



COLORADO

Parks and Wildlife

Department of Natural Resources

Area 5/Northeast Regional Office
6060 Broadway
Denver, CO 80216
P 303.291.7227

December 3, 2025

Kathleen Hammer
Arapahoe Public Works and Development
6924 S. Lima Street
Englewood, CO 80112
KHammer@arapahoegov.com

Re: Colorado Parks and Wildlife Comments on the Box Elder Diversion Dam,
LE25-005

Dear Ms. Hammer,

Thank you for the opportunity for Colorado Parks and Wildlife (CPW) to comment on the proposed Box Elder Diversion Dam (Project). The mission of CPW is to perpetuate the wildlife resources of the state, to provide a quality state parks system, and to provide enjoyable and sustainable outdoor recreation opportunities that educate and inspire current and future generations to serve as active stewards of Colorado's natural resources. CPW has a statutory responsibility to manage all wildlife species in Colorado and to promote a variety of recreational opportunities throughout Colorado. One way we achieve this goal is by responding to referral comment requests, as is the case for this Project.

Project Understanding

It is our understanding that the proposed Project consists of constructing a diversion dam across Box Elder Creek, located in Township 5 South, Range 64 West, Section 9. The Project includes the installation of a pressurized 16" water line, a 20" gravity line, a manhole, a pump station, an air-inflated rubber bladder with a concrete foundation, and sheet piles. The project will be constructed in undeveloped agricultural land within Box Elder Creek and is estimated to disturb less than 3.0 acres. The pipeline will be buried at a minimum depth of 4.5' below grade.

Laura Clellan, Acting Director, Colorado Parks and Wildlife

Parks and Wildlife Commission: Richard Reading, Chair · James 'Jay' Tutchton, Vice-Chair · Eden Vardy, Secretary · Jessica Beaulieu · Frances Silva Blayney · John Emerick · Tai Jacober · Dallas May · Jack Murphy · Gabriel Otero



After review of this Project and the location, CPW has the following recommendations:

The Importance Of High Priority Habitats

Developers and permitting agencies can help avoid, minimize, and mitigate impacts to wildlife from their projects by working with CPW. High priority habitats (HPH) are defined as sensitive habitats where CPW has recent data regarding sensitive wildlife use, along with scientifically backed best management practice (BMP) recommendations. HPHs are a subset of CPW's species activity maps that we actively collect supporting data and update on a regular basis for a variety of species and their particular habitats; we provide these maps to the public and regulatory agencies to support environmental impact assessment and avoidance through land use comments and recommendations for proposed development on a given parcel, and general scientific research.

Aquatic Native Species Conservation Waters High Priority Habitat

Aquatic Native Species Conservation Waters are identified within the State of Colorado's 2015 State Wildlife Action Plan (SWAP). This HPH layer is designated for the recovery, conservation, protection, or enhancement of native fish species, and to aid in the conservation of other native aquatic species, such as amphibians, crustaceans, or mollusks (includes CPW Tier 1 and 2 SWAP Species). These surface water features provide critical habitat for native aquatic wildlife, such as amphibians and fish, while also providing crucial habitat for mammals, birds, and reptiles that utilize the habitat. Within the proposed Project area, there is a possibility of sensitive aquatic native species (fish, amphibians, invertebrates) presence within Box Elder Creek.

This stream has been sampled downstream of the proposed diversion dam location. Historical sampling documented 10 different native fish species, including Brassy Minnow (Tier I SGCN), Orangespotted Sunfish (Tier I SGCN), and Iowa Darter (Tier II SGCN). In the most recent samples, only Iowa Darter and Fathead Minnow were documented. However, in ephemeral streams, such as this, fish can persist in localized habitat nodes and go undetected, especially if the spatiotemporal extent of sampling is limited. An occupancy-based study of colonization and extinction rates in an ephemeral Great Plains stream fish assemblage demonstrated that extinction probabilities were highest during the transition from wet to dry conditions, especially when surface water was the

predominant driver of local hydrology. Colonization probabilities were highest during the transition from dry to wet, regardless of the availability of groundwater input. This is important as it shows these dynamic processes of localized colonization and extinction are ongoing, and the fish in these systems are adapted to those conditions to persist, driven by the capability to move into available habitat as hydrologic conditions change.

A diversion dam could negatively impact the native fish community by altering hydrology and reducing available habitat, and by acting as a barrier to movement and interrupting the colonization process. A recent laboratory study of fish passage showed that a barrier greater than 6 cm will impede upstream movements of Iowa Darter. Most small-bodied plains stream fishes have a short generation time of only a few years, and can thus experience drastic population declines over a very short time.

CPW recommends no surface occupancy and no ground disturbance (year-round) within a minimum of 500 feet of the ordinary high water mark of all of these surface waters and the implementation of appropriate stormwater and sediment control BMPs. CPW also recommends that diversion structure design should not create any vertical drop or hydraulic jumps, as either of these would represent an impediment to passage of important native fish species found within Box Elder Creek.

CPW recognizes that avoiding the creek will not be feasible due to the nature of the project. CPW recommends boring under Box Elder Creek for the water line. CPW also recommends the following if the project is to move forward:

When entering Box Elder Creek to complete work, CPW recommends the following additional BMPs be implemented:

- Disinfect heavy equipment, hand tools, boots and any other equipment that was previously used in a river, stream, lake, pond, or wetland prior to moving the equipment to another water body.
- The disinfection practice should follow this outline:
 - Remove all mud and debris from equipment and spray/soak equipment with a 1:15 solution of disinfection solution containing the following ingredients: [Further sub-bullet]
 - *Dialkyl dimethyl ammonium chloride, 5-10% by weight;
 - *Alkyl dimethyl benzyl ammonium chloride, 5-10% by weight;
 - *Nonyl

phenol ethoxylate, 5-10% by weight; *Sodium sesquicarbonate, 1-5%; *Ethyl alcohol, 1-5%; and *Tetrasodium ethylene diaminetetraacetate, 1-5%; *and water, keeping the equipment moist for at least ten minutes and managing rinsate as a solid waste in accordance with local, county, state, or federal regulations;

- Or spray/soak equipment with water greater than 140 degrees Fahrenheit for at least ten minutes. Sanitize water suction hoses and water transportation tanks (using methods described above) and discard rinse water at an appropriately permitted disposal facility.

Northern Leopard Frog Habitat

The northern leopard frog is a Tier 1 Species of Greatest Conservation Need. The proposed project occurs within mapped potential northern leopard frog habitat. Previously, northern leopard frogs were identified in the area, and the stream area identified by the applicant is a suitable habitat. CPW recommends that northern leopard frog surveys be conducted during the appropriate season prior to construction. If northern leopard frogs are found in the proposed project area, CPW recommends avoiding construction (including discharge of fill) within 300 ft of breeding sites during the breeding season (March-May).

Mule Deer Winter Concentration Area High Priority Habitat

Mule Deer Winter Concentration Areas are defined as the part of the winter range where densities are at least 200% greater than the surrounding winter range density during the same period used to define winter range in the average of five winters out of ten.

The entire proposed Project area is mapped as Mule Deer Winter Concentration Area HPH. For the identified portions of the proposed Project area that traverse Mule Deer Winter Concentration Area HPH, CPW typically recommends that the following timing limitation be implemented for the construction phase:

- Complete construction in these areas outside of the winter season, which falls between December 1st to April 30th. If this cannot be achieved, CPW recommends starting construction outside of the winter timing to reduce impacts to Mule deer during this crucial time of year.

Mule Deer Severe Winter Range High Priority Habitat

Mule Deer Severe Winter Ranges are defined as that part of the overall winter range where 90% of the individuals are located when the annual snowpack is at its maximum and/or temperatures are at a minimum in the two worst winters out of ten. These areas provide crucial wintering habitat during both severe and mild winters by providing ideal forage, vegetation, and topographic features for deer. Regardless of weather patterns, winter is the most stressful period for ungulates due to the challenges winter poses for forage availability.

The entire proposed Project area is mapped as Mule Deer Severe Winter Range HPH. For the identified portions of the proposed Project area that traverse Mule Deer Severe Winter Range HPH, CPW typically recommends that the following timing limitation be implemented for the construction phase:

- Complete construction in these areas outside of the winter season, which falls between December 1st to April 30th. If this cannot be achieved, CPW recommends starting construction outside of the winter timing to reduce impacts to Mule deer during this crucial time of year.

Mule Deer Migration Corridor High Priority Habitat

Mule Deer Migration Corridors are a specific mappable site through which large numbers of animals migrate and the loss of which would change migration routes. Within the proposed Project area, Mule Deer Migration Corridors are present along the entirety of the proposed area. For the identified portions of the proposed Project area that traverse Mule Deer migration corridor, CPW recommends the following recommendations be implemented during construction:

- CPW recommends minimizing ground disturbance and work activities within the mapped migration corridor to the maximum extent possible, thereby keeping the migration corridor along the river as open as possible.

Pronghorn Winter Concentration Area High Priority Habitat

Colorado Parks and Wildlife defines Pronghorn Winter Concentration Areas as the part of the winter range where pronghorn densities are at least 200% greater than the surrounding winter range density during the same period used to define winter range in the average five winters out of ten. Pronghorn Winter Concentration Area HPH is present within the entirety of the project area. For the

identified portions of the proposed Project area that traverse Pronghorn Winter Concentration HPH, CPW recommends that the following timing limitation be implemented for the construction:

- Complete construction in these areas outside of the winter season, which falls from January 1st to April 30th. If this cannot be achieved, CPW recommends starting construction outside of the winter timing to reduce impacts to pronghorn during this crucial time of year.

Wetlands

Wetlands are considered critical habitat for many Tier 1 and Tier 2 species in Colorado (CPW SWAP 2015). Wetland habitats include Grass/Forb Dominated Wetlands, Playas, Riparian Woodlands and Shrublands, Seeps and Springs, and Shrub-dominated Wetlands. Degradation of wetland habitats has contributed to the decline of many species. Anthropogenic disturbance in wetlands has reduced the overall landscape condition and connectivity of the habitat, which is likely to reduce its resilience in the face of increasing frequency of extreme events and generally warmer, drier conditions. CPW recommends conducting an appropriate wetland delineation (dependent on the type of wetland) to define the boundary of any potential wetlands located within the Project area. CPW recommends minimizing activities and operations within 300 feet of the ordinary high water mark of any reservoir, lake, wetland, or natural perennial or seasonally flowing stream or river and implementing best management practices to prevent sedimentation or contamination to those resources.

Raptors and Migratory Birds

The proposed Project area contains suitable habitat for nesting raptors and migratory birds. To ensure compliance with the MBTA and the Bald and Golden Eagle Protection Act, CPW recommends consulting with the USFWS prior to the construction of the proposed Project. All migratory birds are protected from potential take under the MBTA, and any removal or disturbance of an active migratory bird nest requires prior consultation with CPW and USFWS. Both active and potential nest sites, as well as winter night roosts, should be considered when evaluating potential disturbance during construction. CPW recommends conducting raptor nest surveys prior to construction, but no more than a month prior to the start of construction during the nesting season. Additionally, please refer to our [CPW Raptor Buffer Guidelines Document](#) for recommendations on timing limitations and buffers.

Noxious Weed Management and Native Vegetation Re-seeding

Also of importance to CPW is the revegetation of disturbed soils and the control of noxious and invasive weed species through the development and implementation of a noxious weed management plan prior to initiating construction activities. The revegetation of disturbed areas and control of invasive weed species are important components of the Project, and it is critically important that temporarily disturbed areas of the site be restored back to the native plant community that currently exists on site. CPW prefers that native vegetation be retained on-site during the lifespan of the Project, both as potential habitat for wildlife and to ensure successful reclamation of the Project area, as noxious weeds could spread to adjacent habitats outside the Project area. CPW recommends that the applicant consult with the Arapahoe County Weed Division or the Natural Resource Conservation Service (NRCS) in Arapahoe County for the best noxious weed management practices.

Thank you again for the opportunity to comment on the Box Elder Diversion Dam project. We appreciate your consideration of our recommendations to avoid and minimize impacts to wildlife. If you have any additional questions regarding wildlife concerns for this Project, please contact your local District Wildlife Manager, Travis Harris at 303-915-8444 or travis.harris@state.co.us.

Sincerely,



Matt Martinez
Area 5 Area Wildlife Manager

*Cc: Travis Harris, Arapahoe County District Wildlife Manager
Aubrey Pelletier, Area 5 Area Aquatic Biologist
Matt Haworth, Platte River Basin Native Aquatic Species Biologist
Lexi Hamous, Northeast Region Land Use Coordinator
Kyle Battige, Northeast Region Senior Aquatic Biologist
Andrew Newman, Northeast Region Senior Energy and Land Use Manager*