Sage Thrasher

Oreoscoptes montanus

Photo by Martin Meyers

Habitat Use Profile

Main Habitats Used in Nevada	Sagebrush Salt Desert
Key Habitat Use Parameters	Prefers larger patches uniformly dominated by sagebrush (typically big sagebrush) or greasewood, with low amounts of grass cover [p1] Prefers 30 – 60 cm average shrub height (though nest shrubs usually higher). high levels of vertical heterogeneity, and total shrub cover 11-44% [p1] Requires little understory; prefers high ratio of bare ground / herbaceous understory [p1] Sensitive to removal of sagebrush below 10% cover [p1] Sensitive to cheatgrass invasion [p1]
Minimum Patch Size	Territory size: 0.64-1.86 ha; requires overall large expanses of sagebrush [p8], but may be more tolerant of fragmentation than other sagebrush obligates [p1]

Conservation Profile

Priority Status	Stewardship Target
Reasons for Priority Status	High stewardship responsibility Potential threats
Other Rankings	Continental PIF: Stewardship Species Audubon Watchlist: None Natural Heritage: S5B USFWS: Bird of Conservation Concern (Great Basin), Migratory Bird BLM: None NDOW: Stewardship Species
Trends	Historical: Unknown Recent: Stable by BBS [i1], mixed in other analyses [p8]
Population Size and Stewardship %	Nevada (NBC): 1,550,000 Nevada (PIF): 3,820,000 Global: 7,900,000 [p5] Stewardship %: 20 – 48%
Population Objective	TBD
Monitoring Coverage	Source: Nevada Bird Count Coverage and Adequacy: Excellent
Key Conservation Areas	TBD

Natural History Profile

Seasonal Presence in Nevada	Spring – summer in Great Basin Winter in Mojave, though NBC data suggests some breeding could occur here as well
Known Breeding Dates in Nevada	April – late August [s4, EO]
Nesting Habits	Either on ground underneath, or elevated within, large sagebrush or associated shrub [p1] Nest shrub usually > 70 cm high [p1] Requires 75-100% live branches in nest shrub [p1] Moderate to high fidelity to breeding territories [p1]
Food Requirements	Ground forager: mostly medium sized insects (cricket sized), berries, and seeds [p1]

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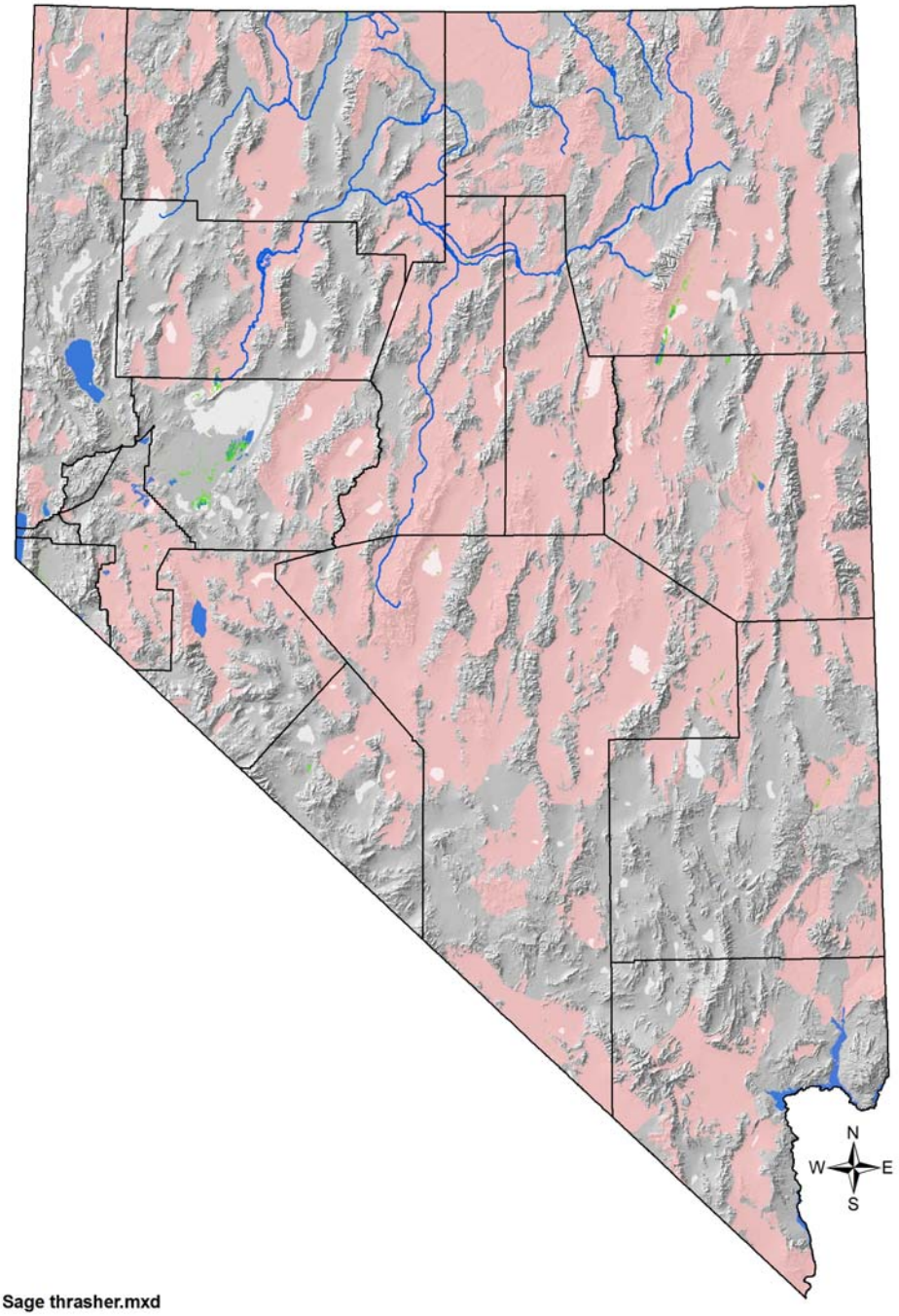

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OVERVIEW

Nevada provides a home for up to half of the global population of this species. Though primarily found in lowland Sagebrush habitat and secondarily in Salt Desert habitat (especially where intergraded with sagebrush or where greasewood predominates), Sage Thrashers are also found with some regularity in Montane Sagebrush and Montane Shrubland. For reasons that are unclear, Sage Thrashers are not declining notably as are other sagebrush birds with ostensibly similar habitat use patterns.

ABUNDANCE AND OCCUPANCY BY HABITAT

- NBC data

Sage Thrasher

	Primary Habitat Type Present at Transect	No. Transects with Sightings	Nevada Bird Count Sightings per 40 ha			
				average	95% confidence interval**	% transects occupied
Great Basin	Agriculture	1		24.2	n/a	0.33 (1/3)
	Aspen	2		0.4	n/a	0.11 (2/18)
	Coniferous Forest	1		1.3	n/a	0.05 (1/19)
	Lowland Riparian	4		2.3	-3.3 - 8.0	0.08 (5/66)
	Montane Riparian	15		5.1	2.0 - 8.1	0.14 (12/88)
	Montane Sagebrush	6		6.2	1.8 - 10.5	0.46 (5/11)
	Montane Shrub	6		4.1	2.8 - 5.4	0.33 (3/9)
	Mountain Mahogany	1		3.8	n/a	0.11 (1/9)
	Pinyon-Juniper	8		1.4	0.4 - 2.4	0.18 (11/61)
	Sagebrush	36		5.2	3.7 - 6.7	0.76 (25/33)
	Salt Desert	18		5.0	3.3 - 6.7	0.83 (19/23)
	Wetland	9		4.6	-0.5 - 9.6	0.43 (13/30)
Mojave	Aspen	n/a		n/a	n/a	0.29 (2/7)
	Lowland Riparian	1		0.6	n/a	0.03 (1/36)
	Mojave Scrub	1		0.6	n/a	0.05 (1/22)
	Montane Riparian	n/a		n/a	n/a	0.22 (2/9)
	Montane Sagebrush	n/a		n/a	n/a	0.33 (1/3)
	Sagebrush	n/a		n/a	n/a	0.77 (20/26)
	Salt Desert	1		1.9	n/a	0.1 (1/10)

- Other analyses [p9] indicate that density is seldom $> 30 / km^2$

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NEVADA-SPECIFIC STUDIES AND ANALYSES

Habitat Requirements (NBC data)

- Multivariate p-values:

Vegetation layer	# Surveys	Sage Thrasher
Upland Shrub Cover	1069	<0.001 (+)
Herbaceous Cover	1069	0.175 (-)
Tree Density (#/ha)	1039	0.001 (-)
AUC (area under ROC curve)		**0.797**

- In the analysis above, Sage Thrashers were associated with high shrub density and the lack of trees. There was no significant association with herbaceous cover, and only a weak association with shrub height

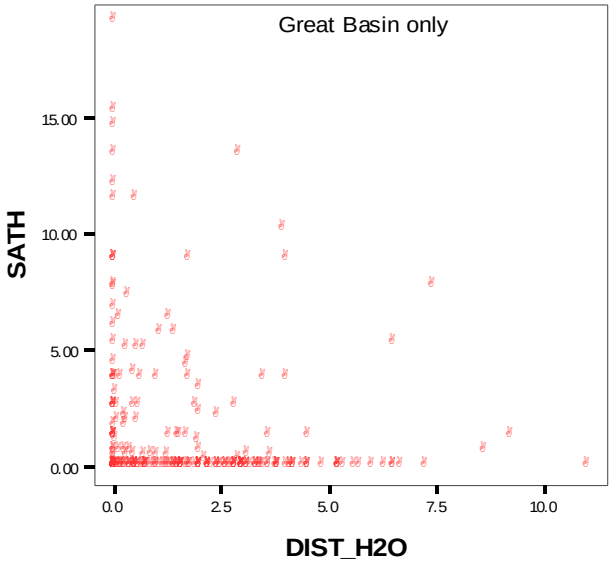
Landscape Associations (NBC data)

Veg Type (Proportion)	Coef	Statewide (linear)	State (logit)	GB only (linear)	GB only (logit)
Mojave Scrub	-	.000	.000(41)		
Mesquite-Catclaw	-	.141	.171		
Salt Desert	+	**.008**	**.000**(16)	**.038**(4)	**.000**(14)
Sagebrush	+	**.000**	**.000**(118)	**.000**(54)	**.000**(49)
Pinyon-Juniper	-	.001	.001	.001	.000
Mt. Mahogany	-	.094	.014	.054	.005
Montane Sage+Shrub	+	.256	.023		.684
Montane Sage	+	**.154**	**.013**	**.512**	**.500**
Montane Shrub	-	.189	.445		.233
Montane Ripar+Aspen	-	.010	.008	.004	.000
MontaneRiparian	-	.040	.053		.012
Aspen	-	.050	.028		.003
Coniferous Forest	-	.021	.014		.012
Lowland Riparian	-	.000	**.000**(35)	.018	**.009**
Wetland	-	.153	.374		.313
Agricultural	+	.831	**.652?**	.979	**.403**
Exotics(2181-2183)		.989	.583		.654
Cheatgrass	-	**.305**	**.967**	**.241**	
DISTANCE TO WATER	-	.035 (.151)	.022 (**.017**)	.323 (.084)	.630 (**.037**)

- Both linear and logistic analyses confirm that lowland Sagebrush is preferred
- Sage Thrashers also regularly use Salt Desert in lower numbers, particularly when some Sagebrush habitat adjoins or is interspersed
- Analysis suggests some affinity for Montane Sagebrush and Montane Shrubland, but this is not definitive. Sage Thrashers are often present in landscapes that

contain a significant portion of these habitat types, but their presence could be explained by the other habitat components of these landscapes

- Sage Thrashers appear to be more common closer to water, but the statistical significance of this relationship is not definitive. However, a plotting of raw data (density of Sage Thrashers / distance to water) clearly suggests such a relationship.



MAIN THREATS AND CHALLENGES

Sage Thrashers need large expanses (> 130 ha [p9]) of good-quality, dense Sagebrush habitat to reach their highest densities. Disturbances and land use patterns that decrease sagebrush cover or increase the establishment of invasive plants are detrimental. These include:

- Fire
- Cheatgrass invasion
- Expansion of Pinyon-Juniper Woodland into shrubland
- Heavy livestock use
- Heavy OHV use

It is possible, but not proven, that in comparison with Sage Sparrows and Brewer's Sparrows, Sage Thrashers are:

- More sensitive to cheatgrass invasion
- Less sensitive to grazing pressure
- Less sensitive to fragmentation of shrubland habitat [p1, p8]

If true, this would correspond to the Sage Thrasher's observed affinity for shrublands with a relatively low proportion of grass cover.

CONSERVATION STRATEGIES

Habitat Strategies

- General Sagebrush and Salt Desert conservation strategies, with special attention to the items below
- Prevent or reduce conifer invasion into large stands of high-quality sagebrush (especially Wyoming big sagebrush)
- Control activities, such as heavy livestock grazing and heavy OHV use, that promote cheatgrass establishment
- Conserve soil integrity within Salt Desert shrub communities (especially those containing greasewood) by managing OHV use

Research, Planning, and Monitoring

- Identify and map large, contiguous, mature stands of Sagebrush habitat (especially Wyoming big sagebrush) that contain dense shrubs, low grass cover, and little cheatgrass
- Ensure that these stands are given high priority for fire suppression efforts
- Conduct further study to determine the sensitivity of Sage Thrashers to habitat fragmentation and livestock grazing
- Continue monitoring to determine the extent of breeding activity in the Mojave region

OTHER PRIORITY SPECIES WITH SIMILAR CONSERVATION STRATEGIES

- Sage Sparrow
- Brewer's Sparrow

FURTHER READING

- Knick and Rotenberry 1995, 2000
- Wiens and Rotenberry 1985

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Temporary Map Key

Pink: Breeding range
Hot pink / magenta: For some birds, breeding data was limited, and was supplemented by extrapolation to include likely breeding range. In these cases, hot pink represents known breeding range, and lighter pink the extrapolated breeding range.
Blue: Winter range
Yellow: Important migration stopover areas
Purple: Year-round range
Green: In some maps, wetlands mapped by SWReGAP are shown in green for interpretational purposes
Dot symbols: In cases where breeding records were isolated or very restricted in extent, they are represented by a pink dot symbol rather than a shaded area.
Arrows: Major migration routes. These are shown only for birds for which there are migration-associated conservation issues.

Temporary codes for standard references

[p1] Birds of N. America account for this species
[p2] NV Bird Conservation Plan ver. 1 (Neel 1999)
[p3] NV Wildlife Action Plan
[p4] Nevada Breeding Bird Atlas
[p5] PIF N. American Landbird Conservation Plan (Rich et al 2004) (NOTE:
[p6] Intermountain West Regional Shorebird Plan (Oring et al 2003)
[p7] Pacific Flyway reports
[p8] Shrubsteppe Landscapes in Jeopardy (Dobkin and Sauder 2004)
[p9] Birds in a Sagebrush Sea (Paige and Ritter 1999)
[s1] NBC-based population size estimates
[s2, s3] NBC-based habitat relationship analysis
[s4] Breeding Bird Atlas breeding phenology data
[i1] BBS trends analysis (Sauer et al 2005)
[i2] NV Upland Game Management Plan (Espinosa et al in prep.)
[i3] Western Quail Management Plan (Zornes et al 2008)
[i4] NDOW Shorebird and Waterbird monitoring data (Neel)
[i5] Brad Andres IMJV Shorebird / Waterbird data set
[i6] GBBO Technical Report 08-01 (2008)
[EO] Expert opinion from NVPIF group members
[IWWCP] Intermountain West Waterbird Conservation Plan
[NAWCP] North American Waterbird Conservation Plan
[LBCUSACP] Long-billed Curlew Status Assessment and Conservation Plan
[USSCP] U.S. Shorebird Conservation Plan
[WHSRN] Western Hemispheric Shorebird Regional Network