

ATTACHMENT SS2

REGION 2 SENSITIVE SPECIES EVALUATION FORM

Species: <b>Baird's sparrow (<i>Ammodramus bairdii</i>)</b>			
Criteria	Rank	Rationale	Literature Citations
<b>1</b> Distribution within R2	<b>A</b>	Breeding Baird's sparrows in Region 2 are uncommon although the species is a common transient throughout Region 2. A few breeding records are known from Fort Pierre and Thunder Basin National Grasslands.  Confidence in Rank <b>Medium</b>	•
<b>2</b> Distribution outside R2	<b>C</b>	BREEDING: southeastern Alberta, southern Saskatchewan, and southern Manitoba south to central and eastern Montana, northeastern Wyoming, southern South Dakota, southeastern North Dakota, and northwest-central Minnesota.  Confidence in Rank <b>High</b>	• <a href="http://www.natureserve.org">www.natureserve.org</a>
<b>3</b> Dispersal Capability	<b>C</b>	Although the species' breeding distribution is restricted to the northern Great Plains, there are no known hindrances to the species' dispersal within its range.  Confidence in Rank <b>Medium</b>	•
<b>4</b> Abundance in R2	<b>B</b>	There are no abundance data for Region 2. However, the 1967 population in North Dakota was estimated at 369,000 pairs (Stewart and Kantrud 1972). However, BBS data indicate a 2.58 percent annual decline from 1966-1990 (Johnson and Schwartz 1993); this rate of decline would give a 1990 estimate of 202,000 pairs. More recently, estimated 224,700 breeding pairs in North Dakota for 1992-1993 (Johnson and Igl 1995). Wershler (1990, in Goossen et al. 1993) estimated there were 9300+ males in Alberta. At the Last Mountain Lake site in Saskatchewan (Goossen et al. 1993) there are an estimated 2500 males on 10,360 hectares. Recent point counts (n = 1739) in Saskatchewan calculated populations of 960,000 singing males for the province (530,000 - 1,510,000; 95 percent confidence interval; Skeel et al. 1995, Duncan et al. 1996). In 1994, estimated 600,000 in prairies of Canada (Canadian Wildlife Service 1999).  Confidence in Rank <b>High</b>	• <a href="http://www.natureserve.org">www.natureserve.org</a>

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<p><b>5</b> Population Trend in R2</p>	<p><b>B</b></p>	<p>North American Breeding Bird Survey (BBS) indicates a non-significant decline for 1966-1996 (-1.6 percent annual change, P = 0.29; n = 115; Sauer et al. 1997). Significant decline, however, recorded survey-wide for 1966-1979 (-4.7 percent annual change; P = 0.02; n = 52). This is added to apparent historical declines of habitat: 80 percent of short-grass and 75 percent of mixed grass prairie (Joyce 1990). Declined 35-55 percent in Canadian prairie provinces, 1970-1985 (De Smet and Miller 1989). Formerly a resident throughout the Red River Valley in northwest and north-central Minnesota (Green and Janssen 1975) but is currently only known at one site (Pfanmuller, pers. comm.). Before 1880, were so common in some areas of North Dakota that they outnumbered all of the other birds combined (Lane 1968). Since the 1880's, 75 percent of the virgin prairie and 50 percent of the wetlands in North Dakota have been lost (Dryer, pers. comm.), and the numbers have been drastically reduced (Stewart 1975). Significant decline recorded by BBS for 1966-1979 in North Dakota (-4.5 percent annual change; P = 0.05; n = 12). Range has decreased in the east. Although estimated occurrence and population numbers still appear substantial, the restricted range, spotty distribution, recent rapid and long-term population and range declines, few protected occurrences, and apparent habitat selectivity are cause for concern. Listed as threatened by COSEWIC (Committee on the Status of Endangered Wildlife in Canada) of the Canadian Wildlife Service in 1989 but delisted in 1996. The species is viewed as imperiled in South Dakota, critically imperiled in Wyoming, and a transient elsewhere in Region 2.</p> <p>Confidence in Rank <b>Medium</b></p>	<ul style="list-style-type: none"> <li>• <a href="http://www.natureserve.org">www.natureserve.org</a></li> </ul>

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<b>6</b> Habitat Trend in R2	<b>A</b>	<p>Baird's Sparrows prefer idle native or idle tame grasslands, and lightly to moderately grazed pastures (Owens and Myers 1973, Stewart 1975, Kantrud and Kologiski 1982, De Smet and Conrad 1991, Skeel et al. 1995, Sutter 1996, Davis and Duncan 1999). They sometimes use planted cover (e.g., Conservation Reserve Program and dense nesting cover), dry wetland basins, wet meadows, and dense stands of grass within hayland and cropland (Lane 1968, Stewart 1975, Renken 1983, Johnson and Schwartz 1993, Davis et al. 1996). General habitat requirements include moderately deep litter; vegetation height of &gt;20 cm but &lt;100 cm; moderately high, but patchy, forb coverage; patchy grass and litter cover; and little woody vegetation. Shrub cover in areas occupied by Baird's Sparrows is lower than in random areas (Dale 1983, Arnold and Higgins 1986, Madden 1996, Green and Jones in prep.), and shrub cover &gt;25% may negatively impact habitat suitability (Sousa and McDonal 1983). In Manitoba, however, Baird's Sparrow densities were high in pastures with 10-50% shrub cover and &gt;50% shrub cover, but dense shrub patches were avoided (De Smet and Conrad 1991). Most grasslands experience little rest, so habitat trend remains a concern.</p> <p>Confidence in Rank <b>Medium</b></p>	<ul style="list-style-type: none"> <li>• citations in references section</li> </ul>
<b>7</b> Habitat Vulnerability or Modification	<b>B</b>	<p>Habitat remains vulnerable because most grasslands are grazed with little rest between years.</p> <p>Confidence in Rank <b>Medium</b></p>	<ul style="list-style-type: none"> <li>•</li> </ul>
<b>8</b> Life History and Demographics	<b>B</b>		<ul style="list-style-type: none"> <li>•</li> </ul>
Initial Evaluator(s): John Sidle			Date: 08/30/2001

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National Forests in the Rocky Mountain Region where species is KNOWN (K) or LIKELY(L)<sup>1</sup> to occur:

<u>Colorado NF/NG</u>		<u>Kansas NF/NG</u>		<u>Nebraska NF/NG</u>		<u>South Dakota NF/NG</u>		<u>Wyoming NF/NG</u>	
Known	Likely	Known	Likely	Known	Likely	Known	Likely	Known	Likely
		Cimmaron NG		Samuel R.McKelvie NF		Black Hills NF		Shoshone NF	
				Halsey NF		Buffalo Gap NG	L	Bighorn NF	
				Nebraska NF		Ft. Pierre NG	K	Black Hills NF	
				Ogalala NG				Medicine Bow NF	
								Thunder Basin NG	K

<sup>1</sup> Likely is defined as more likely to occur than not occur on the National Forest or Grassland. This generally can be thought of as having a 50% chance or greater of appearing on NFS lands.

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### REFERENCES:

- Anstey, D. A., S. K. Davis, D. C. Duncan, and M. Skeel. 1995. Distribution and habitat requirements of eight grassland songbird species in southern Saskatchewan. Saskatchewan Wetland Conservation Corporation, Regina, Saskatchewan. 11 pages.
- Arnold, T. W., and K. F. Higgins. 1986. Effects of shrub coverages on birds of North Dakota mixed-grass prairies. *Canadian Field-Naturalist* 100:10-14.
- Berkey, G., R. Crawford, S. Galipeau, D. Johnson, D. Lambeth, and R. Kreil. 1993. A review of wildlife management practices in North Dakota: effects on nongame bird populations and habitats. Report submitted to Region 6. US. Fish and Wildlife Service, Denver, Colorado. 51 pages.
- Cartwright, B. W., T. M. Short, and R. D. Hams. 1937. Baird's Sparrow. *Transactions of the Royal Canadian Institute* 46:153-198.
- Dale, B. C. 1983. Habitat relationships of seven species of passerine birds at Last Mountain Lake, Saskatchewan. MS. thesis. University of Regina, Regina, Saskatchewan. 119 pages.
- Dale, B. C. 1984. Birds of grazed and ungrazed grasslands in Saskatchewan. *Blue Jay* 42:102-105.
- Dale, B. C. 1992. North American waterfowl management plan implementation program related to non-game studies within the Prairie Habitat Joint Venture area, Annual report 1991 -1992. Unpublished report. Canadian Wildlife Service, Saskatoon, Saskatchewan. 66 pages.
- Dale, B. C. and D. C. Duncan. in prep. North American Waterfowl Management Plan benefits - an evaluation of rotation and season long grazing in Saskatchewan. *Journal of Field Ornithology*.
- Dale, B. C., P. A. Martin, and P. S. Taylor. 1997. Effects of hay management regimes on grassland songbirds in Saskatchewan. *Wildlife Society Bulletin* 25:616-626.
- Dale, B. C., P. A. Martin, and P. S. Taylor. in review The impacts of two Eurasian grasses on the avian community in native mixed grass prairie habitat. *Conservation Biology*.
- Davis, S. K. 1994. Cowbird parasitism, predation and host selection in fragmented grasslands of southwestern Manitoba. M.S. thesis. University of Manitoba, Winnipeg, Manitoba. 77 pages.

## ATTACHMENT SS2

- Davis, S. K. and D. C. Duncan. 1999. Grassland songbird occurrence in native and crested wheatgrass pastures of southern Saskatchewan. Pages 211-218 *in* J. Herkert and P. Vickery, editors. Ecology and conservation of grassland birds of the Western Hemisphere. Studies in Avian Biology 19.
- Davis, S. K., D. C. Duncan, and M. A. Skeel. 1996. The Baird's Sparrow: status resolved. *Blue Jay* 54:385-191.
- Davis, S. K. and S. G. Sealy. 1998. Nesting biology of Baird's Sparrows in southwestern Manitoba. *Wilson Bulletin* 110:262-270.
- Davis, S. K., and S. G. Sealy. 2000. Cowbird parasitism and nest predation in fragmented grasslands of southwestern Manitoba. Pages 220-228 *in* J. N. M. Smith, T. L. Cook, S. I. Rothstein, S. K. Robinson, and S. G. Sealy, editors. Ecology and management of cowbirds and their hosts. University of Texas Press, Austin, Texas.
- Dechant, J. A., M. F. Dinkins, D. H. Johnson, L. D. Igl, C. M. Goldade, and R. Euliss. 2000. Effects of management practices on grassland birds: Brown-headed Cowbird. Northern Prairie Wildlife Research Center, Jamestown, N.D. Jamestown, N.D.: Northern Prairie Wildlife Research Center Home Page. <http://npwrc.usgs.gov/resource/literatr/grasbird/grasbird.htm>.
- De Smet, K. O. 1992. Manitoba's threatened and endangered grassland birds: 1991 update and five-year summary. Manuscript report 92-03, Manitoba Natural Resources, Winnipeg, Manitoba. 77 pages.
- De Smet, K. D., and M. P. Conrad. 1991. Management and research needs for Baird's Sparrows and other grassland species in Manitoba. Pages 83-86 *in* G. L. Holroyd, G. Bums, and H. C. Smith, editors. Proceedings of the second endangered species and prairie conservation workshop. Natural History Occasional Paper 15. Provincial Museum of Alberta, Edmonton, Alberta.
- Faanes, C. A. 1982. Avian use of Sheyenne Lake and associated habitats in central North Dakota. U.S. Fish and Wildlife Service, Resource Publication 144. 24 pages.
- Friedmann, H. 1963. Host relations of the parasitic cowbirds. *U.S. National Museum Bulletin* 233:1-276.
- Friedmann, H., and L. F. Kiff. 1985. The parasitic cowbirds and their hosts. *Proceedings of the Western Foundation of Vertebrate Zoology* 2:226-304.
- Green, M. T. 1992. Adaptations of Baird's Sparrow (*Ammodramus bairdli*) to grasslands: acoustic communication and nomadism. Ph.D. dissertation. University of North Carolina, Chapel Hill, North Carolina.
- Green, M. T., and S. L. Jones. in prep. Baird's Sparrow Conservation Plan: emphasis on avian species in the northern mid-grass prairie.

## ATTACHMENT SS2

- Hartley, M. J. 1994. Passerine abundance and productivity indices in grasslands managed for waterfowl nesting cover. *Transactions of the North American Wildlife and Natural Resources Conference* 59:322-327.
- Johnson, D. H. 1996. Management of northern prairies and wetlands for the conservation of Neotropical migratory birds. Pages 53-67 *in* F. R Thompson, III, editor. Management of midwestern landscapes for the conservation of Neotropical migratory birds. U.S.D.A. Forest Service, General Technical Report NC-187.
- Johnson, D. H. 1997. Effects of fire on bird populations in mixed-grass prairie. Pages 181-206 *in* F. L. Knopf and F. B. Samson, editors. Ecology and conservation of Great Plains vertebrates. Springer-Verlag, New York, New York.
- Johnson, D. H. and M. D. Schwartz. 1993. The Conservation Reserve Program: habitat for grassland birds. *Great Plains Research* 3:273-295.
- Johnson, R. G. and S. A. Temple. 1990. Nest predation and brood parasitism of tallgrass prairie birds. *Journal of Wildlife Management* 54:106-111.
- Kantrud, H. A. 1981. Grazing intensity effects on the breeding avifauna of North Dakota native grasslands. *Canadian Field-Naturalist* 95:404-417.
- Kantrud, H. A. and C. A. Faanes. 1979. Range expansion of Baird's Sparrow in South Dakota. *Prairie Naturalist* 11:111-112.
- Kantrud, H. A. and R. L. Kologiski. 1982. Effects of soils and grazing on breeding birds of uncultivated upland grasslands of the northern Great Plains. U.S. Fish and Wildlife Service, Wildlife Research Report 15. 33 pages.
- Lane, J. 1968. Baird's Sparrow. Pages 745-765 *in* A. C. Bent, editor. Life histories of North American cardinals, grosbeaks, buntings, towhees, finches, sparrows, and allies, part 2. Dover Publications Inc., New York, New York.
- Madden, E. M. 1996. Passerine communities and bird-habitat relationships on prescribe-burned, mixed-grass prairie in North Dakota. M.S. thesis. Montana State University, Bozeman, Montana. 153 pages.
- Madden, E. M., A. J. Hansen, and R. K. Murphy. 1999. Influence of prescribed fire history on habitat and abundance of passerine birds in northern mixed-grass prairie. *Canadian Field-Naturalist* 113:627-640.
- Maher, W. J. 1973. Matador Project: Birds I. Population dynamics. Canadian Committee for the International Biological Programme, Matador Project, Technical Report 34. University of Saskatchewan, Saskatoon, Saskatchewan. 56 pages.

## ATTACHMENT SS2

- Mahon, C. L. 1995. Habitat selection and detectability of Baird's Sparrow in southwestern Alberta. M.S. thesis. University of Alberta, Edmonton, Alberta. 70 pages.
- McMaster, D. G. and S. K. Davis. 1998. Non-game evaluation of the Permanent Cover Program. Unpublished report. Saskatchewan Wetland Conservation Corporation, Regina, Saskatchewan. 75+ pages.
- McMaster, D. G., J. H. Devries, and S. K. Davis. 1999. An integrated evaluation of cropland conversion in the Missouri Coteau of Saskatchewan: productivity of pintail and other grassland birds. Unpublished report. Saskatchewan Wetland Conservation Corporation, Regina, Saskatchewan; Institute for Wetland and Waterfowl Research, Oak Hammock Marsh, Manitoba; Ducks Unlimited Canada, Oak Hammock Marsh, Manitoba.
- Mengel, R. M. 1970. The North American Central Plains as an isolating agent in bird speciation. Pages 280-340 *in* W. Dort and J. K. Jones, editors. Pleistocene and recent environments of the central Great Plains. University of Kansas Press, Lawrence, Kansas.
- Messmer, T. A. 1990. Influence of grazing treatments on nongame birds and vegetation structure in south central North Dakota. Ph.D. dissertation. North Dakota State University, Fargo, North Dakota. 164 pages.
- National Geographic Society. 1987. Field guide to the birds of North America, second edition. National Geographic Society, Washington, D.C 464 pages.
- Owens, R. A. and M. T. Myres. 1973. Effects of agriculture upon populations of native passerine birds of an Alberta fescue grassland. *Canadian Journal of Zoology* 51:697-713.
- Prescott, D. R. C. and G. M. Wagner. 1996. Avian responses to implementation of a complementary/rotational grazing system by the North American Waterfowl Management Plan in southern Alberta: the Medicine Wheel Project. NAWMP-018. Alberta NAWMP Centre, Edmonton, Alberta. 24 pages.
- Pylypec, B. 1991. Impacts of fire on bird populations in a fescue prairie. *Canadian Field-Naturalist* 105:346-349.
- Renken, R. B. 1983. Breeding bird communities and bird-habitat associations on North Dakota waterfowl production areas of three habitat types. M.S. thesis. Iowa State University, Ames, Iowa. 90 pages.
- Renken, R. B. and J. J. Dinsmore. 1987. Nongame bird communities on managed grasslands in North Dakota. *Canadian Field-Naturalist* 101:551-557.

## ATTACHMENT SS2

- Rodenhouse, N. L., L. B. Best, R. J. O'Connor, and E. K. Bollinger. 1995. Effects of agricultural practices and farmland structures on Neotropical migratory birds. Pages 269-293 in T. E. Martin and D. M. Finch, editors. Ecology and management of Neotropical migratory birds: a synthesis and review of critical issues. Oxford University Press, New York, New York.
- Salt, W. R. and A. L. Wilk. 1958. The birds of Alberta. Department of Economic Affairs, Edmonton, Alberta. 295 pages.
- Saskatchewan Wetland Conservation Corporation (SWCC). 1997. Grassland bird conservation through Saskatchewan's native prairie stewardship program. Saskatchewan Wetland Conservation Corporation, Regina, Saskatchewan. 25 pages.
- Schneider, N. A. 1998. Passerine use of grasslands managed with two grazing regimes on the Missouri Coteau in North Dakota. M.S. thesis. South Dakota State University, Brookings, South Dakota. 94 pages.
- Skeel, M. A., D. C. Duncan, and S. K. Davis. 1995. Abundance and distribution of Baird's sparrow in Saskatchewan in 1994. Saskatchewan Wetland Conservation Cooperation, Regina, Saskatchewan. 13+ pages.
- Sousa, P. J. and W. N. McDonal. 1983. Habitat suitability index models: Baird's Sparrow. U.S. Department of the Interior, Fish and Wildlife Service FWS/OBS-82/10.44. 12 pages.
- Stewart, R. E. 1975. Breeding birds of North Dakota. Tri-College Center for Environmental Studies, Fargo, North Dakota. 295 pages.
- Sutter, G. C. 1996. Habitat selection and prairie drought in relation to grassland bird community structure and the nesting ecology of Sprague's Pipit, *Anthus spragueii*. Ph.D. thesis. University of Regina, Regina, Saskatchewan. 144 pages.
- Sutter, G. C., and R. M. Brigham. 1998. Avifaunal and habitat changes resulting from conversion of native prairie to crested wheat grass: patterns at songbird community and species levels. *Canadian Journal of Zoology* 76:869-875.
- Sutter, G. C., S. K. Davis, and D. C. Duncan. 2000. Grassland songbird abundance along roads and trails in southern Saskatchewan. *Journal of Field Ornithology* 71:110-116.
- Sutter, G. C., T. Troupe, and M. Forbes. 1995. Abundance of Baird's sparrows, *Ammodramus bairdii*, in native prairie and introduced vegetation. *Ecoscience* 2:344-348.
- Wershler, C., W. W. Smith, and C. Wallis. 1991. Status of the Baird's Sparrow in Alberta: 1987-1988 update with notes on other grassland sparrows and Sprague's Pipit. Pages 87-89 in G. L. Holroyd, G. Bums, and H. C. Smith, editors. Proceedings of the second endangered species and prairie conservation workshop. Natural History Occasional Paper 15. Provincial Museum of Alberta, Edmonton, Alberta.

## ATTACHMENT SS2

Winter, M. 1994. Habitat selection of Baird's Sparrows in the northern mixed-grass prairie. Diplomarbeit, Universitat Tuingen, Germany. 108 pages.

Winter, M. 1999. Relationship of fire history to territory size, breeding density, and habitat of Baird's Sparrow in North Dakota. Pages 171-177 *in* P. D. Vickery and R. Herkert, editors. Ecology and conservation of grassland birds of the Western Hemisphere. Studies in Avian Biology 19.