

Green-tailed Towhee

Pipilo chlorurus



Photo by Bob Goodman

Habitat Use Profile

Habitats Used in Nevada	
Montane Shrublands Aspen Pinyon-Juniper Montane Riparian	
Key Habitat Parameters ●	
Plant Composition	Aspen, currant spp., willow spp., alder, squawbush, other montane riparian and transitional shrubs
Plant Density, Height	High density shrub cover, 0.5 – 1.5 m (1.7 – 5 ft) tall ¹
Mosaic	Patches of different montane shrub species and overall high shrub species richness ^{1,4}
Distance to Water	In Great Basin, water or mesic habitats generally within 1000 m (0.6 mi) ⁵
Response to Vegetation Removal	Probably positive in coniferous forest, if shrub layer benefits ¹
Area Requirements ●	
Minimum Patch Size	Unknown
Recommended Patch Size	10 ha (22 ac) ^{EO}
Territory Size	Avg: 0.9 ha (2 ac) ¹

Conservation Profile

Priority Status	
Stewardship Species	
Species Concerns	
High Nevada stewardship responsibility Historic declines	
Other Rankings	
Continental PIF	Stewardship
Audubon Watchlist	None
NV Natural Heritage	None
USFWS	Conservation Concern, Migratory Bird
BLM	None
USFS	None
NDOW	Stewardship Species
Trends	
Historical ●	Likely declines ¹
Recent ●	Stable ^{2,1}
Population Size Estimates	
Nevada (NBC) ●	885,000
Global ●	4,100,000 ³
Percent of Global ●	22%
Population Objective	
Maintain ^{EO, 3}	
Monitoring Coverage	
Source	Nevada Bird Count
Coverage in NV ●	Very good
Key Conservation Areas	
Protection	All Great Basin montane riparian, aspen, and montane shrublands
Restoration	All Great Basin montane riparian, aspen

Natural History Profile

Seasonal Presence in Nevada	
Spring – summer (winter in Clark County)	
Known Breeding Dates in Nevada	
Mid-May – early August ⁵	
Nest and Nesting Habits	
Nest Placement	On or near (< 1 m, 3 ft) ground in dense shrub or ground vegetation ¹
Site Fidelity	Moderate for breeding territory ¹
Food Habits	
Basic	Omnivorous; ground or near-ground forager
Primary Prey	Terrestrial arthropods, seeds ¹
Secondary Prey	Fruit ¹

DRAFT - For Review Only

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References: ¹ Dobbs et al. (1998), ² Sauer et al. (2008), ³ Rich et al. (2004), ⁴ GBBO unpubl. NBC data, ⁵ GBBO unpubl. atlas data, ^{EO} expert opinion

Overview

The Green-tailed Towhee is nearly always associated with dense shrub cover in montane areas, especially in transitional zones that feature high shrub species diversity. These conditions exist within a variety of different cover types, including several that were defined as habitat types for the NBC (Mountain Mahogany, Montane Sagebrush) and shrub covers of habitat types in this plan (e.g., Pinyon-Juniper and Montane Shrub). Beyond the general preference for dense, diverse shrub cover, there are surprisingly few detailed studies of the species, given that Green-tailed Towhees are widespread and relatively common. Nevada hosts approximately one-fifth of the global breeding population of this species, and we will provide further details on their habitat use in Nevada from NBC data in the final plan. Fortunately, current trends are stable and no immediate threats are known.

Abundance and Occupancy by Habitat

- NBC data

Green-tailed Towhee					
	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	Aspen	20	5.4	3.5 - 7.3	
	Coniferous Forest	6	7.0	-2.8 - 16.8	
	Lowland Riparian	6	3.3	1.4 - 5.2	
	Montane Riparian	50	5.2	3.9 - 6.4	
	Montane Sagebrush	11	13.1	6.5 - 19.7	
	Montane Shrub	10	9.5	4.9 - 14.0	
	Mountain Mahogany	7	10.9	4.7 - 17.1	
	Pinyon-Juniper	32	5.3	3.7 - 6.8	
	Sagebrush	5	3.5	0.3 - 6.7	
	Wetland	1	1.3	n/a	
Mojave	Aspen	1	7.6	n/a	
	Coniferous Forest	3	4.0	2.4 - 5.7	
	Joshua Tree	6	1.5	0.6 - 2.3	
	Lowland Riparian	1	1.3	n/a	
	Mojave Scrub	1	8.9	n/a	
	Montane Riparian	3	2.5	-7.0 - 12.1	
	Montane Shrub	4	0.5	0.1 - 0.9	
	Pinyon-Juniper	7	1.8	0.3 - 3.3	

[Transect occupancy % will be included in final version]

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Nevada-Specific Studies and Analyses

Note to reviewers: the extensive statistical outputs below will be condensed to a more intelligible summary for the final plan. We left them in for now to “show our work” and to encourage reviewers to suggest future analyses.

Landscape Associations (NBC data)

- Logistic Regression

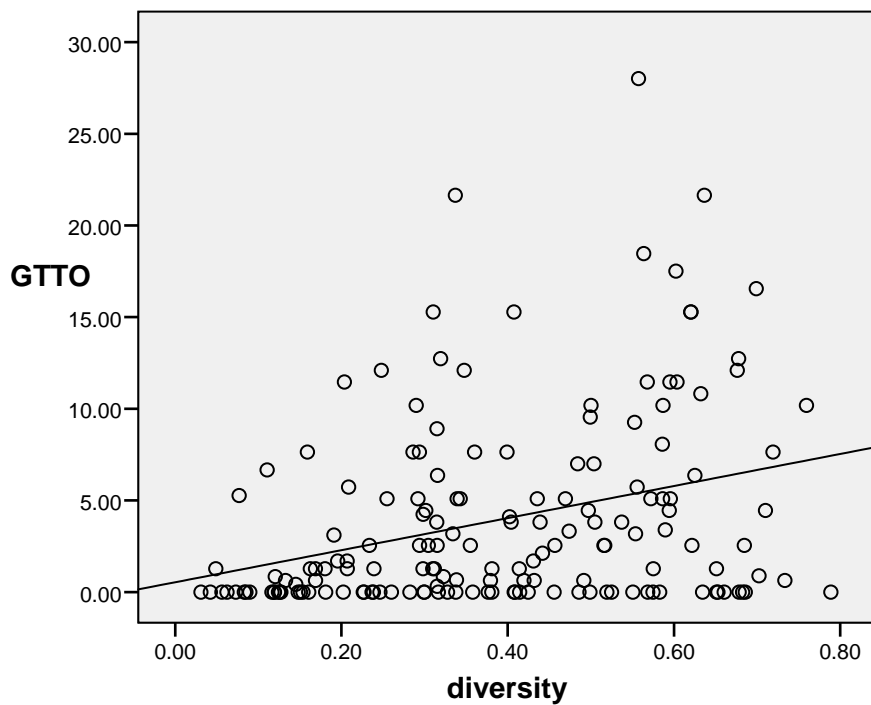
Veg Type (Proportion)	Coef	Statewide (linear)		State (logit)	GB only (linear)
		Univariate	Multivar		
Mojave Scrub	-	.000	(.724)	.009	
Mesquite-Catclaw	-	.094	(.961)	.068	
Salt Desert	-	.000	(.454)	.000	.000
Sagebrush	-/+	.670	.016	.612	.498
Pinyon-Juniper	+	.005	.000	.000 (25)	.058
Mt. Mahogany	+	.000	.004	.000 (25)	.000
Montane Sage+Shrub	+	.000		.000 (68)	.000
Montane Sage	+	.000	.000	.000 (72)	.000
Montane Shrub	-	.907	(.508)	.584	.393
Montane Ripar+Aspen	+	.000		.000 (46)	.000
MontaneRiparian	+	.005	(.929)	.002	.198
Aspen	+	.000	.038	.000 (49)	.000
Coniferous Forest	+	.773	(.141)	.004	.300
Lowland Riparian	-	.000	(.716)	.000	.001
Wetland	-	.007	(.860)	.036	.049
Agricultural	-	.003		.002	.002
Cheatgrass	-	.066		.001	.048
DISTANCE TO WATER	-	.006	(.431)	.089	.009

- As expected, Green-tailed Towhee has positive associations with several different vegetation cover types that often contain dense shrub layers, including Montane Sagebrush, Pinyon-Juniper, Mt. Mahogany, Montane Riparian, and Aspen
- As in other parts of the range, Green-tailed Towhees appear to use Coniferous Forest openings in Nevada, although numbers are generally modest compared to other montane habitat types
- The lack of a relationship with Montane Shrubland is perhaps related to systemic inaccuracy in capturing this complex habitat type with remote sensing methods; many areas that could be classified as Montane Shrubland are classified as Montane Sagebrush in the map layer
- Green-tailed Towhees tend to occur in greater numbers closer to water, though the effect is only moderate
- Raw data suggest that Green-tailed Towhees are most numerous on transects where there is a diversity of available vegetation cover types
- The graph below plots the density of Green-tailed Towhees against the diversity of montane habitat types present within the transect. This plot uses all 163 NBC

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transects for which montane habitat types comprised more than 95% of the available cover

- For these transects, a Shannon-Weaver diversity index was computed for the on the eight montane cover types
 - Mt. Mahogany
 - Pinyon-Juniper
 - MontaneSagebrush
 - MontaneShrubland
 - Aspen
 - Montane Riparian
 - Coniferous Forest
 - Sagebrush
- The maximum value of 1.0 would occur if there were the same amount of all 8 cover types (0.125 each).



- This plot suggests a fairly strong relationship between habitat type diversity and Green-tailed Towhee density

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Main Threats and Challenges

- Extensive loss of shrubland prior to 1960 probably reduced numbers, but current threats have not been well-studied (Dobbs et al. 1998)
- In some areas, fire suppression may reduce recruitment of appropriate habitat within forest mosaic
- Heavy grazing that reduces shrub cover or diversity may negatively impact this bird

Species with Similar Conservation Strategies

- Greater Sage-Grouse

Further Reading

- Wiens and Rotenberry (1981)

Conservation Strategies

Habitat Strategies

1. Montane Shrub, Aspen, Montane Riparian, and Pinyon-Juniper conservation strategies benefit this species (see habitat accounts).
2. Maintain montane and foothill areas with considerable patch diversity and areas with dense, varied shrub communities.
3. Protect dense, multi-species shrubland in ecotonal areas from heavy grazing and intense fires, especially in areas with a high shrub species diversity.

Research, Planning, and Monitoring

1. Continue monitoring to detect any departures from population stability
2. Define habitat requirements more clearly, as this may be an excellent indicator of montane shrubland integrity