

Chapter 4: Recovery of Wolves in Colorado

State statute requires that this Plan develop: “Methodologies for determining when the gray wolf population is sustaining itself and when to remove the gray wolf from the list of endangered or threatened species, as provided for in Section 33-2-105 (2).” CRS § 33-2-105.8 (3)(iv). This chapter addresses this responsibility.

Definitions for state endangered, threatened, and nongame species are as follows:

- Endangered Species: any species or subspecies of native wildlife whose prospects for survival or recruitment within this state are in jeopardy as determined by the commission (CRS § 33-1-102 (12));
- Threatened Species: any species or subspecies of wildlife which, as determined by the commission, is not in immediate jeopardy of extinction but is vulnerable because it exists in such small numbers or is so extremely restricted throughout all or a significant portion of its range that it may become endangered. CRS § 33-1-102 (44).
- Nongame Species: all native species and subspecies of wildlife which are not classified as game wildlife by rule or regulation of the commission. CRS § 33-1-102(29).

As of February 10, 2022, wolves are listed under the federal Endangered Species Act as endangered. **This Plan does not replace a federal recovery plan, nor does it outline federal recovery goals.**

Phased Management of Wolves

Wolves will be managed within Colorado using a phased approach, based on the number of animals present in the state. See Table 2. These phases correspond with the status of the species on the Colorado Threatened and Endangered Species list, and track the definitions of “endangered species” and “threatened species” in C.R.S. §§ 33-1-102(12) and 102(44). The thresholds were developed through expert deliberation of the Technical Working Group (TWG) members and are presented in a phased framework.

A phased approach provides clarity for current and future management, while still supporting the statutory requirement of managing for a self-sustaining wolf population. A phased approach allows for increased management flexibility as the wolf population increases and provides the opportunity to manage conflict throughout all phases.

A minimum wintertime count is the metric that will be monitored in the early phases of reintroduction. This count will attempt to include all wolves in the state, whether they are wolves that have naturally migrated into the state and their progeny and those that were reintroduced and their progeny. Any wolf anywhere in the state will count towards the minimum count.

A minimum count is labor and resource intensive. Minimum population counts have been used by Wyoming, Montana, and other states during the early stages of the recovery process. As the wolf population grows, minimum population counts are more difficult to conduct and are less reliable for understanding total population size. As the wolf population status transitions to a state delisted status, CPW will use a population estimate or population models as a more reliable metric (i.e., models based on distribution, vital rates, and abundance estimates, etc.). These methods will be developed using data that are collected during the minimum population counts and other wolf monitoring/research activities.

We will apply a temporal trend threshold in the downlist and delisting criteria. This is important to ensure a trend of stable or increasing population, to account for the temporary population increases that occur through reintroduction, and to allow for temporary fluctuations in population size or

DRAFT Presented to Colorado Parks and Wildlife Commission 9 December 2022 DRAFT

unforeseen monitoring challenges over time. The interaction between minimum population count and the length of time criteria can accommodate rapid or slow population growth. For example, rapid population growth could eliminate the need for a temporal requirement between phases.

Minimum counts for delisting are not intended to be and should not be interpreted as population objectives or maximum target populations.

Specific management direction for the phases is described in Chapter 5.

Table 2. Start and end points of Phases describing wolf recovery ~~and management~~ in Colorado.

	Phase 1^a (denotes State Endangered status)	Phase 2 (denotes State Threatened status)	Phase 3 (denotes State delisted, nongame status)	Phase 4 (denotes State delisted, game status)
Start	Current	Minimum count of 50 wolves anywhere in Colorado for four successive years.	Phase 1 and Phase 2 conclusion requirements are both met. Phase 2 requirements may be met concurrently with Phase 1 requirements. ^d	Not required under CRS 33-2-105.8.
Conclude	Minimum count ^b of 50 wolves anywhere in Colorado for four successive years. ^c	Minimum count of 150 wolves anywhere in Colorado for two successive years ^c -OR- Minimum count of 200 wolves anywhere in Colorado with no temporal requirement.	No prescribed conclusion	Not required under CRS 33-2-105.8.
Action upon conclusion	Downlist to State Threatened.	Delist from Colorado State list of threatened and endangered species	Consider reclassifying to game species.	N/A
Criteria to move back into this phase	After downlisting, a minimum count of less than 50 wolves anywhere in Colorado for two consecutive <u>successive</u> years initiates review of relisting to State Endangered status.	After delisting, a population estimate with a lower 80% confidence limit of less than 150 wolves anywhere in Colorado for two consecutive <u>consecutive-successive</u> years initiates review of relisting to State threatened status.	To be determined dependent on overall health and stability of the population	N/A

Notes on framework:

^a Phases will be dictated by numeric and temporal wolf population thresholds described in the table. While it is intended that state status will also correspond to these thresholds, there may be a time lag as the Parks and Wildlife Commission undertakes the regulatory process to change the state status based on population counts.

^b Minimum population counts in any phase include gray wolves that have been reintroduced to Colorado, those that have naturally migrated into the state, and the progeny of both groups. To reflect *in situ* recruitment most accurately, wolf population minimum counts in this table refer to counts conducted in late winter.

^c "Successive" means years in a sequence, with any number of gaps in between. Consecutive means years in a sequence with no gaps.

^d Downlisting to State Threatened status may not occur until the four-successive year requirement is met in the State Endangered status phase 1 (Phase 1). However, the two-successive year timeline for the phase 2 minimum count requirement begins when the minimum number is first met and may occur concurrently while in the Phase 1/endangered phase. Consequently, it is possible that delisting (conclusion of Phase 2) may occur immediately after Phase 1, should the Phase 2 requirements be met concurrently during Phase 1.

Phase 1 (State Endangered):

“Phase 1” refers to when the wolf is classified by Commission rule as an endangered species under state law. This first phase includes the early years of wolf reestablishment when population size is small. During this phase, the initial wolf population will be managed in accordance with state policy to conserve species listed as endangered under Colorado’s Nongame, Endangered, or Threatened Species Conservation Act (CRS § 33-2-101). All state management of wolves will comply with any superseding Federal status and associated rules or regulations. The Commission may pass regulations related to this Plan. In the event of any conflicts between the Plan and such regulations, such regulations will control.

This Plan will remain in Phase 1 until CPW biologists document a minimum wintertime count of 50 wolves anywhere in the state for four successive years. A temporal requirement of successive minimum population counts for downlisting to threatened is important to ensure a trend of a stable or increasing population, to account for the temporary population increases that occur through reintroduction, and to allow for temporary fluctuations in population or unforeseen monitoring challenges over time.

Once the criteria are met to move from Phase 1 to Phase 2, the regulatory process to downlist to state threatened will begin. The Commission will take the most time-efficient manner to conduct the downlisting processes to state threatened through the CPW Chapter 10 regulation process.

Phase 2 (State Threatened):

“Phase 2” refers to when the wolf is classified by Commission rule as a threatened species under state law. Phase 2 is characterized by subsequent periods with increased population growth and spatial expansion of packs into suitable habitat and multiple years of data to base management decisions. Phase 2 will correspond to the time when the Colorado wolf population’s growth is driven more by natural reproduction than by active reintroduction. This phase is envisioned as a period when wolves expand into and inhabit suitable areas throughout Colorado.

Phase 2 will begin after CPW confirms a minimum count of 50 wolves anywhere in Colorado for four successive years and will conclude when a minimum count of at least 150 wolves anywhere in Colorado is measured for 2 successive years, or a minimum count of at least 200 wolves anywhere in Colorado is measured, with no temporal requirement. This will correspond to a time when wolves will be removed (delisted) from the State Threatened and Endangered Species List. At that time their status will be “nongame wildlife.”

The transition from state endangered to state threatened cannot occur until the four-successive year requirement is met in Phase 1. However, the two-successive year time constraint to transition from Phase 2 to Phase 3 begins when the minimum count of 150 wolves is first met and may occur concurrently while in Phase 1. Consequently, it is possible that delisting (conclusion of Phase 2) may occur immediately after meeting the threshold for transition from Phase 1 to Phase 2, should the Phase 2 requirements be met concurrently during Phase 1.

Taking a conservative estimate of a pack size of 8 animals, a population of 200 wolves would have approximately 25 packs on the landscape. Assuming each pack has a conservative territory size of 180mi², there would be nearly 2.8 million acres of occupied wolf territory when the minimum population size is 200. CPW feels confident in stating that the distribution of wolves throughout Colorado would represent a secure population and that the species should no longer be considered state threatened when that numerical threshold has been met.

As in the transition from Phase 1 to Phase 2, there may be a regulatory lag moving from Phase 2 to Phase 3. This regulatory process will be completed in the most expeditious manner possible.

Phase 3 (Delisted/Nongame species status):

“Phase 3” refers to when the wolf is classified as a nongame species under state law and is no longer listed on the Commission’s list of threatened or endangered species. This phase is characterized by a sustained wolf population which continues to grow, though the rate of growth will likely decrease over time.

Phase 3 will begin after CPW confirms that there are at least 150 wolves anywhere in Colorado for two successive years, or a minimum count of at least 200 wolves anywhere in Colorado, with no temporal requirement. Once this threshold is met, the species will be reclassified to delisted, nongame status.

A wolf population of 150-200 animals is not considered a minimum or a maximum allowable number of wolves and is not a management objective. The value of 150-200 is used to determine when the gray wolf population is sustaining itself and when to remove the species from the list of endangered or threatened species because it no longer fits the definition of state endangered or state threatened.

At the time that the Parks and Wildlife Commission is considering delisting the species, conducting a Population Viability Analysis, or similar population modeling effort, may be prudent. This would be done to assess the extinction probability of the wolf population in Colorado, using Colorado-specific demographic parameters gained from research and monitoring the population in the state in the years between reintroduction and recovery. An effort similar to ODFW (2015) is suggested as a model for comparison.

Long Term Wolf Management: Phase 4 (Game species status):

“Phase 4” refers to when the wolf may potentially be classified as a game species in the future. Phase 4 is not required under CRS 33-2-105.8. There is no population objective for wolves in this Plan.

~~Long-term wolf management may include reclassification as a big game or furbearer species.~~

At some point in the future, the long term management of wolves in Colorado may need to be considered further than what is outlined in this plan. These discussions would only occur after wolves have successfully been recovered and removed from the State Threatened and Endangered list. The long-term management of wolves could possibly include the reclassification of the species as a big game or furbearer species. Regulated public harvest of wolves by hunting during designated seasons is one tool that may help CPW manage wolf numbers and social acceptance of wolves ~~upon delisting and reclassification as a game species~~. Necessarily, this ~~phase~~ can only be framed in general terms at this time because forecasting the details of this future is impossible using currently available information. CPW will defer consideration of and development of specifics for long-term management until the beginning of Phase 3 at the earliest, when better information about wolves and their distribution in Colorado is available. Future management will be guided by the best available biological and social science data provided by CPW.

This plan takes no position as to whether the Parks and Wildlife Commission has the statutory authority to reclassify wolves as a game species.