

Wildlife Resources and Threatened and Endangered Species

Technical Report

**State Highway 82 / Entrance to Aspen
Environmental Reevaluation**

February 20, 2007

Colorado Department of Transportation, Region 3

and

Federal Highway Administration, Colorado Division

Prepared by:

HDR Engineering, Inc.

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1.0 Affected Environment

This report provides a reevaluation of the wildlife resources analysis presented in the 1997 State Highway 82 Entrance to Aspen Final Environmental Impact Statement (FEIS) for the Preferred Alternative selected in the Record of Decision (ROD) issued in August 1998.

1.1 Methodology

The wildlife information presented in the FEIS was reviewed to determine the status of the resource at the time of the FEIS (Colorado Department of Transportation (CDOT) 1997). This information was summarized and submitted to wildlife biologists at the Colorado Division of Wildlife (CDOW), U.S. Fish & Wildlife Service (USFWS), and CDOT to determine (1) if the agencies concur that the species identified in the 1997 FEIS as occurring or potentially occurring in the project area are still valid, (2) if the associated impact assessment is still valid, and (3) if the agencies are aware of any wildlife issues that have arisen or changed substantially since publication of the 1997 FEIS. To further reevaluate the threatened and endangered species information, a database search was conducted of the Natural Diversity Information Source (CDOW 2006) and by the Colorado Natural Heritage Program (CNHP) to identify documented occurrences of sensitive wildlife species in the project corridor (CNHP, 2006). In addition, the wildlife biologist at the White River National Forest was contacted regarding the location of Canada lynx habitat relative to the project area (Nyland 2006)

Responses have been received from the CDOW, CDOT, and the USFWS (Appendix A), as described further in this report.

1.2 Regulatory Overview

Wildlife and their associated habitats are protected by the Federal Land Policy and Management Act, Fish and Wildlife Coordination Act, National Environmental Policy Act, Migratory Bird Treaty Act, Endangered Species Act, and state hunting regulations. Of these, only the Migratory Bird Treaty Act of 1918 (MBTA) has undergone a change since the 1997 FEIS (Peterson 2006). The MBTA forbids the taking of any migratory bird, their nests, eggs, chicks or fledglings. The Migratory Bird Permit Memorandum dated April 15, 2003 by the U.S. Department of the Interior, Fish & Wildlife Service, allows for the taking of inactive nests without permit or consequence.

1.3 Description of the Existing Condition

The 1997 FEIS lists the probable occurrence and distribution of wildlife species and threatened, endangered, and rare species potentially occurring in the project area (FEIS Section IV-6 and IV-9). The species identified in the 1997 FEIS as potentially occurring in the project area are still valid, although some information regarding occurrence and distribution is outdated (Will 2006; Appendix B).

Table IV-26 of the FEIS lists the status of threatened, endangered, candidate, and special concern species potentially occurring in the project area. Since publication of the 1997 FEIS, the common name of the North American lynx has been changed to the Canada lynx, and the boreal toad has been removed from the list of candidate species for federal listing (Peterson 2006). Canada lynx do occur in the spruce-fir/riparian habitat east of Aspen toward Independence Pass (Will 2006). A female lynx wandered into the project area, but died west of Aspen. The project area is not considered good or viable lynx habitat (Will 2006). The White River National Forest (WRNF) has mapped Canada lynx habitat but their coverage is restricted to the National Forest boundary (Nyland 2006); therefore the WRNF could not make any status interpretations for the Canada lynx outside forest boundaries. Although the State of Colorado still considers the boreal toad an endangered species, it is no longer afforded any federal protection or status under the Endangered Species Act.

The USFWS provided a current listing of federal endangered, threatened, proposed, and candidate species for Pitkin County (Linner 2006). Species from this list which were not evaluated in the 1997 FEIS are listed below:

- Bonytail (*Gile elegans*), Endangered
- Colorado pikeminnow (*Ptychocheilus lucius*), Endangered
- Humpback chub (*Gila cypha*), Endangered
- Razorback sucker (*Xyrauchen texanus*), Endangered
- Uncompahgre fritillary butterfly (*Boloria acrocneema*), Endangered
- Yellow-billed cuckoo (*Coccyzus americanus*), Candidate

Because these species are not likely to occur near the project area (Appendix B), and because the project will not result in any depletions to the Colorado River system, this reevaluation does not consider them further.

No other changes to sensitive species listed in the FEIS have occurred since its publication. No threatened and endangered species were identified in the State Highway 82 Entrance to Aspen corridor in the FEIS or during the course of this reevaluation.

Two components of the Preferred Alternative have been constructed since the publication of the FEIS and ROD: (1) Owl Creek Road and West Buttermilk Road have been relocated to create a new, signalized intersection with State Highway 82 near the Buttermilk Ski Area; and (2) the roundabout at the Maroon Creek Road intersection has been completed.

In addition, the Maroon Creek Bridge Replacement Project is currently under construction, scheduled for completion by spring of 2008. This project is being constructed as a bridge replacement without any increase in roadway capacity. However, it will accommodate the Entrance to Aspen Preferred Alternative in the future by removing the center median and re-striping for two general-purpose lanes and two exclusive bus lanes (see the Introduction to the Technical Report Volume for more detail).

The intersection of Truscott Drive and State Highway 82 was completed in 2001. While this intersection is not part of the Entrance to Aspen Project, its configuration accommodates the alignment for the east approach to the Maroon Creek Bridge Replacement Project.

A transportation easement across the Marolt-Thomas Open Space was conveyed from the City of Aspen to CDOT in August of 2002, as part of land exchange and mitigation agreements between CDOT and the City of Aspen and Pitkin County. (Refer to Appendix A and B in the 1998 Record of Decision for details of the open space conveyance agreements and mitigation commitments.)

2.0 Environmental Consequences

2.1 Methodology

The assessment of wildlife and threatened and endangered species impacts from construction, operation, and maintenance in the FEIS was reviewed for the ROD Preferred Alternative based on updated information. Wildlife biologists with CDOW, USFWS, CDOT, and the White River National Forest were consulted to determine if the impacts identified in the FEIS are still valid under the current conditions (Appendix C).

2.2 Preferred Alternative

The information below updates the current conditions in the project area related to potential impacts to wildlife and threatened and endangered species. The impacts presented in the 1997 FEIS are still valid and no new or greater potential impacts to wildlife or threatened and endangered species were identified in this reevaluation.

Further, based on existing wildlife and threatened and endangered species conditions in the study area, there is no evidence of any substantive, long-term adverse effect on wildlife or threatened and endangered species from the previous intersection and roundabout construction activities.

The CDOW concentrated its evaluation of the FEIS data and conclusions on the Marolt-Thomas open space property (Will 2006). Because the property is surrounded by existing development, human disturbance/activity, and State Highway 82 with its heavy traffic volume, CDOW concluded that the impact evaluation presented in the 1997 FEIS is still valid and concurred that the project would not have significant negative impacts to wildlife (Will 2006).

The CDOW identified potential impacts to the Marolt-Thomas property as loss of wildlife habitat and value due to additional fragmentation, and increased motor vehicle-wildlife collisions (especially to mule deer, black bear, and small and medium sized mammals). The small resident mule deer population and other small mammals and birds would be negatively impacted. However, from a population standpoint, this impact will not be significant (Will 2006).

CDOW noted some inaccuracies in the 1997 FEIS list of species, and provided corrections to that information (Appendix B). However, CDOW determined that these corrections do not affect the final conclusions of the FEIS (Will 2006).

Mr. Phil Nyland, Wildlife Biologist with the White River National Forest, stated that he does not believe that work within the State Highway 82 corridor would present affect the Canada lynx or its habitat (Nyland 2006).

Because no threatened and endangered species were identified in the State Highway 82 Entrance to Aspen corridor, the project is not expected to have any impacts on these resources.

3.0 Mitigation Measures

The mitigation measures described in the 1997 FEIS and ROD would continue to be implemented with further development of the Preferred Alternative selected in the ROD. Based on updated regulations and consultations conducted for this reevaluation, additional USFWS mitigation measures to protect migratory birds and candidate species have been added, and are listed in Table 4-1 in Section 4.0 below.

4.0 Summary of Impacts and Mitigation

Impacts are summarized below in Table 4-1 as identified in both the FEIS and this reevaluation. Mitigation measures listed in the table are those from the 1998 ROD, with additional measures noted as a result of consultations for this reevaluation.

**Table 4-1
Summary of Impacts and Mitigation Measures**

Topic	FEIS Impact	Reevaluation Impact	Mitigation Measures
Wildlife	<p>Due to the already disturbed nature of the project area, impacts would be minimal.</p> <p>Although noise and ground-clearing activities would temporarily displace wildlife in the immediate construction area and some smaller, less mobile and burrowing species could be killed, adverse impacts to populations are expected to be negligible.</p> <p>Operational activities would result in similar impacts to wildlife as do the current conditions; negative impacts are not expected to result in more than minimal affects on wildlife populations</p>	No change	<p>CDOT to cooperate with CDOW during project design</p> <p>CDOW will review preliminary highway design plans and specify wildlife mitigation measures at that time</p>
T&E Species	No threatened and endangered species will be impacted from this project	No change	<p>CDOT will apply standard erosion and sedimentation control measures to avoid impacts to federally-listed endangered fish downstream in the Colorado River.</p> <p>If, during final project design, any candidate species will be unavoidably affected, appropriate mitigation should be proposed and discussed with the Colorado Field Office of the USFWS.</p>
Migratory birds	No specific migratory bird issues or impacts were identified	<p>No specific migratory bird issues or impacts were identified.</p> <p>Mitigation measures have been added (right-hand column) through consultation with USFWS for the reevaluation.</p>	<p>If the proposed construction project is planned to occur during the primary nesting season or at any other time which may result in the take of nesting migratory birds, the USFWS recommends that the project proponent or construction contractor arrange to have a qualified biologist conduct a field survey of the affected habitats or structures to determine the absence or presence of nesting migratory birds. Surveys should be conducted during the nesting season. In some cases, such as on</p>

Topic	FEIS Impact	Reevaluation Impact	Mitigation Measures
			<p>bridges or other similar structures, nesting can be prevented until construction is complete.</p> <p>It is further recommended that the results of field surveys for nesting birds, along with information regarding the qualifications of the biologist(s) performing the surveys, be thoroughly documented and that such documentation be maintained on file by the project proponent (and/or construction contractor) for potential review by the USFWS (if requested) until such time as construction on the proposed project has been completed.</p> <p>The USFWS Colorado Field Office should be contacted immediately for further guidance if a field survey identifies the existence of one or more active bird nests that cannot be avoided by the planned construction activities. Adherence to these guidelines will help avoid the unnecessary take of migratory birds and the possible need for enforcement action.</p>

5.0 Agency Coordination and Consultation

Wildlife biologists from the following agencies were consulted for the reevaluation of wildlife and threatened and endangered species:

- Colorado Division of Wildlife, Perry Will, Area Wildlife Manager, Glenwood Springs, CO
- Colorado Division of Wildlife, Kevin Wright, District Wildlife Manager, Glenwood Springs, CO
- Colorado Department of Transportation, Jeff Peterson, CDOT Wildlife Biologist, Denver, CO
- Colorado Department of Transportation, Alison Michael, CDOT Wildlife Biologist, Lakewood, CO
- White River National Forest, Phil Nyland, Wildlife Biologist, Carbondale, CO

-
- White River National Forest, Jim Evans, GIS Coordinator, Glenwood Springs, CO
 - U.S. Fish & Wildlife Service, Kurt Broderdorp, Grand Junction, CO
 - U.S. Fish & Wildlife Service, Colorado Field Office, Susan C. Linner, Denver, CO

Written responses to wildlife and threatened and endangered species information requests have been received from CDOW, CDOT, and USFWS (Appendix A).

6.0 References

- Colorado Department of Transportation (CDOT). 1997. State Highway 82 Entrance to Aspen, Final Environmental Impact Statement [and] Section 4(f) Evaluation, Volume 1. Project STA 082A – 008. August 1997.
- CDOW (Colorado Division of Wildlife) 2006. Natural Diversity Information Source. <http://ndis.nrel.colostate.edu>.
- CNHP (Colorado Natural Heritage Program) 2006. Results of Biodiversity Traking and Conservation System (BIOTICS) database search. Provided by Michael Menefee, Colorado Natural Heritage Program, Environmental Review Coordinator, Colorado State University.
- Linner, Susan C. 2006. Letter response from Ms. Susan C. Linner (U.S. Fish & Wildlife Service, Colorado Field Office) addressing wildlife and threatened and endangered species occurrence and distribution in the project area. November 27, 2006.
- Nyland, Phil. 2006. Personal Communication between Phil Nyland, White River National Forest, Wildlife Biologist, and Dan Miller, HDR Engineering, on May, 23, 2006 regarding habitat mapping for the Canada lynx.
- Peterson, Jeff 2006. Letter response from Mr. Jeff Peterson (Colorado Department of Transportation, Wildlife Biologist, Denver, CO) addressing wildlife and threatened and endangered species occurrence and distribution in the project area. July 10, 2006.
- US Fish and Wildlife Services (USFWS).1994. Uncompahgre Fritillary Butterfly Recovery Plan. USFWS-Region 6, Denver, Colorado. March 17, 1994. 20 pp.
- _____. 2005. Species Assessment and Listing Priority Assignment Form, Yellow-billed cuckoo (*Coccyzus americanus*). Available at http://ecos.fws.gov/species_profile/servlet/gov.doi.species
- _____. 2006. Results of searching the USFWS Endangered Colorado River Basin Fish website. Available at <http://coloradoriverrecovery.fws.gov>

Will, Perry 2006. Letter response from Mr. Perry Will (Colorado Division of Wildlife, Area Wildlife Manager, Glenwood Springs, CO) addressing wildlife and threatened and endangered species occurrence and distribution in the project area. July 9, 2006.

7.0 List of Preparers

Dan Miller, Senior Environmental Scientist, HDR Engineering, Inc.

APPENDIX A - AGENCY RESPONSES

STATE OF COLORADO

DEPARTMENT OF TRANSPORTATION

4201 East Arkansas Avenue, EP B-400
Denver, Colorado 80222
(303) 757-9011



July 10, 2006

Mr. Dan Miller
HDR Engineering, Inc.
303 East 17th Avenue, Suite 700
Denver, Colorado 80203-1256

RE: State Highway 82 Entrance to Aspen Re-Evaluation

Mr. Miller:

Thank you for giving me the opportunity to review the Entrance to Aspen Re-evaluation documents. After reviewing the report, I have a few comments that should be considered to address the wildlife issues along this highway.

Firstly, I believe the proper common name for the lynx is the Canada lynx, not the North American lynx;

Secondly, the boreal toad has been removed from the list of candidate species for federal listing. This toad is no longer afforded any federal protection or status under the Endangered Species Act. However the State of Colorado still considers it an endangered species (SE).

Lastly, I saw no reference made to the Migratory Bird Treaty Act of 1918 (MBTA) and the Migratory Bird Permit Memorandum dated April 15, 2003 by the US Department of the Interior, USFWS. The MBTA forbids the taking of any migratory bird, their nests, eggs, chicks or fledglings. The 2003 memorandum allows for the taking of inactive nests without permit or consequence. I feel that this issue should be addressed in order to avoid violating the MBTA. It is a possibility that the MBTA was discussed in the original FEIS and not included in the packet I received, however, the 2003 memorandum would represent a change in policy since the 1997 FEIS. For your convenience I have included a copy of the memorandum for your review.

Once again, thank you for the opportunity to review the documents. If you have any questions, please do not hesitate to contact me at 303-512-4959 or at jeff.peterson@dot.state.co.us.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeff Peterson", written over a series of horizontal lines.

Jeff Peterson
CDOT Wildlife Biologist



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Washington, Washington, D.C. 20240

MBPM-2
Date: APR 15, 2003

MIGRATORY BIRD PERMIT MEMORANDUM

SUBJECT: Nest Destruction

PURPOSE: The purpose of the memorandum is to clarify the application of the Migratory Bird Treaty Act (MBTA) to migratory bird nest destruction, and to provide guidance for advising the public regarding this issue.

POLICY: The MBTA does not contain any prohibition that applies to the destruction of a migratory bird nest alone (without birds or eggs), provided that no possession occurs during the destruction. To minimize MBTA violations, Service employees should make every effort to inform the public of how to minimize the risk of taking migratory bird species whose nesting behaviors make it difficult to determine occupancy status or continuing nest dependency.

The MBTA specifically protects migratory bird nests from *possession, sale, purchase, barter, transport, import, and export, and take*. The other prohibitions of the MBTA – *capture, pursue, hunt, and kill* – are inapplicable to nests. The regulatory definition of *take*, as defined by 50 CFR 10.12, *means to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue hunt, shoot, wound, kill, trap, capture, or collect*. Only *collect* applies to nests.

While it is illegal to collect, possess, and by any means transfer possession of any migratory bird nest, the MBTA does not contain any prohibition that applies to the destruction of a bird nest alone (without birds or eggs), provided that no possession occurs during the destruction. The MBTA does not authorize the Service to issue permits in situations in which the prohibitions of the Act do not apply, such as the destruction of unoccupied nests. (Some unoccupied nests are legally protected by statutes other than the MBTA, including nests of threatened and endangered migratory bird species and bald and golden eagles, within certain parameters.)

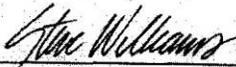
However, the public should be made aware that, while destruction of a nest by itself is not prohibited under the MBTA, nest destruction that results in the unpermitted take of migratory birds or their eggs, is illegal and fully prosecutable under the MBTA.

Due to the biological and behavioral characteristics of some migratory bird species, destruction of their nests entails an elevated degree of risk of violating the MBTA. For example, colonial nesting birds are highly vulnerable to disturbance; the destruction of unoccupied nests during or near the nesting season could result in a significant level of take. Another example involves

ground nesting species such as burrowing owls and bank swallows, which nest in cavities in the ground, making it difficult to detect whether or not their nests are occupied by eggs or nestlings or are otherwise still essential to the survival of the juvenile birds. The Service should make every effort to raise public awareness regarding the possible presence of birds and the risk of violating the MBTA, the Endangered Species Act (ESA), and the Bald and Golden Eagle Protection Act (BGEPA), and should inform the public of factors that will help minimize the likelihood that take would occur should nests be destroyed (i.e., when active nesting season normally occurs).

The Service should also take care to discern that persons who request MBTA permits for nest destruction are not targeting nests of endangered or threatened species or bald or golden eagles, so that the public can be made aware of the prohibitions of the ESA and the BGEPA against nest destruction.

In situations where it is necessary (i.e., for public safety) to remove (destroy) a nest that is occupied by eggs or nestlings or is otherwise still essential to the survival of a juvenile bird, and a permit is available pursuant to 50 CFR parts 13 and 21, the Service may issue a permit to take individual birds.



Director

STATE OF COLORADO

Bill Owens, Governor
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WILDLIFE
AN EQUAL OPPORTUNITY EMPLOYER

Bruce McCloskey, Director
6060 Broadway
Denver, Colorado 80216
Telephone: (303) 297-1192



*For Wildlife
For People*

July 9, 2006

HDR Engineering, Inc.
303 17th Ave, Suite 700
Denver, CO 80203-1256

RE: State Highway 82 Entrance to Aspen Re-evaluation

Dear Mr. Miller:

The Division has reviewed the information you sent regarding State Highway 82 entrance to Aspen across the Marolt-Thomas open space property. The evaluation which occurred in 1997 is still valid and the Division would concur with its conclusions that there will not be significant negative impacts to wildlife. The property is surrounded by existing development and human disturbance/activity and State Highway 82 with its associated heavy traffic volume.

The Marolt-Thomas Open Space parcel has become a somewhat isolated habitat or "island" which does contain wildlife value. This island would be bisected and fragmented leading to additional loss of wildlife habitat and value. Placement of a highway across the parcel will result in wildlife having difficulty crossing the highway resulting in increased motor vehicle-wildlife collisions, especially mule deer, black bear, and small and medium sized mammals. The parcel contains a very small resident population of mule deer which would be negatively impacted as well as other small mammals and birds. However, from a population standpoint, this impact will not be significant.

The species identified in the 1997 FEIS as potentially occurring in the project area are still valid. There are some mistakes within the species list regarding occurrence and distribution. However, these corrections will not affect the outcome or final conclusions. I have attached a list of corrections for your information.

In addition, the Division is not aware of any additional wildlife issues which have arisen or changed substantially since the publication of the 1997 FEIS. Human development and associated disturbance and activity have displaced much of the wildlife use of this parcel over the past several years.

If you have any questions, please give DWM Kevin Wright a call at 970-947-2920, ext. 2938.

Sincerely,

Perry Will
Area Wildlife Manager, Glenwood Springs

Cc: J. Bredehoff, R. Velarde, K. Wright, file
Table 2:

DEPARTMENT OF NATURAL RESOURCES, Russell George, Executive Director
WILDLIFE COMMISSION, Jeffrey Crawford, Chair • Tom Burke, Vice Chair • Ken Torres, Secretary
Members, Robert Bray • Rick Enstrom • Philip James • Claire O'Neal • Richard Ray • Robert Shoemaker
Ex Officio Members, Russell George and Don Arment

Bald eagle – table references active but unsuccessful nest 40 km north. This nest is still active but it is successful and has fledged you're the past 3 years, 2004 – 2006

Table 3:

Mule deer – project area does support a very small resident population of mule deer

Black bear – population is abundant from April 1 – December 15; remainder of year they are denning. At this time, there are no known dens in the project area

Coyote – does occur in project area, common

Prairie falcon – migrant; potential use of area spring – fall

Turkey vulture – migrant; potential use of area spring – fall

Osprey – it is a migrant, but there is at least 1 nesting pair along lower Roaring Fork River

Blue grouse – common name has been changed to Dusky Grouse

Black-billed magpie – year round resident of Aspen and project area

Common raven – year round resident and project area, common

Northern flicker – does occur around aspen and project area, common

Belted kingfisher – does occur along the Roaring Fork River, common

Great blue heron – does occur along the Roaring Fork River, common; several nesting sites (rookeries) along river

Spotted sandpiper – does occur along the Roaring fork River, common

American dipper – does occur along the Roaring Fork River, common

Northern leopard frog – very unlikely to inhabit the project area; historical observations down valley around Carbondale; currently not known to occur in the valley

Western garter snake – does occur in project area

Chorus frog – may inhabit the project area (survey has not been done)

Table 4:

Lynx – lynx do occupy the spruce-fir/riparian habitat east of Aspen toward Independence Pass. A female lynx did wander into the project area but died on the west end of Aspen. The project area would not be considered good or viable lynx habitat



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Colorado Field Office
P.O. Box 25486, DFC (65412)
Denver, Colorado 80225-0486



IN REPLY REFER TO:
ES/CO: T&E/Species List
TAH.S: 65412-2006-SL-0323

NOV 22 2006

Dan Miller
HDR Engineering
303 East 17th Avenue, Suite 700
Denver, Colorado 80203-1256

Dear Mr. Miller:

Based on the authority conferred to the U.S. Fish and Wildlife Service (Service) by the Fish and Wildlife Act of 1956 (916 U.S.C. 742(a)-754); Fish and Wildlife Coordination Act (FWCA - 16 U.S.C. 661-667(e)); National Environmental Policy Act of 1969 (NEPA - 42 U.S.C. 4321-4347); Department of Transportation Act (49 U.S.C. 1653(f)), and; Endangered Species Act of 1973, as amended (ESA - 50 CFR §402.14), as well as multiple Executive Orders, policies and guidelines, and interrelated statutes to ensure the conservation and enhancement of fish and wildlife resources (e.g., Migratory Bird Treaty Act (MBTA - 16 U.S.C. 703), and Bald and Golden Eagle Protection Act (BGEPA - 16 U.S.C. 668)), the Service reviewed your July 3, 2006, request for identification of wildlife concerns associated with the re-evaluation of the **State Highway 82 Entrance to Aspen Final Environmental Impact Statement (FEIS)**. We apologize for the length of time that it has taken us to respond, but there was some confusion over deadlines and responding personnel.

The previous FEIS was prepared by MK Centennial in 1997 and the Record of Decision (ROD) was approved and issued in 1998. The re-evaluation will assess whether any changes that may have occurred in project design concept or scope, the affected environment, or proposed mitigation measures would require supplemental environmental documentation, or whether the FEIS and resultant project decisions are still valid.

The list of threatened and endangered species has changed since the 1997 FEIS. Following is a list of Federal endangered, threatened, proposed and candidate species for Pitkin County, which may be used as a basis for determining additional listed species potentially present in the project area. While other species could occur at or visit the project area, endangered or threatened species most likely to be affected include:

Birds: Bald Eagle (*Haliaeetus leucocephalus*), Endangered
Mexican Spotted Owl (*Strix occidentalis lucida*), Threatened

Mammals: Canada lynx (*Lynx canadensis*), Threatened

Fishes: *Bonytail (*Gila elegans*), Endangered
*Colorado pikeminnow (*Ptychocheilus lucius*), Endangered
*Humpback chub (*Gila cypha*), Endangered
*Razorback sucker (*Xyrauchen texanus*), Endangered

Invertebrates: Uncompahgre fritillary butterfly (*Boloria acrocneuma*), Endangered

*Water depletions in the Upper Colorado River and San Juan River Basins may affect the species and/or critical habitat in downstream reaches in other states. Water depletions for transportation construction projects often result from activities associated with dust control, and compaction.

The Service also is interested in the protection of species which are candidates for official listing as threatened or endangered (Federal Register, Vol. 61, No. 40, February 28, 1996). While these species presently have no legal protection under the Act, it is within the spirit of this Act to consider project impacts to potentially sensitive candidate species. It is the intention of the Service to protect these species before human-related activities adversely impact their habitat to a degree that they would need to be listed and, therefore, protected under the Act. Additionally, we wish to make you aware of the presence of Federal candidates should any be proposed or listed prior to the time that all Federal actions related to the project are completed. If any candidate species will be unavoidably impacted, appropriate mitigation should be proposed and discussed with this office.

Birds: Yellow-billed cuckoo (*Coccyzus americanus*)

Migratory Birds

Under the MBTA construction activities in grassland, wetland, stream, and woodland habitats, and those that occur on bridges (e.g., which may affect swallow nests on bridge girders) that would otherwise result in the take of migratory birds, eggs, young, and/or active nests should be avoided. Although the provisions of MBTA are applicable year-round, most migratory bird nesting activity in eastern Colorado occurs during the period of April 1 to August 15. However, some migratory birds are known to nest outside of the aforementioned primary nesting season period. For example, raptors can be expected to nest in woodland habitats during February 1 through July 15. If the proposed construction project is planned to occur during the primary nesting season or at any other time which may result in the take of nesting migratory birds, the Service recommends that the project proponent (or construction contractor) arrange to have a qualified biologist conduct a field survey of the affected habitats and structures to determine the absence or presence of nesting migratory birds. Surveys should be conducted during the nesting season. In some cases, such as on bridges or other similar structures, nesting can be prevented until construction is complete. It is further recommended that the results of field surveys for nesting birds, along with information

regarding the qualifications of the biologist(s) performing the surveys, be thoroughly documented and that such documentation be maintained on file by the project proponent (and/or construction contractor) for potential review by the Service (if requested) until such time as construction on the proposed project has been completed. The Service's Colorado Field Office should be contacted immediately for further guidance if a field survey identifies the existence of one or more active bird nests that cannot be avoided by the planned construction activities. Adherence to these guidelines will help avoid the unnecessary take of migratory birds and the possible need for law enforcement action.

Wetlands

FWCA provides the basic authority for the Service's involvement in evaluating impacts to fish and wildlife "whenever the waters of any stream or other body of water are proposed or authorized to be impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled or modified **for any purpose whatever**...by any department or agency of the United States, or by any public or private agency under Federal permit or license," including water crossings and wetland impacts, whether or not those wetlands are under the jurisdiction of the U.S. Army Corps of Engineers [16 U.S.C. 661(1), emphasis added]. It requires that fish and wildlife resources "receive equal consideration...to other project features...through the effectual and harmonious planning, development, maintenance, and coordination of wildlife conservation and rehabilitation," and requires Federal agencies to consult with the Service during the planning process to help "prevent the loss of or damage to such resources as well as providing for the development and improvement thereof" (16 U.S.C. 661 *et seq*). Full consideration is to be given to Service recommendations.

If the Service can be of further assistance, please contact Alison Deans Michael of my staff at 303 236-4758.

Sincerely,



Susan C. Linner
Colorado Field Supervisor

pc: CDOT (Jeff Peterson)
Michael

Ref: Alison\H\My Documents\CDOT 2006\Region 3\SH82 EIS re-eval.doc

APPENDIX B – 1997 AND 2006 WILDLIFE OCCURRENCE AND DISTRIBUTION IN PROJECT AREA

**Wildlife Species Occurrence and Distribution in the Project Area
(1997 FEIS) and 2006 Updated Information (Will 2006; Linner 2006)**

Common Name	Scientific Name	Occurrence	Distribution	2006 Update
Mammals				
Mule deer	<i>Odocoileus hemionus</i>	Known to occur in Roaring Fork Valley and surrounding hillsides and drainages are important winter and summer habitat	Project area not in migration corridor, winter concentration area, winter range or critical habitat	Project area supports a very small resident population
Elk	<i>Cervis canadensis</i>	Known to occur in Roaring Fork Valley and surrounding hillsides and drainages are important winter and summer habitat	Project area not in migration corridor, winter concentration area, winter range or critical habitat	
Black bear	<i>Ursus americanus</i>	Excellent habitat in Aspen area	Abundant population throughout the year	Population is abundant from April 1 to December 15; remainder of year they are denning. At this date, there are no known dens in the project area.
Red fox	<i>Vulpes vulpes</i>	Common in project area	Population on the increase	
White-tailed jackrabbit	<i>Lepus townsendii</i>	Potentially occurs in the project area		
Mink	<i>Mustela vison</i>	Potentially occurs in the project area		
Coyote	<i>Canis latrans</i>	Potentially occurs in the project area		Occurs in project area, common
Raccoon	<i>Procyon lotor</i>	Potentially occurs in the project area		
Bobcat	<i>Felis rufus</i>	Potentially occurs in the project area		
Mountain cottontail	<i>Sylvilagus nuttali</i>	Potentially occurs in the project area		
Beaver	<i>Castor Canadensis</i>	Potentially occurs in the project area		
Mountain lion	<i>Felis concolor</i>	Potentially occurs in the		

Common Name	Scientific Name	Occurrence	Distribution	2006 Update
		project area		
Colorado chipmunk	<i>Eutamias quadrivittatus australis</i>	Likely to occur in the project area		
Deer mouse	<i>Peromyscus maniculatus</i>	Likely to occur in the project area		
Least chipmunk	<i>Eutamias minimus</i>	Likely to occur in the project area		
Meadow vole	<i>Microtus pennsylvanicus</i>	Likely to occur in the project area		
Birds				
Yellow-billed cuckoo	<i>Coccyzus americanus</i>			(Linner, 2006) - In Colorado west of the Continental Divide, the species was probably never common and is now extremely rare. It is an uncommon summer resident of Colorado. The general status of the yellow-billed cuckoo in Colorado is nearly extirpated in the west with once common eastern populations becoming uncommon to rare. Only one confirmed nesting observation occurred along the Yampa River near Hayden during the Breeding Bird Atlas surveys conducted from 1987 to 1994. National Park Service surveys in southwest Colorado from 1988 to 1995 for the Colorado Breeding Bird Atlas have no records of yellow-billed cuckoo (USFWS 2006).
Raptors (eagles, hawks, falcons, vultures, owls)		Occur in the project area as seasonal and year-round residents		
Sharp-shinned hawk	<i>Accipiter striatis</i>	Year-round resident		
Cooper's hawk	<i>Accipiter cooperii</i>	Year-round resident		
Red-tailed hawk	<i>Buteo jamaicensis</i>	Year-round resident		
Golden eagle	<i>Aquila chrysaetos</i>	Year-round resident		
American kestrel	<i>Falco sparverius</i>	Year-round resident		
Prairie falcon	<i>Falco mexicanus</i>	Year-round resident		Migrant; potential use of area spring - fall
Great horned owl	<i>Bubo virginianus</i>	Year-round resident		
Turkey vulture	<i>Cathartes aura</i>	Year-round		Migrant; potential use of area spring -

Common Name	Scientific Name	Occurrence	Distribution	2006 Update
		resident		fall
Osprey	<i>Pandion haliaetus</i>	Migrant		Migrant; at least one (1) nesting pair along lower Roaring Fork River
Rough-legged hawk	<i>Buteo lagopus</i>	Winter resident		
Swainson's hawk	<i>Buteo swainsoni</i>	Potential fall migrant		
Canada goose	<i>Branta canadensis</i>	Occur primarily during summer and spring/fall migration		
Common mallard	<i>Anas platyrhynchos</i>	Occur primarily during summer and spring/fall migration		
Blue-winged teal	<i>Anas discors</i>	Occur primarily during summer and spring/fall migration		
Green-winged teal	<i>Anas crecca</i>	Occur primarily during summer and spring/fall migration		
Northern shoveler	<i>Anas clypeata</i>	Occur primarily during summer and spring/fall migration		
American wigeon	<i>Anas americana</i>	Occur primarily during summer and spring/fall migration		
Lesser scaup	<i>Aythya affinis</i>	Occur primarily during summer and spring/fall migration		
Common merganser	<i>Mergus merganser</i>	Occur primarily during summer and spring/fall migration		
Blue grouse	<i>Dendragapus obscurus</i>	Fairly abundant in the project area		Name changed to Dusky Grouse
Mourning dove	<i>Zenaida macroura</i>	Nest in the project area		
Black-billed magpie	<i>Pica</i>	Could occur around Aspen (observed during site visit)		Year round resident of Aspen and project area
American robin	<i>Turdus migratorius</i>	Could occur around Aspen		

Common Name	Scientific Name	Occurrence	Distribution	2006 Update
		(observed during site visit)		
Mountain chickadee	<i>Parus gambeli</i>	Could occur around Aspen (observed during site visit)		
Common raven	<i>Corvus corax</i>	Could occur around Aspen (observed during site visit)		Year round resident of Aspen and project area, common
Northern flicker	<i>Colaptes auratus</i>	Could occur around Aspen (observed during site visit)		Does occur around Aspen and project area, common
Belted kingfisher	<i>Ceryle alcyon</i>	Potentially occurs along Roaring Fork River		Does occur along Roaring Fork River, common
Great blue heron	<i>Ardea herodias</i>	Potentially occurs along Roaring Fork River		Does occur along Roaring Fork River, common; several nesting sites (rookeries) along river
Spotted sandpiper	<i>Actitis macularia</i>	Potentially occurs along Roaring Fork River		Does occur along Roaring Fork River, common
American dipper	<i>Cinclus mexicanus</i>	Potentially occurs along Roaring Fork River		Does occur along Roaring Fork River, common
Pine siskin	<i>Carduelis pinus</i>	Very abundant in Aspen area		
House finch	<i>Carpodacus mexicanus</i>	Very abundant in Aspen area		
Other non-game birds (e.g., swallows, warblers, woodpeckers)		Very abundant in Aspen area		
Fishes				
Bonytail	<i>Gila elegans</i>			(Linner, 2006) - Upstream of Lake Powell, this fish is nearly extinct. In the last decade only handful have been captured on the Yampa River in Dinosaur National Monument, on the Green River at Desolation and Gray Canyons and on the Colorado River at the Colorado/Utah border and in Cataract Canyon (USFWS 2006).

Common Name	Scientific Name	Occurrence	Distribution	2006 Update
Colorado Pikeminnow	<i>Ptychocheilus lucius</i>			(Linner, 2006) - Exists primarily in the Green River below the confluence with the Yampa River, the lower Duchesne River in Utah, the Yampa River below Craig, Colorado, the White River from Taylor Draw Dam near Rangely downstream to the confluence with the Green River, the Gunnison River in Colorado, and the Colorado River from Palisade, Colorado downstream to Lake Powell (USFWS 2006).
Humpback chub	<i>Gila cypha</i>			(Linner, 2006) - There are two populations near the Colorado/Utah border – one at Westwater Canyon in Utah and one in an area called Black Rocks, in Colorado (USFWS 2006).
Razorback sucker	<i>Xyrauchen texanus</i>			(Linner, 2006) - In the upper Colorado River Basin, they are now found only in the upper Green River in Utah, the lower Yampa River in Colorado and occasionally in the Colorado River near Grand Junction (USFWS 2006).
Reptiles and Amphibians				
Tiger salamander	<i>Ambystoma tigrinum</i>	May inhabit the project area		
Northern leopard frog	<i>Rana pipiens</i>	May inhabit the project area		Very unlikely to inhabit the project area; historical observations down valley around Carbondale; currently not known to occur in the valley
Western terrestrial garter snake	<i>Thamnophis elegans</i>	May inhabit the project area		Does occur in project area
Chorus frog	<i>Pseudacris triseriata</i>	Not listed in the 1997 FEIS		May inhabit the project area (survey has not been done)
Invertebrates				
Uncompahgre fritillary butterfly	<i>Boloria acrocneuma</i>			(Linner, 2006) - The butterfly exists above treeline and has been verified at only two areas in the San Juan Mountains of Colorado (USFWS 1994).

APPENDIX C – FEIS FINDINGS AND 2006 DATABASE SEARCH RESULTS

3 July 2006

Mr. Curt Broderdorp
U.S. Fish & Wildlife Service
764 Horizon Drive, Building B
Grand Junction, CO 81506

Re: State Highway 82 Entrance to Aspen Environmental Re-evaluation

Mr. Broderdorp:

HDR Engineering, Inc. (HDR) is conducting an Environmental Re-evaluation of the 1997 State Highway 82 Entrance to Aspen Final Environmental Impact Statement (FEIS) and Record of Decision (ROD). The information contained in this letter is summarized from the 1997 FEIS and presented to the U.S. Fish & Wildlife Service (USFWS) for input on the accuracy and validity of the data under current conditions. HDR would appreciate USFWS's response in letter form for inclusion in the written Re-evaluation.

Project Background

This letter is a request for identification of wildlife issues associated with the Re-evaluation of the State Highway 82 Entrance to Aspen FEIS. The previous FEIS was prepared by MK Centennial in 1997 for the Colorado Department of Transportation (CDOT), and an approved ROD was issued in 1998. The purpose of this Re-evaluation is to assess whether any changes that may have occurred in project design concept or scope, the affected environment, or proposed mitigation measures would require supplemental environmental documentation, or whether the FEIS and resultant project decisions are still valid.

Re-evaluation of the FEIS will determine changed conditions affecting the corridor and will address all current environmental requirements. The entire project will be revisited to assess any changes that have occurred and their effect on the adequacy of the FEIS, but the Re-evaluation will be focused on the remaining project components. The project elements that have been constructed (i.e., roundabout, Truscott and Buttermilk intersections, Maroon Creek Bridge) will be referenced as previous actions and summarized as background information.

The written Re-evaluation will document any changes in the project, its surroundings and impacts, and any new issues identified since the 1997 FEIS was approved. Field reviews, additional environmental studies (as necessary), and coordination with other agencies are being undertaken as appropriate to address any new impacts or issues, and the results will be included in the Re-evaluation.

HDR Engineering, Inc.

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Denver, CO 80203-1256

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Fax: (303) 860-7139
www.hdrinc.com

Project Location

Figures 1a and 1b show the project corridor. The corridor lies entirely within Pitkin County, Colorado and extends eastward from Service Center Road (near the Aspen Airport) along State Highway 82 to the intersection of 7th and Main Street in the City of Aspen. The Preferred Alternative approved in the ROD (CDOT 1998) consists of highway improvements and a transit system. The highway component is a two-lane parkway, and the transit component is a light-rail transit (LRT) system that would generally parallel the south side of the highway alignment (Figure 1). However, the LRT system will be developed initially as exclusive bus lanes if local support and/or funding are not available. There have been no changes to the project or its corridor alignment since the ROD.

The Preferred Alternative alignment does not follow the existing "S" curves in the City of Aspen. It extends along the existing Highway 82 from the airport to the roundabout located at the Highway 82/Maroon Creek Road intersection. East of the roundabout, the corridor shifts to the southeast across the Marolt-Thomas property, crosses a new Castle Creek Bridge, and connects with the intersection at 7th and Main Street.

Threatened and Endangered Species

The U.S. Fish & Wildlife Service, Colorado Department of Wildlife, and the Colorado Natural Heritage Program were consulted for information pertaining to threatened and endangered, candidate, and special concern species during preparation of the 1997 FEIS (CDOT 1997). A list of the species identified by these agencies as potentially occurring in the project area is shown in Table 1, along with the species' 1997 and 2006 status.

Table 1. Threatened, Endangered, Candidate, and Special Concern Species Potentially Occurring in the Proposed Project Area.

Common Name	Scientific Name	1997 Status as per FEIS	2006 Status ¹
Bald Eagle	<i>Haliaeetus leucocephalus</i>	FT/ST	No change
Mexican Spotted Owl	<i>Strix occidentalis lucida</i>	FT/ST	No change
North American Lynx	<i>Felis lynx canadensis</i>	None/SE	FT/SE
North American Wolverine	<i>Gulo gulo luscus</i>	None/SE	No change
Northern Goshawk	<i>Accipiter gentilis</i>	None/Nongame	No change
Loggerhead Shrike	<i>Lanius ludovicianus</i>	None/Nongame	No change
Boreal Toad	<i>Bufo boreas</i>	C/SE	No change
Colorado Cutthroat Trout	<i>Salmo clarki pleuriticus</i>	None/SSC	No change

¹ Source: Colorado Department of Wildlife, Natural Diversity Information Source. <http://ndis.nrel.colostate.edu>

FT Federal-threatened (USFWS)

SE State-endangered (CDOW)

ST State-threatened (CDOW)

SSC State special concern CDOW

C Federal candidate species (USFWS)

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Results of the impact analysis for threatened and endangered, candidate, and special concern species as reported in the 1997 FEIS are summarized in Table 2. Also provided is a brief summary of the basis for those findings.

Table 2. Summary of the 1997 FEIS Impact Analysis to Threatened, Endangered, Candidate, and Special Concern Species Potentially Occurring in the Proposed Project Area

Common Name/Scientific Name	1997 FEIS Findings	1997 FEIS Basis for Findings
Bald Eagle/ <i>Haliaeetus leucocephalus</i>	Not expected to be adversely affected	Roost trees not known to exist in project area; active but unsuccessful eagle nest more than 40 kilometers north of project area
Mexican Spotted Owl/ <i>Strix occidentalis lucida</i>	Not expected to be adversely affected	Lack of appropriate habitat in the project area
North American Lynx/ <i>Felis lynx canadensis</i>	Not expected to be adversely affected	Lack of appropriate lynx habitat in the project area
North American Wolverine/ <i>Gulo gulo luscus</i>	Not expected to occur in the project area; not expected to be adversely affected	Lack of appropriate wolverine habitat in the project area
Northern Goshawk/ <i>Accipiter gentilis</i>	Not expected to be adversely affected	Unlikely that goshawks are nesting in the already disturbed project area; no goshawks observed during 3-day survey; potential goshawk habitat is small and isolated, and subject to noise and disturbance from local construction and other human activities
Loggerhead Shrike/ <i>Lanius ludovicianus</i>	Not expected to be adversely affected	Uncommon migrant through the project area
Boreal Toad/ <i>Bufo boreas</i>	Not expected to be adversely affected	Lack of appropriate boreal toad habitat in the project area
Colorado Cutthroat Trout/ <i>Salmo clarki pleuriticus</i>	No adverse impacts are expected	Potential habitat (montane riparian forest) is located outside the area of disturbance

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Wildlife

Through literature reviews (examination of reports, Colorado Natural Heritage database, maps, and aerial photography), resource agency consultation, and field surveys, the wildlife species listed in Table 3 were identified as potentially occupying habitats found within the Roaring Fork Valley (CDOT 1997). Summaries of the habitat, occurrence, and distribution information presented in the 1997 FEIS is also provided.

Table 3. Wildlife Species Occurrence and Distribution in the Project Area (1997 FEIS)

Common Name	Scientific Name	Occurrence	Distribution
Mammals			
Mule deer	<i>Odocoileus hemionus</i>	Known to occur in Roaring Fork Valley and surrounding hillsides and drainages are important winter and summer habitat	Project area not in migration corridor, winter concentration area, winter range or critical habitat
Elk	<i>Cervus canadensis</i>	Known to occur in Roaring Fork Valley and surrounding hillsides and drainages are important winter and summer habitat	Project area not in migration corridor, winter concentration area, winter range or critical habitat
Black bear	<i>Ursus americanus</i>	Excellent habitat in Aspen area	Abundant population throughout the year
Red fox	<i>Vulpes vulpes</i>	Common in project area	Population on the increase
White-tailed jackrabbit	<i>Lepus townsendii</i>	Potentially occurs in the project area	
Mink	<i>Mustela vison</i>	Potentially occurs in the project area	
Coyote	<i>Canis latrans</i>	Potentially occurs in the project area	
Raccoon	<i>Procyon lotor</i>	Potentially occurs in the project area	
Bobcat	<i>Felis rufus</i>	Potentially occurs in the project area	
Mountain cottontail	<i>Sylvilagus nuttali</i>	Potentially occurs in the project area	
Beaver	<i>Castor Canadensis</i>	Potentially occurs in the project area	
Mountain lion	<i>Felis concolor</i>	Potentially occurs in the project area	

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Common Name	Scientific Name	Occurrence	Distribution
Colorado chipmunk	<i>Eutamias quadrivittatus australis</i>	Likely to occur in the project area	
Deer mouse	<i>Peromyscus maniculatus</i>	Likely to occur in the project area	
Least chipmunk	<i>Eutamias minimus</i>	Likely to occur in the project area	
Meadow vole	<i>Micronus pennsylvanicus</i>	Likely to occur in the project area	
Birds			
Raptors (eagles, hawks, falcons, vultures, owls)		Occur in the project area as seasonal and year-round residents	
Sharp-shinned hawk	<i>Accipiter striatis</i>	Year-round resident	
Cooper's hawk	<i>Accipiter cooperii</i>	Year-round resident	
Red-tailed hawk	<i>Buteo jamaicensis</i>	Year-round resident	
Golden eagle	<i>Aquila chrysaetos</i>	Year-round resident	
American kestrel	<i>Falco sparverius</i>	Year-round resident	
Prairie falcon	<i>Falco mexicanus</i>	Year-round resident	
Great horned owl	<i>Bubo virginianus</i>	Year-round resident	
Turkey vulture	<i>Cathartes aura</i>	Year-round resident	
Osprey	<i>Pandion haliaetus</i>	Migrant	
Rough-legged hawk	<i>Buteo lagopus</i>	Winter resident	
Swainson's hawk	<i>Buteo swainsoni</i>	Potential fall migrant	
Canada goose	<i>Branta canadensis</i>	Occur primarily during summer and spring/fall migration	
Common mallard	<i>Anas platyrhynchos</i>	Occur primarily during summer and spring/fall migration	
Blue-winged teal	<i>Anas discors</i>	Occur primarily during summer and spring/fall migration	
Green-winged teal	<i>Anas crecca</i>	Occur primarily during summer and spring/fall migration	
Northern shoveler	<i>Anas clypeata</i>	Occur primarily during summer and spring/fall migration	
American wigeon	<i>Anas americana</i>	Occur primarily during summer and spring/fall migration	
Lesser scaup	<i>Aythya affinis</i>	Occur primarily during summer and	

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Common Name	Scientific Name	Occurrence	Distribution
Common merganser	<i>Mergus merganser</i>	spring/fall migration Occur primarily during summer and spring/fall migration	
Blue grouse	<i>Dendragapus obscurus</i>	Fairly abundant in the project area	
Mourning dove	<i>Zenaida macroura</i>	Nest in the project area	
Black-billed magpie	<i>Pica</i>	Could occur around Aspen (observed during site visit)	
American robin	<i>Turdus migratorius</i>	Could occur around Aspen (observed during site visit)	
Mountain chickadee	<i>Parus gambeli</i>	Could occur around Aspen (observed during site visit)	
Common raven	<i>Corvus corax</i>	Could occur around Aspen (observed during site visit)	
Northern flicker	<i>Colaptes auratus</i>	Could occur around Aspen (observed during site visit)	
Belted kingfisher	<i>Ceryle alcyon</i>	Potentially occurs along Roaring Fork River	
Great blue heron	<i>Ardea herodias</i>	Potentially occurs along Roaring Fork River	
Spotted sandpiper	<i>Actitis macularia</i>	Potentially occurs along Roaring Fork River	
American dipper	<i>Cinclus mexicanus</i>	Potentially occurs along Roaring Fork River	
Pine siskin	<i>Carduelis pinus</i>	Very abundant in Aspen area	
House finch	<i>Carpodacus mexicanus</i>	Very abundant in Aspen area	
Other non-game birds (e.g., swallows, warblers, woodpeckers)		Very abundant in Aspen area	
Reptiles and Amphibians			
Tiger salamander	<i>Ambystoma tigrinum</i>	May inhabit the	

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Common Name	Scientific Name	Occurrence	Distribution
Northern leopard frog	<i>Rana pipiens</i>	project area May inhabit the project area	
Western terrestrial garter snake	<i>Thamnophis elegans</i>	May inhabit the project area	

In the 1997 FEIS, potential impacts to wildlife were analyzed by identifying wildlife resources in the project area and determining species' sensitivity to proposed disturbances. The impact analysis considered potential positive and negative short- and long-term impacts from habitat loss and degradation, and noise from construction.

Impact magnitude was evaluated based on legal, commercial, recreational, ecological, or scientific importance of the resource; proportion of the resource affected; the sensitivity of the resource to construction and operational activities; and duration or ecological consequences of the impact.

The impact analysis conducted for the 1997 FEIS concluded that due to the already disturbed nature of the project area, impacts from all alternatives would be minimal. Noise and ground-clearing activities would temporarily displace wildlife from the habitat in the immediate vicinity of construction, with some wildlife possibly returning to nearby habitat after construction is completed. Smaller, less mobile species and those seeking refuge in burrows could inadvertently be killed during construction activities; however, adverse impacts to populations are expected to be negligible (CDOT 1997).

Because the proposed project would be located close to the present highway right-of-way, operational activities from the Preferred Alternative would result in similar impacts to wildlife as do the current conditions. Negative impacts are not expected to result in more than minimal affects to wildlife populations (CDOT 1997).

Colorado Natural Heritage Program – Database Search Results

Results of a data request from the Colorado Natural Heritage Program regarding natural heritage elements (occurrences of significant natural communities and rare, threatened or endangered plants and animals) documented within a one-mile and two-mile radius of the project area are summarized in the Table 4 below and provided, in full, in Attachment I.

Table 4. Location and Status of Rare and/or Imperiled Species, Natural Communities, and Potential Conservation Areas in the Project Area (CNHP 2006)

Species/Community	Location within Project Area	Status
Boreal toad/ <i>Bufo boreas</i>	Within one-mile of project area - T10S, R85W, Sec 12	C/SE
Lynx/ <i>Lynx canadensis</i>	Within one-mile of project area – T9S, R85W	FT/SE
Montane Riparian Forest	Within one-mile of project	No federal or state ranking

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	area – T9S, R85W, Sec 34; T10S, R85W, Sec 11	
Canyon bog-orchid/ <i>Limnorchis ensifolia</i>	Within one-mile of project area - T10S, R85W	No federal or state ranking
Lower Montane Willow Carr	Within two-miles of project area - T10S, R85W, Sec 14	No federal or state ranking; occurs outside project area
Potential Conservation Area – Maroon Creek/Castle Creek	Intersects project area - T10S, R85W, Sec’s 11 and 12	B2 – Very High Biodiversity Significance; Maroon Creek bridge under construction
Roaring Fork River at Brush Creek	Within one-mile of project area – T9S, R85W, Sec 34	B4 – Moderate Biodiversity Significance; outside project area

FT Federal-threatened (USFWS)
SE State-endangered (CDOW)
ST State-threatened (CDOW)
SSC State special concern CDOW
C Federal candidate species (USFWS)

The above information is being submitted to the Colorado Division of Wildlife, Colorado Department of Transportation, and the U.S. Fish & Wildlife Service to determine (1) if the agencies concur that the species identified in the 1997 FEIS as potentially occurring in the project area are still valid, (2) if the associated impact assessment is still valid, and/or (3) if the agencies are aware of any wildlife issues that have arisen or changed substantially since publication of the 1997 FEIS.

Please contact me at (303) 764-1566 or via e-mail at “dan.miller@hdrinc.com” if you have any questions regarding this letter or the State Highway 82 Entrance to Aspen Environmental Re-evaluation. Please send letter response to:

Dan Miller
 HDR Engineering, Inc.
 303 East 17th Avenue, Suite 700
 Denver, CO 80203-1256

Sincerely,
HDR Engineering, Inc.

Dan Miller
 Sr. Project Manager

Attachments:
 Figure 1 – Project Area
 Attachment 1 – Colorado Natural Heritage Program, Database Search Results
 Cc: Lucy Bowen (HDR)
 Project File #40507

HDR Engineering, Inc.

References

- Colorado Department of Transportation. 1998. State Highway 82 Entrance to Aspen, Record of Decision. August 1998.
- Colorado Department of Transportation. 1997. State Highway 82 Entrance to Aspen, Final Environmental Impact Statement [and] Section 4(f) Evaluation, Volume I. August 1997.
- CNHP (Colorado Natural Heritage Program). 2006. Results of Biodiversity Tracking and Conservation System (BIOTICS) database search. Provided by Michael Menefee, Colorado Natural Heritage Program, Environmental Review Coordinator, Colorado State University.

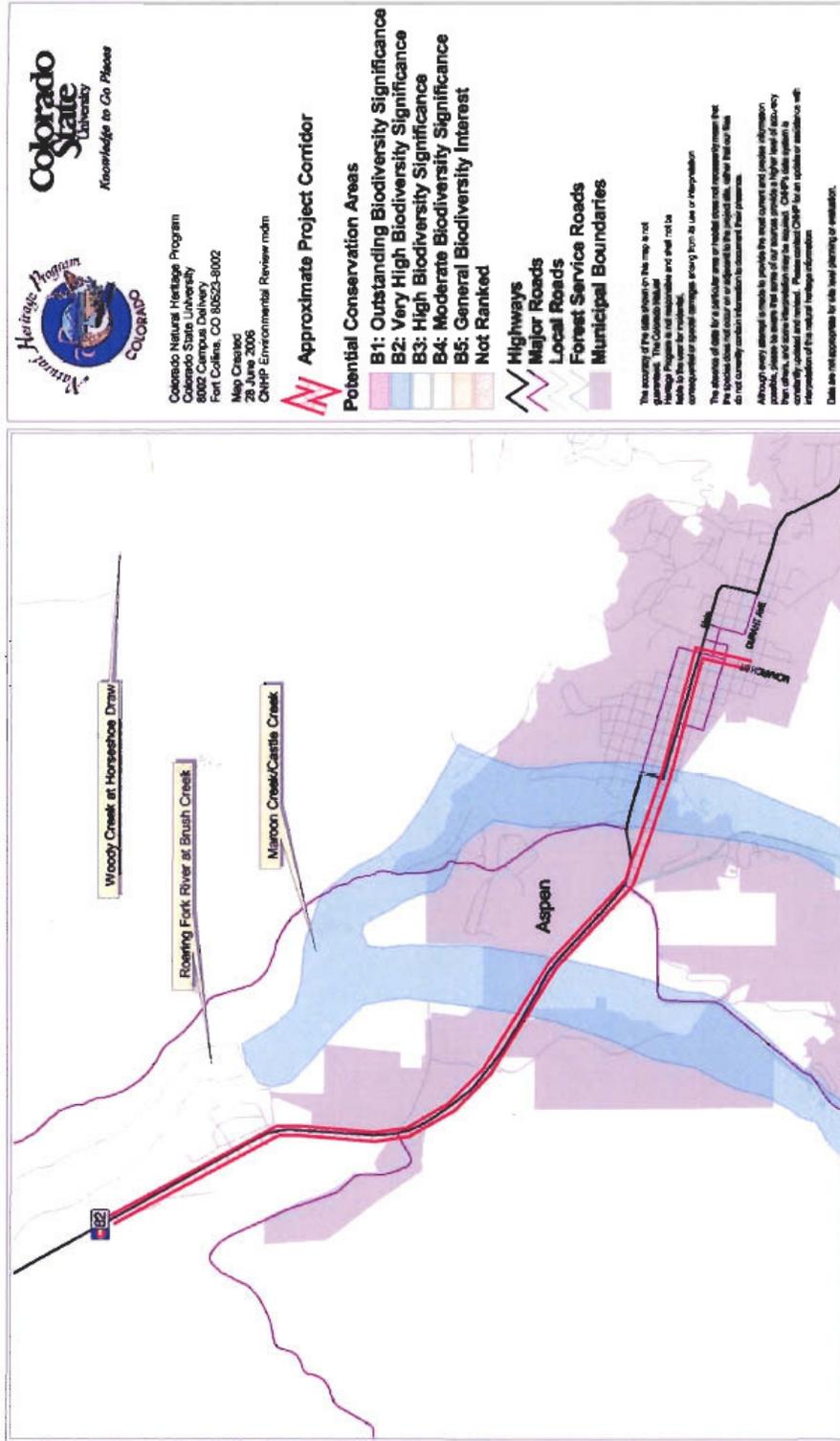
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Attachment 1

**Colorado Natural Heritage Program
Biodiversity Tracking and Conservation System (BIOTICS)
Database Search Results**

HDR Engineering, Inc.

CNHP Potential Conservation Areas (PCAs) Known from the Vicinity of the City of Aspen EIS Reevaluation Project Area





Locations and Status of Rare and/or Imperiled Species and Natural Communities known from or likely to occur within a one-mile radius of the City of Aspen EIS Reevaluation Project Area

Report generated: 28 June 2006

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EO ID	major group	scientific name	common name	Prec	last obs	Town/Range	Sec	TRS Note	grank	srank	ESA	fed stat	st stat
									G4T1Q	S1	D	USFS	SE
2,832	Amphibians	<i>Bufo boreas</i> pop. 1	Boreal Toad (Southern Rocky Mountain Population)	M	2005-09-09	010S083W 010S083W 010S084W 010S084W 010S084W 010S084W 010S084W 010S085W 011S083W 011S083W 011S083W 011S083W 011S083W 011S083W 011S083W 011S084W 011S084W 011S084W 011S084W 011S084W	35 36 05 07 18 20 33 12 01 02 06 08 09 01 02 03 04 12						
11,291	Mammals	<i>Lynx canadensis</i>	Lynx	G	1969-99-99	009S085W			G5	S1	H	LT	SE
1,988	Natural Communities	<i>Populus angustifolia</i> - <i>Picea pungens</i> / <i>Alnus incana</i> Woodland	Montane Riparian Forests	S	1997-08-26	010S085W	11		G3	S3	B		
7,875	Natural Communities	<i>Populus angustifolia</i> - <i>Picea pungens</i> / <i>Alnus incana</i> Woodland	Montane Riparian Forests	S	1997-08-27	009S085W 010S085W	35 02		G3	S3	C		
1	Natural Communities	<i>Populus angustifolia</i> - <i>Picea pungens</i> / <i>Alnus incana</i> Woodland	Montane Riparian Forests	S	1998-08-11	009S085W 009S085W 009S085W 009S085W 009S085W	16 21 27 28 34		G3	S3	B		

precision codes: S = "seconds", location known within 100m; M = "minutes", location known within 1 mile; G = "general", location known within 5 miles
page 1



Locations and Status of Rare and/or Imperiled Species and Natural Communities known from or likely to occur within a one-mile radius of the City of Aspen EIS Reevaluation Project Area

Report generated: 28 June 2006

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EO ID	major group	scientific name	common name	Prec	last obs	Town/ Range	Sec	TRS Note	grank	srank	60- rank	ESA	fed stat	st stat
5,249	Natural Communities	<i>Populus angustifolia</i> - <i>Picea pungens</i> / <i>Alnus incana</i> Woodland	Montane Riparian Forests	S	1998-08-20	010S085W	13		G3	S3	B			
7,778	Vascular Plants	<i>Limnorchis ensifolia</i>	Canyon bog-orchid	S	1998-08-20	010S085W			G4G5T4 ?	S3	C			

precision codes: S = "seconds", location known within 100m; M = "minutes", location known within 1 mile; G = "general", location known within 5 miles
page 2



Locations and Status of Rare and/or Imperiled Species and Natural Communities known from or likely to occur within a two-mile radius of the City of Aspen EIS Reevaluation Project Area

Report generated: 28 June 2006

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EO ID	major group	scientific name	common name	Prec	last obs	Town/Range	Sec	TRS Note	grank	srank	eo-rank	ESA	fed stat	sf stat	
2,832	Amphibians	<i>Bufo boreas pop. 1</i>	Boreal Toad (Southern Rocky Mountain Population)	M	2005-09-09	010S083W 010S083W 010S084W 010S084W 010S084W 010S084W 010S084W 010S085W 011S083W 011S083W 011S083W 011S083W 011S083W 011S083W 011S084W 011S084W 011S084W 011S084W 011S084W	35 36 05 07 18 20 33 12 01 02 06 08 09 01 02 03 04 12		G411Q	S1	D	USFS	SE		
11,291	Mammals	<i>Lynx canadensis</i>	Lynx	G	1969-99-99	009S085W			G5	S1	H	LT		SE	
1,988	Natural Communities	<i>Populus angustifolia</i> - <i>Picea pungens</i> / <i>Alnus incana</i> Woodland	Montane Riparian Forests	S	1997-08-26	010S085W	11		G3	S3	B				
7,875	Natural Communities	<i>Populus angustifolia</i> - <i>Picea pungens</i> / <i>Alnus incana</i> Woodland	Montane Riparian Forests	S	1997-08-27	009S085W 010S085W	35 02		G3	S3	C				
1	Natural Communities	<i>Populus angustifolia</i> - <i>Picea pungens</i> / <i>Alnus incana</i> Woodland	Montane Riparian Forests	S	1998-08-11	009S085W 009S085W 009S085W 009S085W 009S085W	16 21 27 28 34		G3	S3	B				

precision codes: S = "seconds", location known within 100m; M = "minutes", location known within 1 mile; G = "general", location known within 5 miles
page 1



Locations and Status of Rare and/or Imperiled Species and Natural Communities known from or likely to occur within a two-mile radius of the City of Aspen EIS Reevaluation Project Area

Report generated: 28 June 2006
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EO_ID	major group	scientific name	common name	Prec	last obs	Town/ Range	Sec	TRS Note	grank	srank	eo- rank	ESA	fed stat	sf stat
5,249	Natural Communities	<i>Populus angustifolia</i> - <i>Picea pungens</i> / <i>Alnus incana</i> Woodland	Montane Riparian Forests	S	1998-08-20	0105085W	13		G3	S3	B			
8,938	Natural Communities	<i>Populus angustifolia</i> - <i>Pseudotsuga menziesii</i> Woodland	Montane Riparian Forest	S	1997-08-26	0105085W 0105085W	15 22		G3	S2	B			
9,834	Natural Communities	<i>Quercus gambelii</i> / <i>Amelanchier utahensis</i> Shrubland	Mixed Mountain Shrubland	S	1998-09-03	009S084W 009S084W 009S084W 009S085W 009S085W	19 29 30 23 24		G3G5	SU	B			
177	Natural Communities	<i>Salix drummondiana</i> / <i>Calamagrostis canadensis</i> Shrubland	Lower Montane Willow Carrs	S	1997-08-28	0105085W	14		G3	S3	A			
7,778	Vascular Plants	<i>Limnorchis ensifolia</i>	Canyon bog-orchid	S	1998-08-20	0105085W			G4G5T4 ?	S3	C			

precision codes: S = "seconds", location known within 100m; M = "minutes", location known within 1 mile; G = "general", location known within 5 miles
 page 2

Potential Conservation Area (PCA) Report

Name Maroon Creek/Castle Creek Site Code S.USCOHP*10312

IDENTIFIERS

Site ID 1472 Site Class PCA

Site Alias None

Network of Conservation Areas (NCA)

NCA Site ID	NCA Site Code	NCA Site Name
-		No Data

Site Relations Shares northern boundary with Roaring Fork River at Brush Creek (S.USCOHP*10352).

LOCATORS

Nation United States Latitude 391143N
 State Colorado Longitude 1065100W

Quad Code Quad Name

39106-B7 Aspen

County

Pitkin (CO)

Watershed Code Watershed Name

14010004 Roaring Fork

Township/Range Section Meridian Note

Township/Range	Section	Meridian	Note
010S085W	13	6P	
010S085W	02	6P	
010S085W	14	6P	
009S085W	35	6P	
010S085W	12	6P	
010S085W	01	6P	
010S085W	15	6P	
010S085W	22	6P	
010S085W	11	6P	

SITE DESCRIPTION

Minimum Elevation - Feet - Meters

Maximum Elevation - Feet - Meters

Site Description

The headwaters of Castle and Maroon Creek begin at Castle Peak (14,265 feet) and the Maroon Peaks (14,014 feet and 14,156 feet) respectively. Both creeks flow northward toward Aspen and drain into the Roaring Fork River on the northeast edge of town. This PCA incorporates 1137 acres including narrow riparian zones on portions of Castle and Maroon Creeks and the Roaring Fork River. These riparian areas support four significant plant communities dominated by blue willow (*Salix drummondiana*), narrowleaf cottonwood (*Populus angustifolia*) or blue spruce (*Picea pungens*). The highest elevations of the PCA occur at approximately 8000 feet in two parallel narrow canyons with rocky cliffs and red sandstone derived soils. At the lower elevations the PCA opens into the Roaring Fork Watershed, at 7600 feet. This lower portion of the PCA is degraded and surrounded by residential development associated with the town of Aspen, a golf course, and the Aspen Highlands Ski Area. Roads associated with the above activities are plentiful and parallel the riparian areas within the PCA.

Key Environmental Factors

No Data

Climate Description

No Data

Land Use History

No Data

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Print Date 6/28/2006

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Potential Conservation Area (PCA) Report

Name Maroon Creek/Castle Creek

Site Code S.USCOHP*10312

Cultural Features

No Data

SITE DESIGN

Site Map Y - Yes

Mapped Date 05/03/1999

Designer Spackman, S.C.

Boundary Justification

The boundary encompasses the riparian communities and a very narrow buffer along the creeks to protect from direct disturbances. A much larger area, including the full watershed of both creeks needs to be considered when a plan is developed for the long-term viability of the communities of concern. Narrowleaf cottonwoods require periodic, above average, floods usually in June for seed germination and survival. Therefore, it is important to maintain a natural flooding regime.

Primary Area 1,138.17 Acres 460.60 Hectares

SITE SIGNIFICANCE

Biodiversity Significance Rank B2: Very High Biodiversity Significance

Biodiversity Significance Comments

This PCA includes six occurrences of two globally-vulnerable and two state-vulnerable plant communities with degraded conditions at lower elevations and higher quality conditions at higher elevations. The most significant occurrence within this PCA is a lower montane willow carr in excellent condition. This plant community is known from 19 locations in 8 counties in Colorado. This is the only occurrence of this particular willow association documented in the Roaring Fork Watershed. A small population of an orchid subspecies that is thought to be vulnerable on a global scale and is rare in Colorado was also documented in this PCA.

Other Values Rank No Data

Other Values Comments

No Data

LAND MANAGEMENT ISSUES

Land Use Comments

No Data

Natural Hazard Comments

No Data

Exotics Comments

No Data

Offsite

No Data

Information Needs

No Data

ASSOCIATED ELEMENTS OF BIODIVERSITY

Element State ID	State Scientific Name	State Common Name	Global Rank	State Rank	Driving Site Rank
24473	<i>Salix drummondiana</i> / <i>Calamagrostis canadensis</i> Shrubland	Lower Montane Willow Carrs	G3	S3	Yes
24823	<i>Populus angustifolia</i> - <i>Picea pungens</i> / <i>Alnus incana</i> Woodland	Montane Riparian Forests	G3	S3	No
24823	<i>Populus angustifolia</i> - <i>Picea pungens</i> / <i>Alnus incana</i> Woodland	Montane Riparian Forests	G3	S3	No
17391	<i>Limnorchis ensifolia</i>	Canyon bog-orchid	G4G5T4?	S3	No
24823	<i>Populus angustifolia</i> - <i>Picea pungens</i> / <i>Alnus incana</i> Woodland	Montane Riparian Forests	G3	S3	No
24692	<i>Populus angustifolia</i> - <i>Pseudotsuga menziesii</i> Woodland	Montane Riparian Forest	G3	S2	No

REFERENCES

Reference ID Full Citation

- No Data

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Print Date 6/28/2006

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Potential Conservation Area (PCA) Report

Name Maroon Creek/Castle Creek

Site Code S.USCOHP*10312

ADDITIONAL TOPICS

Additional Topics

No Data

VERSION

Version Date 05/03/1999

Version Author Spackman, S.C.

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Print Date 6/28/2006

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Potential Conservation Area (PCA) Report

Name Roaring Fork River at Brush Creek Site Code S.USCOHP*10352

IDENTIFIERS

Site ID 298 Site Class PCA

Site Alias Brush Creek at Roaring Fork River

Site Alias Brush Creek

Network of Conservation Areas (NCA)

NCA Site ID	NCA Site Code	NCA Site Name
-		No Data

Site Relations Shares southern boundary with the Maroon-Castle Creek site (S.USCOHP*10312).

LOCATORS

Nation United States Latitude 391437N

State Colorado Longitude 1065237W

Quad Code Quad Name

39106-B8 Highland Peak

39106-C8 Woody Creek

39106-B7 Aspen

County

Pitkin (CO)

Watershed Code Watershed Name

14010004 Roaring Fork

Township/Range	Section	Meridian	Note
009S085W	21	6P	
009S085W	35	6P	
009S085W	28	6P	
009S085W	27	6P	
009S085W	22	6P	
009S085W	34	6P	
009S085W	16	6P	

SITE DESCRIPTION

Minimum Elevation - Feet - Meters

Maximum Elevation - Feet - Meters

Site Description

The Brush Creek PCA is located on the Roaring Fork River between Aspen and Basalt. This stretch of the river is within a deep canyon. The canyon walls rise to about 7600 feet from the River at approximately 7200 feet. The vegetation at this PCA is composed of a montane riparian forest dominated by narrowleaf cottonwood (*Populus angustifolia*). The co-occurrence of narrowleaf cottonwood with blue spruce (*Picea pungens*) and alder (*Alnus incana*) makes this PCA significant. This community type follows the river for about 3 miles and is very narrow, but is in good condition. Uplands are dominated by oak-serviceberry (*Quercus gambelii*-*Amelanchier utahensis*) shrubland, sagebrush (*Artemisia tridentata*) shrublands, scattered Rocky Mountain juniper (*Juniperus scopulorum*) and outcrops of river cobbles and dark Mancos Shale. The shale outcrops support the Colorado endemic, Osterhout's penstemon (*Penstemon osterhoutii*). An old road/foot path, a power line, and an abandoned railroad track run adjacent to the occurrence for about 1-2 miles. These corridors are spreading non-native plants such as orchard grass (*Dactylis glomerata*), timothy (*Phleum pratense*), brome (*Bromus* sp.), and thistles (*Cirsium* spp.). The Brush Creek PCA includes approximately 450 acres.

Key Environmental Factors

No Data

Climate Description

No Data

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Print Date 6/28/2006

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Potential Conservation Area (PCA) Report

Name Roaring Fork River at Brush Creek

Site Code S.USCOHP*10352

Land Use History

No Data

Cultural Features

No Data

SITE DESIGN

Site Map Y - Yes

Mapped Date 05/06/1999

Designer Spackman, S.C.

Boundary Justification

The boundary is drawn to protect the significant community from direct disturbances. A much larger area should be considered to protect the specific hydrologic regime (water quality and natural flooding) of this PCA. Narrowleaf cottonwoods require periodic, above average, floods usually in June for seed germination and survival. Therefore, it is important to maintain a natural flooding regime.

Primary Area 453.72 Acres 183.61 Hectares

SITE SIGNIFICANCE

Biodiversity Significance Rank B4: Moderate Biodiversity Significance

Biodiversity Significance Comments

This site supports a good (B-ranked) example of a globally apparently secure (G4S4) riparian plant community (*Populus angustifolia*-*Picea pungens*/*Alnus incana*). The lower reaches of the Roaring Fork River Valley have been fragmented by residential, recreational, and agricultural developments. High quality riparian areas are few and far between because of this fragmentation. This site contains an example of a relatively large remnant of a once larger riparian forest. This specific community type is known from 71 locations in Colorado, however, only 15 of these are considered to be in excellent condition. Two of these are found in the Roaring Fork Watershed, along Avalanche Creek, and along Middle Thompson Creek.

Other Values Rank No Data

Other Values Comments

No Data

LAND MANAGEMENT ISSUES

Land Use Comments

No Data

Natural Hazard Comments

No Data

Exotics Comments

No Data

Offsite

No Data

Information Needs

No Data

ASSOCIATED ELEMENTS OF BIODIVERSITY

Element State ID	State Scientific Name	State Common Name	Global Rank	State Rank	Driving Site Rank
24823	<i>Populus angustifolia</i> - <i>Picea pungens</i> / <i>Alnus incana</i> Woodland	Montane Riparian Forests	G3	S3	Yes

REFERENCES

Reference ID Full Citation

- No Data

ADDITIONAL TOPICS

Additional Topics

No Data

VERSION

Version Date 06/30/2003

Version Author Bell, J.B.

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Print Date 6/28/2006

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Colorado Natural Heritage Program Terminology Cheat Sheet For Conservation Data Provided in Environmental Review Reports & Program Related Web-links



Selected Web Links:

Colorado Natural Heritage Program: CNHP is a leading source in the state for the biodiversity information that is essential for effective planning and successful conservation efforts. CNHP is a nonprofit organization, and is a sponsored program of the College of Natural Resources, Department of Fishery and Wildlife Biology at Colorado State University. We are also a member of the Natural Heritage Network, an international network of partners that use the same scientific methodology to enable planners, scientists and policy-makers to monitor the status of species and natural communities from state, national, and global perspectives.

<http://www.cnhp.colostate.edu/> - CNHP's home page. See related links on our home page to products and services available such as environmental review, data requests, biological assessments, publications, and more. Staff contacts are available here as well.

CSU:

<http://welcome.colostate.edu/> - We are an independent non-profit that is a sponsored program at Colorado State University, but other state natural heritage programs are often a part of state government.

<http://www.cnr.colostate.edu/> - The College of Natural Resources at CSU.

<http://www.cnr.colostate.edu/FWB/> - The Department of Fishery and Wildlife Biology at CSU.

NatureServe: NatureServe works in partnership with 85 independent Natural Heritage programs and Conservation Data Centers that gather scientific information on rare species and ecosystems in the United States, Latin America, and Canada (the Natural Heritage Network).

<http://www.natureserve.org/> - also see conservation information and data available on

<http://www.natureserve.org/explorer/> for detailed information on species and natural communities.

Environmental Review Report Attribute Definitions

Attribute_Label: **Highest EO Rank**

Attribute_Label_Definition:

The EO rank assigned to each occurrence represents a comparative evaluation summarizing several factors. These include quality (how closely the occurrence matches the EO specifications including maturity, size, numbers, etc.), condition (how much has the site and the element occurrence itself has been damaged or altered from its optimal condition and character), viability (the long-term prospects for continued existence of the occurrence), and defensibility (the extent to which the occurrence can be protected from anthropogenic factors that might otherwise degrade or destroy it). The rank is assigned on the basis of recent fieldwork by a knowledgeable individual. The best occurrence of an element in a state may not necessarily be assigned an "A" rank. It may be assigned a lower rank if somewhere else in the element's global range, there are occurrences that merit a higher rank. Blank values indicate that the rank is under scientific review.

Attribute_Domain_Values:

A - Excellent
B - Good
C - Fair
D - Poor
E - Extant (existence verified, but quality cannot be assessed)
F - Failed to find
H - Historical
I - Introduced
O - Obscure
X - Extirpated
*Split ranks indicate uncertainty about the assigned rank

Attribute_Label: **Global Rank**

Attribute_Label_Definition:

The global element rank that best characterizes the relative rarity or endangerment of the element worldwide. Global ranks are derived primarily by staff at the Central Heritage Conservation Science Department, unless CNHP has lead responsibility for that element.

Attribute_Domain_Values:

G1 - Globally critically imperiled; typically 5 or fewer occurrences
G2 - Globally imperiled; typically 6 to 20 occurrences
G3 - Globally vulnerable; typically 21 to 100 occurrences
G4 - Globally apparently secure; usually > 100 occurrences
G5 - Globally demonstrably secure although it may be rare in parts of its range
G#G# - A range between two of the numeric ranks; indicates uncertainty about the rarity of the element
G? - Unranked; element is not yet ranked globally
GU - Unrankable; not enough information is known
GH - Historically known with hopes of rediscovery

GX - Extinct; unlikely to be rediscovered
T# - Rank applies to a subspecies or variety
Q - Taxonomic status is questionable
C - Element is extant only in captivity or cultivation
*Other factors, in addition to the number of occurrences, may be considered when assigning a global rank

Attribute_Label: State Rank

Attribute_Label_Definition:

The state element rank that best characterizes the relative rarity or endangerment of the element statewide. State ranks are derived by CNHP staff.

Attribute_Domain_Values:

S1 - State critically imperiled; typically 5 or fewer occurrences
S2 - State imperiled; typically 6 to 20 occurrences
S3 - State vulnerable; typically 21 to 100 occurrences
S4 - State apparently secure; usually > 100 occurrences
S5 - State demonstrably secure
S#S# - A range between two of the numeric ranks; indicates uncertainty about the rarity of the element
S? - Unranked; element is not yet ranked in the state
SU - Unrankable; not enough information is known
SH - Historically known with hopes of rediscovery
SX - Extinct; unlikely to be rediscovered
SE - An exotic established in the state; native to a nearby region
SA - Accidental; includes species (usually birds or butterflies) recorded once or twice or only at very great intervals, hundreds or thousands of miles outside their usual range
B - Rank refers to the breeding population of the element
N - Rank refers to the nonbreeding population of the element
C - Element is extant only in captivity or cultivation
*Other factors, in addition to the number of occurrences, may be considered when assigning a state rank

Attribute_Label: Fed Listed

Attribute_Label_Definition:

The federal legal status of the species as assigned by the U.S. Fish and Wildlife Service.

Attribute_Domain_Values:

C - ESA candidate
LE - Listed endangered
LE-PDL - Listed endangered, proposed delisting
LT - Listed threatened
PT - Proposed threatened
(PS) - Partial status; infraspecific taxon or population has federal status but the entire species does not - status in only a portion of the species' range
(LE-XN) - Listed as endangered; a nonessential experimental population exists in Colorado

*Blank values indicate no federal legal status per USFWS

Attribute_Label: **Fed Sens**

Attribute_Label_Definition:

Denotes species considered sensitive by the U.S. Forest Service and/or the Bureau of Land Management (does NOT include ESA status).

Attribute_Domain_Values:

BLM - Legal status assigned by the Bureau of Land Management

FS - Legal status assigned by the U.S. Forest Service

FS/BLM - Legal status assigned by both the U.S. Forest Service and the Bureau of Land Management

*Blank values indicate no federal legal status per BLM or USFS

Attribute_Label: **State Listed**

Attribute_Label_Definition:

The state legal status of vertebrate or invertebrate species as assigned by the Colorado Division of Wildlife.

Attribute_Domain_Values:

E - State endangered; elements of native wildlife whose prospects for survival or recruitment within this state are in jeopardy

T - State threatened; elements that are not in immediate jeopardy of extinction, but are vulnerable due to small numbers, restricted throughout its range, or experiencing low recruitment or survival

SC- Special concern

*Blank values indicate no state legal status per CDOW

Attribute_Label: **Precision**

Attribute_Label_Definition:

Precision refers to the accuracy of the location of the element occurrence. CNHP compiles data from a variety of sources including published and unpublished literature, herbaria and museum labels, personal communication, and documentation of actual field surveys conducted by CNHP staff, Forest Service personnel, or other knowledgeable individuals. The level of spatial uncertainty, then, varies from occurrence to occurrence.

Attribute_Domain_Values:

S - Seconds precision; essentially an "X" marks the spot"; mapable to within approximately 3 arc seconds of latitude and longitude

M - Minutes precision; mapable within approximately 2 square miles

G - General precision; mapable within approximately two USGS 7.5 minute quadrangles

Data Dictionary for Potential Conservation Area Transcription Reports from the Colorado Natural Heritage Program

This Data Dictionary defines terms used in Potential Conservation Area (PCA) Reports exported by the Colorado Natural Heritage Program (CNHP) from our Biodiversity Tracking and Conservation System (BIOTICS) database.

Introduction to Potential Conservation Areas

In order to successfully protect populations or occurrences, it is necessary to delineate conservation areas. These potential conservation areas focus on capturing the ecological processes that are necessary to support the continued existence of a particular element of natural heritage significance. Potential conservation areas may include a single occurrence of a rare element or a suite of rare elements or significant features.

The goal of the process is to identify a land area that can provide the habitat and ecological processes upon which a particular element or suite of elements depends for their continued existence. The best available knowledge of each species' life history is used in conjunction with information about topographic, geomorphic, and hydrologic features, vegetative cover, as well as current and potential land uses. The proposed boundary does not automatically exclude all activity. It is hypothesized that some activities will cause degradation to the element or the process on which they depend, while others will not. Consideration of specific activities or land use changes proposed within or adjacent to the preliminary conservation planning boundary should be carefully considered and evaluated for their consequences to the element on which the conservation unit is based.

Element Occurrence

An Element Occurrence (EO) is defined as a specific example of an Element at a geographic location characterized by a habitat capable of sustaining or contributing to the survival of the species, or by a landscape that supports the ecological integrity of the community.

Element

A biodiversity unit of conservation attention and action for which a Heritage Conservation Status Rank is assigned.

Elements may be recognized at any taxonomic level (although typically are only recognized at the species level and below for organisms, and the Ecological System, Alliance, and Association levels for communities).

Elements may also be recognized for biodiversity units for which there is no systematic hierarchy (e.g., animal assemblages, community Complexes).

Elements may be native or exotic at a particular location and collectively represent the full array of biological and ecological diversity for the geographic area covered. Elements may serve as the targets of Heritage inventory. Typically, these targets include native, regularly occurring vulnerable species (including infraspecific taxa and populations) and exemplary ecological communities.

REPORT HEADER

Name

The official CNHP site name, usually corresponding to a local place name or nearby geographic feature.

Site Code

Unique identifier previously used in the BCD for a site record.

IDENTIFIERS

Site ID

Unique identifier for a site.

Site Class

Value that indicates whether a site is a Potential Conservation Area (PCA) or Network of Conservation Areas (NCA).

Domain values for Site Class are:

PCA

NCA

Site Alias

Other names commonly associated with the PCA. These can include informal names, old site names, names used by other offices or cooperating organizations, or the original survey site name.

Network of Conservation Areas (NCA)

A Network of Conservation Areas (NCA) will fit one of the following definitions:

A. A landscape area that encompasses Potential Conservation Areas (PCAs) that share similar species or natural communities and ecological processes. NCAs include unoccupied or unsurveyed areas that are within the same ecological system that the species or natural communities require. NCAs contain PCAs with an obvious repeating pattern (that is, the same species or natural communities are in each associated PCA).

B. A mostly intact, lightly fragmented landscape that supports wide-ranging species and large scale disturbances. NCAs include unoccupied or unsurveyed areas that demonstrate the connectivity of the landscape. NCAs contain PCAs that may occur at a variety of ecological scales.

NCA Site ID

Site ID of the NCA associated with this PCA.

NCA Site Code

Site code of the NCA associated with this PCA.

NCA Site Name

Official CNHP site name of the NCA associated with this PCA.

Site Relations

Comments that explain the relationship between this site and any nested, overlapping, or adjacent sites.

LOCATORS

Nation

State

July 2005

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Latitude

Degrees, Minutes, Seconds. Datum is NAD 27. Calculated in GIS.

Longitude

Degrees, Minutes, Seconds. Datum in NAD 27. Calculated in GIS.

USGS 7.5 Minute Quadrangle

Calculated in GIS.

Quad Code

Quad Name

County

Calculated in GIS.

Watershed Code

8 digit U.S.G.S. hydrological unit code. Calculated in GIS.

Watershed Name

U.S.G.S. watershed name. Calculated in GIS.

Township/Range/Section (TRS) - Public Land Survey System

Calculated in GIS.

Township/Range

Section

Meridian

TRS Note

Site Directions [provided with Level 1 data only]

Specific directions to the site provided by the designer or version author.

SITE DESCRIPTION

Minimum Elevation

Minimum elevation provided by the designer or version author.

Maximum Elevation

Maximum elevation provided by the designer or version author.

Site Description

General visual description (or word picture) of the principal physical and natural features on the site.

Key Environmental Factors

Description of the driving factors or key environmental variables that are known to exert a major influence on the biota at the site (e.g., seasonal flooding, wind, soil type).

Climate Description

General comments concerning climate and weather patterns, wind patterns, seasonal and annual variations, as well as temperature and precipitation patterns characteristic of the site.

Land Use History

Comments concerning past land uses on this site (such as mining, logging, shifting cultivation, etc.).

Cultural Features

Comments concerning any historic, cultural, or archaeological features found on the site (e.g., pictographs, petroglyphs, burial mounds, prehistoric artifacts).

SITE DESIGN**Site Map**

Indicates whether a site boundary was field verified or drawn from desktop references.

Domain values for Site Map are:

- P – partial; drawn from desktop references
- Y – field verified by CNHP personnel

Mapped Date

Date site boundary was last redrawn.

Designer

CNHP biologist responsible for drawing the site boundary.

Boundary Justification

Explanation of the biological rationale used to determine the ecological boundaries for the site.

Primary Area

Area of PCA polygon. Calculated in GIS.

SITE SIGNIFICANCE**Biodiversity Significance Rank**

Value that indicates the rating that best describes the significance of the site in terms of its biological diversity.

Domain values for Biodiversity Significance are:

- B1: Outstanding Biodiversity Significance
- B2: Very high Biodiversity Significance
- B3: High Biodiversity Significance
- B4: Moderate Biodiversity Significance
- B5: General interest/open space
- B?: Unknown

Biodiversity Significance Comments

Comments that justify the rating assigned for the site in the Biodiversity Significance field.

Other Values Rank

Value that indicates the rating that best describes the significance of the site in terms of its aesthetic, recreational, open space, and other ecological values; this includes its role in maintaining ecosystem health (e.g., by providing game and wildlife habitat, aquifer recharge functions, erosion control).

Domain values for Other Values are:

- V1 - Outstanding values
- V2 - High values
- V3 - Moderate values
- V4 - No known values
- V5 - Negative or counter values
- V? - Unknown
- (null) - Not assessed

Other Values Comments

Comments that justify the rating assigned for the site in the Other Values field.

Protection Urgency Rank [provided with Level 1 data only]

Value that indicates the rating that best describes the urgency to protect the site. The urgency for protection action (not to be confused with the urgency for management action) will generally increase with impending threats to the site until legal, political, or other administrative measures are taken.

Domain values for Protection Urgency are:

- P1 - Immediately threatened/outstanding opportunity
- P2 - Threat/opportunity within 5 years
- P3 - Definable threat/opportunity, but not within 5 years
- P4 - No threat or special opportunity
- P5 - No action to be taken on this site
- P? - Unknown

Protection Urgency Comments [provided with Level 1 data only]

Comments that justify the rating assigned for the site in the Protection Urgency field.

Management Urgency Rank [provided with Level 1 data only]

Value that indicates the rating that best describes the urgency to manage one or more Elements at the site. The urgency for management action (not to be confused with the urgency for legal protection action) requires stewardship intervention in order to maintain EOs at the site.

Domain values for Management Urgency are:

- M1 - Essential within 1 year to prevent loss
- M2 - Essential within 5 years to prevent loss
- M3 - Needed within 5 years to maintain quality
- M4 - Not needed now; no current threats; may need in future
- M5 - Not needed; no threats anticipated
- M? - Unknown

Management Urgency Comments *[provided with Level 1 data only]*

Comments that justify the rating assigned for the site in the Management Urgency field.

LAND MANAGEMENT ISSUES

Land Use Comments

Description of the current and past land use, improvements, and structures on the site.

Natural Hazard Comments

Description of the potential natural hazards (e.g., cliffs, caves, waterfalls) on the site, along with any precautions that should be taken by stewards.

Exotics Comments

Description of potentially damaging exotic (i.e., alien) flora and fauna (e.g., kudzu, honeysuckle, purple loosestrife, periwinkle, English ivy, feral goats, pigs) on the site.

Offsite

Description of off-site land uses (e.g., farming, logging, grazing, dumping, watershed diversion), and how these uses might affect the site, Elements on the site, and management of the site.

Information Needs

Summary of the information that is still needed in order to effectively manage the site and Elements on it.

Management Needs *[provided with Level 1 Data only]*

Summary of the expected management needs for the site and the Elements on it.

Managed Area Relations *[provided with Level 1 Data only]*

Explanation of the site/Managed Area relationship, if a Managed Area has been (or will be) established to protect the site.

Protection Comments *[provided with Level 1 Data only]*

Summary of the general level of protection currently afforded the site that indicates the current protection status of component Tracts.