

**RECOMMENDATIONS FOR WILDLIFE AND PLANT SURVEYS ON THE CITY OF
DURANGO'S
OXBOW PARK AND PRESERVE
Prepared by SME Environmental Consultants
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SUMMARY

- The City of Durango would like to determine if the Oxbow Park and Preserve should be subject to temporary/seasonal human use closures to limit impact to wildlife.
- Some members of the public have advocated that baseline wildlife surveys be completed prior to decisions on closures.
- The City could take the approach of assuming that human use during the most critical wildlife use periods (big game wintering and spring-early summer bird breeding) causes unacceptable impacts and on that basis institute closures without further information collection.
- If the City wants to collect site-specific information to help guide closures, the intensity and thus associated cost of wildlife surveys is dependent on the specific types of information that the City needs.
- Recommendations for different levels of information gathering are presented below in Table 1.

BACKGROUND

- Comments received by the City of Durango on the Oxbow Park and Preserve Draft Management Plan included requests that baseline wildlife surveys be conducted as part of the management planning process. The expressed purpose of such surveys would be to determine which wildlife species use the Oxbow property and therefore might be impacted by public use. Public comments expressed concerns for big game (deer, elk, bear and mountain lion), coyotes, songbirds, birds of prey, shorebirds, waterbirds, small mammals, and reptiles. The only obvious group of wildlife species not mentioned is amphibians, which are undoubtedly present on the site.
- The City is considering seasonal closures to protect wildlife values on the site. As a high-quality riparian area, there is no question that the Oxbow property supports a broad array of bird and mammal species year long; a large number of breeding bird species, including some waterfowl; and some bird species that are primarily migrants including many waterfowl and shorebird species which use the site in the spring and fall. Small mammals are year-long residents, while big game mammals (elk, mountain lion and black bear) use the property either

seasonally or as transients. Mule deer are an exception among big game animals in that they use the site year round.

- Colorado Parks and Wildlife (CPW), in their letter of 11 June 2013, noted that their mapping indicates use by bald eagle, black bear, mountain lion, Canada goose, mule deer, elk, peregrine falcon and wild turkey. In addition, they stated that the area is used by passerines (i.e., songbirds), shorebirds, and waterbirds that the agency does not map. The area is also certainly used by an array of medium sized mammals, such as skunks and raccoons, and a variety of small mammals including mice and voles.
- Protection of wildlife from human disturbance is most important during big game wintering (early December through mid-April) and the spring breeding season for birds (April through the end of June). While bird breeding can occur later in the summer, most breeding occurs before July. Given the wildlife values of riparian sites, and the known use information provided by CPW, the City could justify closing the Oxbow Park and Preserve to human use from mid-November through the end of June on an annual basis using that information alone. Closures for big game wintering could be flexible based on current weather conditions (usually snow cover) as the BLM and U.S. Forest Service have done in recent years. Closures on those federal public lands have started as early as late November and as late as the end of January. Closures are typically in place until April, again depending on conditions. The purpose of the April through June portion of the closure would be to protect nesting birds, with benefits for other wildlife (medium and small mammals, reptiles and amphibians) during their breeding seasons.
- If the City wishes to have site-specific information on wildlife species using the area, on-site wildlife surveys would need to be conducted. Such surveys can take a variety of approaches and levels of intensity/cost depending on the type of information that the City wishes to collect.
- The opportunity to use carefully designed wildlife monitoring efforts as an educational tool should also be considered.

RECOMMENDATIONS

The goal of wildlife surveys would be to determine the presence of wildlife species that could benefit from human use closures. Because Colorado Parks and Wildlife has mapped the seasonal distributions of a number of wildlife species in the Animas Valley, and because the value of healthy riparian areas for a wide variety of wildlife species is well established, the City could institute closures without gathering any further information. Closures for wintering big game (primarily elk) could be modeled after

existing seasonal closures implemented on nearby BLM and U.S. Forest Service lands. A closure to protect nesting birds and other breeding animals (mammals, reptiles and amphibians) could be based on established nesting dates for the majority of bird breeding activities, typically April through the end of June.

Alternatively, the City could conduct surveys to establish the presence of wildlife species throughout the year. Surveys for wintering big game are unlikely to yield any new useful information, and we do not recommend surveys for these species. Surveys for diurnal (active during the day) birds, nocturnal birds (primarily owls), medium and small mammals, bats, water related vertebrates (waterfowl, shorebirds, aquatic mammals, aquatic reptiles and amphibians) and terrestrial reptiles and amphibians are outlined in Table 1 below. It is our opinion that closures that protect breeding upland birds (i.e., passerines) would adequately protect breeding activities of all of these other groups, and we therefore recommend a focus on those birds. Spring closures based on the presence of breeding birds on the Oxbow Park and Preserve would adequately protect breeding activities for this array of wildlife species.

These recommendations presume that information about the presence of wildlife species, as opposed to information about their abundance or population trends or productivity is sufficient to institute closures. The simplest level of survey to provide this level of information would be to determine the presence of species on the site during different seasons. More intensive data collection would provide further support, but in our opinion is not necessary to establish a sound basis for closures. If information on abundance, trends, or productivity is desired, costs would rise substantially and the additional information would be unlikely to significantly influence decisions on protective closures. Such information would be useful, however, if the City desires to monitor the possible impacts of City management on wildlife species over time or to estimate populations sizes or population size trends.

Several rare plant species could occur on the site, but surveys would be needed to confirm presence or absence. No public comment was received regarding rare or imperiled plants.

GOALS

The type and intensity of wildlife surveys is dependent on the goals the City would like to achieve. Typical goals of wildlife baseline surveys, in order of increasing intensity and cost, are as follows:

- Wildlife species presence
- Relative abundance of wildlife species
- Estimation of wildlife population sizes

- Estimation of wildlife productivity (number of young produce per breeding pair/year)

In addition, the City may wish to monitor trends in any of the 4 goals above. Trend monitoring requires repeated surveys at an established time interval. The desire to monitor trends could affect the design of initial baseline surveys.

POSSIBLE METHODS

Birds

As stated above, the City could recognize the value of healthy riparian areas to a wide variety of bird species and institute a closure for the breeding season that would cover the majority of breeding activity for most species. Techniques for bird monitoring are better developed and tested than for most wildlife groups. Multiple techniques are available, with the amount of information provided positively correlated with cost. For the Oxbow Park and Preserve, simple presence inventories could provide a basis for specific protective wildlife closure recommendations.

Southwestern Willow Flycatcher

Potential habitat for the Southwestern willow flycatcher is present on the site. The flycatcher is listed as Endangered under the federal Endangered Species Act, and a detailed survey protocol exists. This species is relatively difficult to detect without focused approaches. If the City desires specific information on the presence of this species, surveys that adhere to the protocol should be conducted.

Mammals

Big game animal seasonal use areas have been mapped by CPW, and additional surveys on the Oxbow Park and Preserve would likely have little added value. Incidental observations of big game animals could take place while surveys for other species or groups are conducted, which would serve to confirm CPW information.

Medium and small mammals are not mapped by CPW. If protective closures were instituted based on protection of breeding birds, they would adequately protect these species during their breeding seasons. The City could gain site specific information by focused surveys for these species.

Medium sized mammals could be surveyed in a variety of ways. The simplest method would be to determine presence through direct observation and sign, including tracks and scat. If abundance information is desired, use of camera traps, trackplates, or live trapping and marking would be required.

Determining the presence of small mammals would require trapping, and live trapping would be preferred to lethal trapping. Again, protective bird breeding season closures would adequately protect breeding small mammals.

Bats require specialized techniques for determining presence, but human disturbance is less likely during the night when bats are most active, bats at daytime roosting sites are not likely to be disturbed by human use, and closures for other wildlife species would provide adequate protection for bat species on this site.

New Mexico Meadow Jumping Mouse

Potential habitat exists for the New Mexico meadow jumping mouse on the site. This species is proposed for listing as Endangered under the federal Endangered Species Act, and is likely to be listed in the near future. The U.S. Fish and Wildlife Service is in the process of developing a survey protocol for this species; surveys that adhere to the protocol should be conducted if the City desires specific information on the presence of this species.

Reptiles and Amphibians

Various species of reptiles and amphibians are likely to use the Oxbow Park and Preserve. If species specific information is desired, surveys could be done as simple visual encounters or through more intensive efforts such as call surveys (amphibians only) or trapping using drift fences and/or pitfall traps.

Plants

The Colorado Natural Heritage Program (CNHP) has identified several rare plant species that could occur in the Animas Valley; specific surveys would be needed to determine if any of them exist on the site. Most of Colorado's imperiled plants are naturally rare because they are restricted to very specific, narrowly distributed habitats, rather than as a result of human actions. However, because these species occupy small areas, planning is necessary to avoid placing these species at further risk from human activities. Degradation, fragmentation, and loss of habitat are major reasons plant species and their habitats are imperiled or vulnerable in Colorado. Recreational use on the Oxbow Park and Preserve could negatively affect these species. These species include:

- Narrowleaf grape fern, *Botrychium lineare*
- Porter feathergrass, *Ptilagrostis porteri*
- Parish's alkali grass, *Puccinellia parishii*
- Arizona willow, *Salix arizonica*
- Pale blue-eyed-grass, *Sisyrinchium pallidum*

- James telesonix, *Telesonix jamesii*

Table 1. Potential wildlife and plant survey techniques for the City of Durango’s Oxbow Park and Preserve.

| Species/Group | Technique | Information Provided | | |
|---|---|-----------------------|---------------------------------|---|
| | | Presence ¹ | Relative Abundance ² | Comments |
| Big Game Mammals (Elk, Deer, Black Bear, Mountain Lion) | Accept CPW information | x | | Big game distribution is well known; CPW information combined with low intensity monitoring could guide annual closures |
| | On-site visual encounter surveys | x | | Would verify CPW information, relatively inexpensive |
| | Cameras and track plates | x | x | Moderately intensive and expensive |
| | Mark/recapture | x | x | Very intensive and expensive |
| Medium Mammals | On-site visual encounter surveys | x | | Relatively inexpensive |
| | Cameras and track plates | x | x | Moderately intensive and expensive |
| | Mark/recapture | x | x | Very intensive and expensive |
| Bats | Mistnets and acoustic surveys | x | x | Bat monitoring is specialized and relatively costly. Management for passerine birds would provide protection for bats |
| Passerine Birds | On-site visual /audio encounter surveys | x | | Relatively inexpensive |
| | Breeding Bird Atlas Methods | x | | Relatively inexpensive, but more intensive than visual surveys. Adds confirmation of breeding |
| | Point Counts | x | x | Moderately intensive and expensive. Could be combined with Atlas methods to confirm breeding. |
| | Mark/recapture | x | x | Very intensive and expensive |
| | Monitoring Avian Production and Survival (MAPS) methods | x | x | Most intensive and expensive. Provides the most information, but likely not needed. |

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| Nocturnal Birds (primarily owls) | Nocturnal broadcast surveys and visual encounter surveys | x | | Relatively inexpensive. Nocturnal birds require focused techniques. Unlikely to add significant information regarding wildlife protection closures |
| | Breeding Bird Atlas Methods | x | | Relatively inexpensive, but more intensive than visual surveys. Adds confirmation of breeding |
| | Point Counts | x | x | Moderately intensive and expensive. Could be combined with Atlas methods to confirm breeding |
| | Mark/recapture | x | x | Very intensive and expensive |
| | Monitoring Avian Production and Survival (MAPS) methods | x | x | Most intensive and expensive. Provides the most information, but likely not needed. |
| | | | | |
| Waterfowl and shorebirds; other aquatic vertebrates | Visual encounter surveys and point counts at aquatic sites | x | x | Moderately intensive and expensive. Could be combined with Atlas methods to confirm breeding |
| | | | | |
| Bald Eagle | Accept CPW information | x | | CPW information combined with low intensity monitoring could guide annual closures |
| | Visual encounter surveys | x | | Would provide more site-specific information. |
| | Nest Monitoring | x | | Would provide information on nest productivity which could be monitored over time |
| | | | | |
| Small Mammals | Live trapping | x | x | Can be designed to provide an estimate of abundance |
| | Mark/recapture | x | x | More intensive and expensive |
| | | | | |
| Reptiles and Amphibians | Visual encounter surveys | x | | Relatively inexpensive , but may not be effective for identifying usage by reclusive and/or nocturnal species. |
| | Call surveys (Amphibians | X | X | Relatively inexpensive, but would need to be conducted at night during breeding season. Use |

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| | only) | | | of automated recorders likely to increase number of species identified, but also increases cost. |
| | Mark/recapture | x | x | More intensive and expensive |
| | | | | |
| Plants | Line transects or quadrat surveys | x | x | No public comments on rare plants |

¹Visual encounter surveys conducted at different seasons would be needed to support dates of closures

²Surveys must be intentionally designed to collect data for abundance estimates