The Commission recognizes mitigation costs may increase costs of developments and land use changes, and believes costs associated with wildlife mitigation are the responsibility of project sponsors and should be considered as part of the cost for the action. Involvement of the Department early in the process will help minimize mitigation costs through selection of the most cost-effective alternative actions and will allow cost estimates for mitigation measures to be incorporated early in project feasibility and cost analyses.

### **Impact Exclusion**

The Commission recognizes that some wildlife or wildlife habitats are so rare, complex, or fragile that mitigation options are not available. Total exclusion of adverse impacts is all that will ensure preservation of these irreplaceable species or habitats. To be considered irreplaceable, they must either be so designated by the Commission, or be federally Threatened or Endangered species or key habitat components of federally designated critical habitat for listed Threatened or Endangered Species.

### **Mitigation Categories**

In the table below, the Resources (species groups, habitats, stream classes, fisheries management waters), their specific Descriptions, and their corresponding Mitigation Categories are established by this policy. The Mitigation Category indicates the relative sensitivity of the corresponding Resource to impacts.

A more specific list of habitat types and wildlife species that could be adversely impacted will be prepared for each development or land use action. It is recognized that each combination of Resources and development or land use actions present unique concerns and potential options for mitigation. Specific mitigation recommendations will vary in detail for each action. Also, where two or more Resources are impacted, mitigation will be recommended for each Resource, and the more restrictive mitigation category will necessarily be emphasized.

<b>Resource</b>	<b>Description</b>	<b>Mitigation Category</b>
Species and/or their Habitats	Federally Listed T&E Species Federal Candidate Species	Irreplaceable Vital
	Species of Greatest Conservation Need (Tier 1)	Vital
	Species of Greatest Conservation Need (Tier 2)	High
	Species of Greatest Conservation Need (Tier 3)	Moderate
	Trophy Game Animal	High
	Game Fish	Moderate
	Furbearing Animal	Moderate
	Game Birds	Moderate
	Small Game	Moderate
Specific Habitats	Critical Habitat components (Federal)	Irreplaceable
	Big Game Crucial Habitat	Vital
	Big Game Migration Corridors	Vital
	Big Game Stopover Areas	Vital
	Big Game Migration Bottlenecks	Vital
	Big Game Winter-Yearlong Range	High
	Big Game Parturition Areas	High
	Other Big Game Seasonal Ranges	Moderate
	Sage Grouse Core Habitat	Vital
	Riparian Habitat	High
	Wetlands	Vital
	Other Important or Limited Habitats (e.g. Aspen/Old Growth/Snag/Cliff/Cave)	Vital
Stream Class	Blue	Vital
	Red	High
Fisheries	Trophy Management	High
Management Waters	Unique Species Management	High

The following describes the sensitivity of impacted resources, potential results of impacts, and the fundamental mitigation approach for each Mitigation Category:

- A. **Irreplaceable** – Species in this category are in jeopardy of local extirpation or range wide extinction, or their habitats are extremely fragile, limited in extent, or provide a very specific ecological function. Impacts could eliminate significant portions of functional habitat for jeopardized species, result in local extirpation of species, or contribute to range wide extinction of species. The essential components of the habitats for these species cannot be absent, even temporarily, without causing a significant impact, and cannot be mitigated if temporarily absent. The Department is directed by the Commission to recommend no decline in numbers or distribution of each species, and no loss of habitat function (i.e., the impact activity is excluded if numbers, distribution, or habitat function would even temporarily decline). Some modification of the general habitat may occur, provided habitat function is maintained (i.e., the location, essential features, and species supported are unchanged). This category currently includes habitat components necessary to provide life functions for federally listed (Threatened or Endangered) species, and the essential components of federally designated critical habitat. Numbers of and habitat for other than federally listed species may also be designated as irreplaceable. These will be evaluated on a case-by-case basis and must be approved by the Commission.
- B. **Vital** – Habitat in this category directly limits a wildlife community, population, or subpopulation. Impacts to species or habitats could result in a significant local or landscape-level decline in species distribution, abundance, or productivity, and restoration or replacement is difficult and may not be possible, or may be possible only in the very long term. The Department is directed by the Commission to recommend no significant declines in species distribution or abundance or loss of habitat function. Some modification of habitat characteristics may occur, provided habitat function is maintained (i.e., the location, essential features, and species supported are unchanged; core sage grouse habitat is managed according to the Wyoming Governor’s Sage Grouse Core Area Strategy Executive Order).
- C. **High** – Habitat in this category contributes to the maintenance of a wildlife community, population, or subpopulation. Impacts to species or habitats over the long term could result in local or landscape-level declines in species distribution, abundance, or productivity, but impacts can be minimized or reduced, and habitats restored or replaced. The Department is directed by the Commission to recommend mitigation measures that result in no net long-term loss of habitat function or species distribution or abundance.
- D. **Moderate** - Habitat in this category is common and generally less limiting to wildlife communities, populations, or subpopulations. Large-scale or cumulative impacts to species or habitats could result in declines in species distribution or abundance. Impacts from individual projects or land use actions can be minimized, and habitat restored or replaced, so that effective habitat function or species distribution or abundance is maintained on a large landscape scale. The Department is directed by the Commission to recommend mitigation measures that result in no large-scale loss, or cumulative loss, of landscape habitat function.

### **Mitigation of Indirect Impacts**

Indirect adverse impacts to wildlife are from animal or habitat disturbances or hazards that are secondary to the primary action. These may include electrocution of raptors by powerlines, fish kills from irrigation return flows, entanglement in fences designed to contain livestock, entrainment of fish in irrigation intake structures, increase in illegal take of fish and wildlife due to human population increases, or decreases in habitat use due to increases in road traffic, noise, human presence, or housing developments. These impacts may occur at or immediately adjacent to a project or land use change site, or may be some distance away from the direct impacts.

The Department is directed by the Commission to evaluate potential indirect or secondary adverse impacts to wildlife resulting from project development or land use changes, and to recommend measures to mitigate these impacts. Given the broad range of potential indirect or secondary impacts, each project or land use change must necessarily be evaluated case-by-case with respect to the nature of the mitigation. Past examples have included recommendations for implementation of environmental awareness training programs, financial assistance for wildlife law enforcement, busing or lowered speed limits to reduce vehicle/wildlife collisions, road closures, raptor-proofing of powerlines, screens on intake structures, and installing mufflers to reduce noise near sage grouse leks. Recommendations may also include habitat improvement projects to attract wildlife away from hazardous areas or to mitigate for lost habitat use. Mitigation efforts may also include monitoring or special studies to evaluate effectiveness of implemented measures.

## **Definitions**

"Big game animal" means antelope, bighorn sheep, deer, elk, moose or mountain goat [W.S. 23-1-101(a)(i)].

"Critical habitat" means those areas designated as critical by the Secretary of the Interior or Commerce, for the survival and recovery of listed Threatened and Endangered Species (50 CFR, Parts 17 and 226).

"Crucial habitat" - crucial range can describe any particular range or habitat component (often winter or winter/yearlong range in Wyoming), but describes that component which is the determining factor in a population's ability to maintain and reproduce itself at a certain level (theoretically at or above the WGFD population objective) over the long term (The Wildlife Society, Wyoming Chapter).

"Federally listed species"

Endangered - Taxa in danger of extinction throughout all or a significant portion of its range.

Threatened - Taxa likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

Candidate - Taxa for which there is substantial information to support a proposal to list as threatened or endangered (Endangered Species Act, Section 3).

"Furbearing animal" means badger, beaver, bobcat, marten, mink, muskrat or weasel [W.S. 23-1-101(a)(iii)].

"Game bird" means grouse, partridge, pheasant, ptarmigan, quail, wild turkey and migratory game birds [W.S. 23-1-101(a)(iv)].

"Game fish" means bass, catfish, crappie, grayling, ling, northern pike, perch, salmon, sauger, sunfish, trout, walleye or whitefish [W.S. 23-1-101(a)(v)]. Additional game fish designated by the Commission are sturgeon, freshwater drum, and tiger musky.

"Habitat function" means the arrangement of habitat features, and the capability of those features, to effectively sustain species, populations, and diversity of wildlife over time. The Commission also realizes there may be situations where this also includes the lack of disturbance that would allow species to utilize available habitat, and the ability to sustain socially or ecologically significant fish or wildlife populations for the purpose of providing consumptive and non-consumptive recreational opportunities.

"Other Important or Limited Habitats" are areas of especially high value for a diversity of wildlife or areas that provide specific habitat components essential to the existence of certain species or groups of wildlife (e.g., snag habitat for cavity-dependent species, cliff habitat for peregrine falcons, or cave habitat for bats).

"Parturition areas" means birthing areas commonly used by more than a few female members of a population (The Wildlife Society, Wyoming Chapter).

"Riparian habitat" means the transition habitat between the aquatic ecosystem and the adjacent terrestrial ecosystem, identified by distinctive vegetation that requires large amounts of free or unbound water in excess of that provided only by precipitation. Riparian habitats are the green zones along the banks of rivers and streams and around springs, bogs, wet meadows, lakes and ponds.

"Small game animal" means cottontail rabbit or snowshoe hare, and fox, gray and red squirrels [W.S. 23-1-101(a)(xi)].

"Species of Greatest Conservation Need" means species listed in the 2010 Wyoming State Wildlife Action Plan.

The Native Species Status (NSS) categories are groups of species with the combination of population status and limiting factors as noted in the following two tables:

**Table 1. Wyoming's Native Species Status Matrix**

		Limiting Factors			
		<b>a.</b> <b>EXTREME</b> Limiting factors are severe and continue to increase in severity	<b>b.</b> <b>SEVERE</b> Limiting factors are severe and not increasing significantly	<b>c.</b> <b>MODERATE</b> Limiting factors are moderate and appear likely to increase in severity	<b>d.</b> <b>MINIMAL</b> Limiting factors are moderate and not likely to increase in severity
Population Status	<b>A.</b> <b>IMPERILED</b> Population size or distribution is restricted or declining and extirpation is possible	<b>Aa</b> NSS1	<b>Ab</b> NSS2	Ac NOT APPLICABLE	Ad NOT APPLICABLE
	<b>B.</b> <b>VULNERABLE</b> Population size or distribution is restricted or declining but extirpation is not imminent	<b>Ba</b> NSS2	Bb NSS3	<b>Bc</b> NSS4	Bd NOT APPLICABLE
	<b>C.</b> <b>STABLE</b> Population size and distribution is stable and the species is widely distributed	Ca NOT APPLICABLE	<b>Cb</b> NSS4	Cc NSS5	Cd NSS6
	<b>D.</b> <b>EXPANDING</b> Populations are expanding in number and/or distribution and the species is widely distributed	Da NOT APPLICABLE	Db NOT APPLICABLE	Dc NSS6	<b>Dd</b> NSS7

Native species status should be considered for species native to Wyoming within the historic range of the species. Select the most relevant limiting factor from Table 2 for the particular species. Species whose distribution and general abundance are unknown cannot be evaluated and should be listed as NSSU.



Table 2. Limiting factors.

<b>Limiting Factors *</b>	<b>a. EXTREME</b> Limiting factors are severe and continue to increase in severity	<b>b. SEVERE</b> Limiting factors are severe and not increasing significantly	<b>c. MODERATE</b> Limiting factors are moderate and appear likely to increase in severity	<b>d. MINIMAL</b> Limiting factors are moderate and not likely to increase in severity
<b>Habitat</b>	<b>Deteriorating</b> Extremely limited habitat and Significant ongoing and increasing loss of habitat	<b>Restricted</b> Habitat is limited, but loss is not increasing significantly	<b>Vulnerable</b> Habitat is vulnerable but not currently restricted; increases in habitat loss likely	<b>Stable</b> Habitat is secure and/or widespread
<b>Human activity</b>	<b>Highly sensitive</b> Disturbance significantly and increasingly impacting populations	<b>Sensitive</b> Disturbance is severe, but impacts to populations are not increasing significantly	<b>Adaptive</b> Disturbance currently results in moderate population reductions; additional losses likely	<b>Tolerant</b> Species routinely occupies disturbed environments and habitats closely associated with humans
<b>Genetics</b>	<b>Deteriorating</b> Species significantly declining in genetic purity or ongoing hybridizations	<b>Restricted</b> Unaltered genetic base is severely restricted geographically or genetically	<b>Vulnerable</b> Unaltered genetic base is currently stable but vulnerable to hybridization or loss of genetic diversity	<b>Stable</b> Desired genetic base is secure and widespread.
<b>Invasive species</b>	<b>Deteriorating</b> Invasive species causing significant and increasing population impacts and loss of habitat	<b>Restricted</b> Invasive species causing significant population impacts or loss of habitat	<b>Vulnerable</b> Invasive species impacts moderate but expected to increase in severity	<b>Stable</b> No current or expected impacts from invasive species
<b>Others **</b>				

\* Choose one factor that is most limiting to the species when making the NSS determination

\*\* Descriptions of other limiting factors, such as disease, contaminants, etc., will be developed if needed.

"Stream Class Blue" means fisheries of national importance to anglers, supporting >600 lbs. of sport fish per mile.

"Stream Class Red" means fisheries of statewide importance to anglers, supporting 300-600 lbs. of sport fish per mile.

Tier Categories (Tier 1, 2 and 3) are groups of SGCN species with the combination of NSS score and five other variable scores that determine the conservation priority for Wyoming using the process described as follows:

The Tier ranking system uses six variables to determine the tier in which SGCN are placed

1. WGFD's NSS rank.
2. Wyoming's contribution to the species' overall conservation.
3. Regulatory/monetary impacts of the species' listing under the Endangered Species Act.
4. Urgency of conservation action.
5. Ability to implement effective conservation actions.
6. The species' ecological or management role as keystone, indicator, or umbrella species.

Numerical scores are assigned to each of the six variables and summed to provide the total score for each species. SGCN are placed into one of three tiers based on their total score: Tier I – highest priority, Tier II – moderate priority, and Tier III – lowest priority. Prioritization scores are assigned by two or more WGFD biologists who have considerable knowledge about the SGCN. The tier in which a SGCN is placed may be reviewed if circumstances change or new data becomes available.

Species ranked NSS1 – NSS4 are treated differently than NSSU species. This is due to the lack of sufficient information about NSSU species to adequately assess some prioritization variables and also because of an absence of a numerical NSS rank.

The prioritization system for NSS1 – NSS4 and NSSU is as follows:

#### **NSS1 – NSS4**

1. The NSS rank of the species is subtracted from 5 and multiplied by 6:  $[(5-NSS) \times 6]$ . This would result in scores of NSS1=24, NSS2=18, NSS3=12, NSS4=6.
2. The species is assigned a score of 1–10 based on the variable "Wyoming's contribution to the species' overall conservation"; 10 being the highest contribution and 1 being the lowest contribution. The WYNDD G rank (global chance of extinction) and Wyoming Conservation Contribution score were consulted in determining this score.
3. The species is assigned a score of 1–5; 5 being highest and 1 the lowest for each of the following variables:
  - a. Regulatory/monetary impacts of the species' listing under the Endangered Species Act.

- b. Urgency of conservation action.
- c. Ability to implement effective conservation actions.
- d. The species' ecological or management role as a keystone, indicator, or umbrella species.

A species ranked NSS 1 – NSS4 has a maximum of 54 points. Species with a total score of 1–18 are Tier III, 19–36 are Tier II, 37–54 are Tier I.

## NSSU

1. NSSU species are assigned a score of 1–12 based on the variable “Wyoming’s contribution to the species’ overall conservation”; 12 being the highest contribution and 1 being the lowest contribution.
2. Next, a score of 1–6 is assigned for each of the following variables; 6 being the highest and 1 the lowest:
  - a. Regulatory/monetary impacts of the species’ listing under the Endangered Species Act.
  - b. Urgency of conservation action

An NSSU species can have a maximum of 24 points. Species with a total score of 1–8 are Tier III, 9–16 are Tier II, and 17–24 are Tier I.

"Trophy Management" is fisheries management primarily directed toward providing the angler with the opportunity to catch larger-than-average fish. A water that typically produces larger than average fish is not necessarily a trophy water unless this is a major objective of present and future management.

"Trophy game animal" means black bear, grizzly bear, or mountain lion [W.S. 23-1-101(a)(xii)]

"Unique Species Management" is fisheries management primarily directed toward providing anglers with the opportunity to catch a unique species. Unique refers to those species that are relatively rare throughout the country and because of their scarcity, are highly prized by anglers. Unique game fish species available to anglers include rare sub-species of cutthroat trout, golden trout, grayling, and rare exotic species that may be introduced experimentally or on a permanent basis.

"Wetlands" are those areas that are saturated or inundated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

"Wildlife" means all wild mammals, birds, fish, amphibians, reptiles, crustaceans and mollusks, wild bison designated by the Commission and the Wyoming Livestock Board within Wyoming [W.S. 23-1-101(a)(xiii)].