

# HERMIT THRUSH

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## TAXONOMY

**Scientific name:** *Catharus guttatus* (Pallas, 1811)

**Common name:** Hermit Thrush

**Family:** Turdidae

**Taxonomic comments:**

Formerly placed in genus *Hylocichla* (AOU 1983). Systematics are complex and have little consensus. Several subspecies are recognized by various authors. The American Ornithological Union (1957) and Ripley (1964) recognized eight subspecies, Aldrich (1968) recognized 10 subspecies and Phillips (1991) recognized 13 (see



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Jones and Donovan 1996). Subspecies vary morphologically, especially wing, tail, and tarsus length, and plumage coloration; bill length increases from north to south of range, tarsus length decreases from north to south (Aldrich 1968). Three generally recognizable groups include birds occurring east of the Rocky Mountains, central Alaska south through the Sierra Nevada and Rocky Mountains, and west and north of the Sierra Nevada-Cascade ranges along the Pacific coast (Lane and Jaramillo 2000).

Three subspecies recognized in Alaska: *Catharus guttatus guttatus*, *C. g. osgoodi*, and *C. g. euborius* (Jones and Donovan 1996).

## DESCRIPTION

**Basic description:** A medium-sized thrush.

**General description:**

Upper parts grayish brown to olive, distinct cinnamon to reddish color on tail (especially near base) and upper tail coverts, underparts dull white, chest with large triangular spots of grayish brown to black, sides and flanks light brownish gray, bill dusky brown to blackish, thin white eye-ring and weakly defined whitish bar over lores (Gabrielson and Lincoln 1959, Jones and Donovan 1996). Generally smaller, larger-headed, and shorter-tailed than other North American *Catharus* species (Jones and Donovan 1996).

**Length (cm):** 17

**Weight (g):** 31

**Reproduction:**

Eggs typically laid in May-June, renesting attempts often occur if first clutch fails. There are a few reports of double broods from the Sierra Nevada, California (DeSante 1990 in

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Jones and Donovan 1996). Clutch size is usually 3-4. Incubation, by female, lasts 12-13 days. Young are tended by both parents, leave nest at 10-14 days.

### **Ecology:**

Closely related to other North American *Catharus* thrushes including Veery (*C. fuscescens*), Gray-cheeked (*C. minimus*), Swainson's (*C. ustulatus*), Bicknell's (*C. bicknelli*), and Wood Thrush (*Hylocichla mustelina*; Aldrich 1968, Avise et al. 1980, Jones and Donovan 1996).

Nest predators include red squirrels (*Tamiasciurus hudsonicus*), Steller's Jay (*Cyanocitta stelleri*), Gray Jay (*Perisoreus canadensis*), and small mammals; predators of adults include Sharp-shinned Hawk (*Accipiter striatus*; Jones and Donovan 1996, Sieving and Willson 1998, Willson et al. 2003).

### **Migration:**

Some resident populations; otherwise considered a short-distance migrant (Jones and Donovan 1996). Peak northward migration late March to early April in the southern part of the range, mid-April to late May in the north; peak southward migration late September to mid-October (Gabrielson and Lincoln 1959, Jones and Donovan 1996, Pogson et al. 1997). Typically migrates at night; often the first *Catharus* species to arrive on breeding grounds and the last to leave after the breeding season (Jones and Donovan 1996).

### **Food:**

Eats insects and other invertebrates mostly from ground; also eats small fruits (Terres 1980). On breeding grounds, eats mostly terrestrial ground-dwelling invertebrates including ants, beetles, spiders, caterpillars, snails, salamanders and worms; will also eat berries and seeds. During winter and migration, eats invertebrates and fruits and seeds from a wide variety of shrubs, trees and herbaceous plants. Usually forages on the ground by turning over forest litter and scratching or probing the ground; may also forage in foliage or on tree trunks (Jones and Donovan 1996).

### **Phenology:**

Crepuscular, diurnal.

### **Habitat:**

*Breeding:* Uses a wide variety of habitats, including forests and shrublands; favors internal forest edges such as pond or meadow margins, mountain bogs bordered by conifers, and small clearings created in forest by disturbance such as logging, fire, or wind (Jones and Donovan 1996). Although often associated with forest edges (Jones and Donovan 1996, AOU 1998), a study of nest success in Wisconsin hardwood forests showed probability of nest failure increased with decreasing distance to clearcut edge (Flaspohler et al. 2001). Negatively impacted by forest fragmentation in southern Wyoming (Keller and Anderson 1992) and throughout its range (Hames 1999). Associated with large (>24 ha) aspen groves in Saskatchewan (Johns 1993). Usually

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nests on ground under conifer with low branches or hidden by low plants; may also nest in low tree or bush within 3 m of ground (Bent 1949, Jones and Donovan 1996).

*Non-breeding:* During migration and in the winter also uses chaparral, riparian woodland, arid pine-oak, and desert scrub.

### **Alaska habitat:**

Generally occupies forest habitats; inhabits tall shrub thickets (of usually *Alnus crispa*) beyond tree line. In Southeast Alaska, found in forest stands of all ages, even over 150 years old (Kessler 1979); abundant in old-growth and early successional spruce-hemlock stands on Prince of Wales Island (Noble 1977, Pogson et al. 1997). On the Kenai Peninsula in southcentral Alaska, nests in forest stands of all ages under 100 years old (Quinlan 1978, Quinlan 1979). In interior Alaska, occurs in deciduous, white spruce coniferous and mixed forests; territories associated with forest edges. Does not typically occur in black spruce-dominated forests, scattered woodland or dwarf forests (Spindler and Kessel 1980). In western-southwestern Alaska, utilizes tall shrub thickets near the coast and barren islands off the coast (Pogson et al, 1997).

## **STATUS**

**Global rank:** G5 (03Dec1996)

**Global rank reasons:**

Secure – widespread and abundant.

**State rank:** S5B (26Jun2006)

**State rank reasons:**

Widespread distribution from western and southeastern-central Alaska south to the Aleutian Islands and Southeastern Alaska. Statewide breeding population > 5 million, but population experiencing a non-significant decline of -1.1%/year from 1980 – 2004. Population is increasing across broader breeding range in North America. Reasons for the negative trend in Alaska are unknown.

## **DISTRIBUTION AND ABUNDANCE**

**Range:**

**Global range:**

*Breeding:* Western and central Alaska across southern Mackenzie to southern Labrador and Newfoundland, south to southern Alaska, in the mountains to southern and eastern California, southern Nevada, central and southeastern Arizona, southern New Mexico, and western Texas; east of the Rockies to southwestern and central Alberta, central Saskatchewan, northern Minnesota, northeastern Ohio, western Virginia, western Maryland, southern New Jersey, and southern New York; also isolated breeding population in Black Hills, South Dakota (AOU 1998). Breeding known from Sierra San Pedro Martir, Baja California (Erickson and Wurster 1998).

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*Non-breeding:* Southern British Columbia, northern U.S., southern Ontario and New England, south to southern Baja California, through Mexico to Guatemala and El Salvador, southern Texas, Gulf Coast, southern Florida, and the northern Bahamas (AOU 1998).

### **State range:**

*Breeding:* Southern portions of western Alaska, the Alaska Peninsula, Shumagin and Kodiak Islands, and southcoastal, southeastern-central, and Southeast Alaska (Jones and Donovan 1996).

Distribution by subspecies: *C. g. guttatus* breeds in Southcentral and Southeast Alaska except the Alexander Archipelago; *C. g. euborius* breeds in central Alaska; *C. g. osgoodi* breeds on the outer islands of the Alexander Archipelago, on the adjacent mainland of Southeast Alaska, and possibly on Raspberry Island (north of Kodiak Island; Pogson 1997).

### **Abundance:**

#### **Global abundance:**

Global population estimate 56,000,000 birds (Rich et al. 2004).

#### **State abundance:**

State population estimate 5,800,000 birds (about 10% of global population; Rosenberg 2004a and 2004b). Relative abundance of 5.88 birds/survey route reported from statewide Breeding Bird Survey data, 1980–2005 (Sauer et al. 2005).

### **Trends:**

#### **Global trend:**

Breeding Bird Survey (BBS) data indicate a positive population trend throughout much of the range since 1966, possibly as a result of expansion of suitable habitat from woodland cutting (Jones and Donovan 1996). For the period 1980–2005, BBS data indicate a positive survey-wide trend of 0.8% per year ( $P < 0.01$ ,  $n = 1086$ ; Sauer et al. 2005). Christmas Bird Count (CBC) surveys also show a survey-wide increase of 2.2% per year for the period 1965–2002 (Niven et al. 2004).

#### **State trend:**

BBS data for Alaska indicate a non-significant decline of -1.1% per year for 1980–2005 ( $P < 0.14$ ,  $n = 67$ ; Sauer et al. 2005).

## **EXISTING PROTECTION**

### **Global protection:**

Protected in Canada and the U.S. under the Migratory Birds Convention Act (1916). Habitat is protected where species occurs on state and federally protected lands.

### **State protection:**

Habitat is protected where species occurs on state and federally protected lands.

## CHALLENGES

### **Global challenges:**

Potential threats include human-caused and natural habitat alteration or loss, effects of human intrusion, and natural causes of mortality such as predation and severe weather events.

*Habitat alteration:* Changes in abundance have been noted in response to various tree removal practices. Some researchers suggests Hermit Thrush populations are equally stable on both logged and unlogged habitats (Webb et al. 1977, Medin 1985) and that density and productivity are higher in younger stands (Rangen et al. 2000). Others suggest breeding densities are higher in unlogged habitats (Franzreb and Ohmart 1978, Medin and Booth 1989, Jones and Donovan 1996, Hanowski et al. 2003). Hermit Thrush densities have decreased following wildfires; declines resulted both immediately (Apfelbaum and Haney 1981) and several years post- burn (8 years later; see sources in Jones and Donovan 1996).

Habitat fragmentation and the resultant increase in edge habitats may negatively affect nesting success due to increased predator abundance and activity along edges (Manolis et al. 2002). Hames (1999) reported that as forest habitat fragmentation increased, nesting attempts decreased throughout the species' North American range.

*Human intrusion/disturbance:* Martin and Roper (1988 in Jones and Donovan 1996) suggested that disturbance by researchers did not impact thrush nesting behavior or success in Arizona, but Gutzwiller and Anderson (1999) reported that low levels of human intrusion increased displacement of thrushes and resulted in lower abundance than prior to intrusion events in the Snowy Mountains, Wyoming.

### **State challenges:**

Potential threats include human-caused and natural habitat alteration or loss as a result of timber harvest, development, and controlled and natural fires; also mortality associated with predation and severe weather events.

## RESEARCH AND INVENTORY NEEDS

### **Global research needs:**

Research needed on breeding biology, including estimation of adult and juvenile survival and nest success in different habitats; basic nesting information such as number of broods, offspring and nest attempts per year; fidelity to natal, breeding, and wintering sites; and determination of subspecies validity using studies of geographic dispersal and genetic or morphological characteristics (Jones and Donovan 1996).

### **State research needs:**

Conduct research and/or analyses of existing data to determine habitats, habitat attributes, and areas that support high densities of this species during breeding and migration. Determine if declines in habitat are linked to population declines (ADFG 2005).

**Global inventory needs:**

Continue participation in the BBS, CBC and other monitoring surveys.

**State inventory needs:**

Maintain current participation in the BBS. However, the BBS only samples a small proportion of this species' range in the state; protocols should be developed that adequately sample this species in non-road accessible areas, and participation in other surveys such as the Off-road Breeding Bird Survey (ORBBS) and Alaska Landbird Monitoring Survey (ALMS) could contribute to understanding of population distribution and abundance in Alaska. Examine independent data on trends from migration stations, breeding surveys, and demographic monitoring to determine if declines are evident in areas not sampled in the traditional BBS (ADFG 2005).

## **CONSERVATION AND MANAGEMENT NEEDS**

**Global conservation and management needs:**

The response of this species to habitat alteration (i.e. loss or fragmentation of forest) from timber harvest is unclear; further research on the effects of logging on productivity is needed to make constructive management decisions.

**State conservation and management needs:**

Conservation efforts should continue to focus on monitoring abundance and trends. Participation in ORBBS and ALMS would allow a more accurate assessment of distribution in the state. Management strategies should be based on distribution data, breeding habitat requirements, and species' response to habitat alteration (i.e. loss or fragmentation of forest) from timber harvest; more data needed to adequately assess the effects of logging on productivity (Pogson et al. 1997).

## LITERATURE CITED

- Alaska Department of Fish and Game (ADFG). 2005. Our wealth maintained: a strategy for conserving Alaska's diverse wildlife and fish resources, a Comprehensive Wildlife Conservation Strategy emphasizing Alaska's nongame species. Submitted to the U.S. Fish and Wildlife Service, Anchorage, AK.
- Aldrich, J.W. 1968. Population characteristics and nomenclature of the Hermit Thrush. *Proceedings of the United States National Museum* 124:1-33. Smithsonian Institution, Washington, D.C.
- American Ornithologists' Union (AOU). 1957. Check-list of North American birds. Fifth edition. American Ornithologists' Union, Port City Press, Inc., Baltimore, MD. 691 pp.
- American Ornithologists' Union (AOU). 1983. Check-list of North American Birds. Sixth Edition. American Ornithologists' Union, Allen Press, Inc., Lawrence, KS.
- American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. 829 pp.
- Apfelbaum, S. and A. Haney. 1981. Bird populations before and after wildfire in a Great Lakes pine forest. *Condor* 83:347-354.
- Avise, J.C., J.C. Patton, and C.F. Aquadro. 1980. Evolutionary genetics of birds: I. Relationships among North American thrushes and allies. *Auk* 97:135-147.
- Bent, A.C. 1949. Life histories of North American thrushes, kinglets, and their allies. U. S. Nat. Mus. Bull. 196. 452 pp., 51 pls.
- Erickson, R.A., and T.E. Wurster. 1998. Confirmation of nesting in Mexico for four bird species from the Sierra San Pedro Martir, Baja California. *Wilson Bulletin* 110:118-120.
- Flaspohler, D.J., S.A. Temple, and R.N. Rosenfield. 2001. Species-specific edge effects on nest success and breeding bird density in a forested landscape. *Ecological Applications* 11:32-46.
- Franzreb, K.E. and R.D. Ohmart. 1978. The effects of timber harvesting on breeding birds in a mixed-coniferous forest. *Condor* 80:431-441.
- Gabrielson, I.N. and F.C. Lincoln. 1959. The birds of Alaska. The Stackpole Company, Harrisburg, PA and the Wildlife Management Institute, Washington D.C.
- Gutzwiller, K.J. and S.H. Anderson. 1999. Spatial extent of human-intrusion effects on subalpine bird distributions. *Condor* 101:378-389.

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- Hames, S. 1999. Early looks at thrush relationships. *Birdscope* 13:11-13.
- Hanowski, J., N. Danz, J. Lind, and G. Niemi. 2003. Breeding bird response to riparian forest harvest and harvest equipment. *Forest Ecology and Management* 174:315-328.
- Johns, B. W. 1993. The influence of grove size on bird species richness in aspen parklands. *Wilson Bull.* 105:256-264.
- Jones, P.W. and T.M. Donovan. 1996. Hermit Thrush (*Catharus guttatus*). In: *The Birds of North America*. Vol. 7, No. 261 (A. Poole and F. Gill, eds.). The Academy of Natural Sciences, Philadelphia, PA, and the American Ornithologists' Union, Washington, D.C.
- Keller, M. E., and S. H. Anderson. 1992. Avian use of habitat configurations created by forest cutting in southeastern Wyoming. *Condor* 94:55-65.
- Kessler, W.B. 1979. Bird population responses to clearcutting in the Tongass National Forest of Southeast Alaska. U.S.D.A. Forest Service, Tongass National Forest, Ketchikan, AK. Alaska Region report No. 71.
- Lane, D. and A. Jaramillo. 2000. Identification of *Hylocichla/Catharus* thrushes. Part I: molt and aging of spotted thrushes and field ID of Wood Thrush and Hermit Thrush. *Birding* 32:121-135.
- Manolis, J.C., D.E. Anderson, and F.J. Cuthbert. 2002. Edge effect on nesting success of ground nesting birds near regenerating clearcuts in a forest-dominated landscape. *Auk* 119:955-970.
- Medin, D.E. 1985. Breeding bird responses to diameter-cut logging in west-central Idaho. Research Paper INT-355. U.S.D.A. Forest Service, Intermountain Research Station, Ogden, UT.
- Medin, D.E. and G.D. Booth. 1989. Responses of birds and small mammals to single-tree selection logging in Idaho. USDA Forest Service, Intermountain Research Station. Research Paper INT-408.
- Niven, D.K., J.R. Sauer, G.S. Butcher, and W.A. Link. 2004. Christmas Bird Count provides insights into population change in land birds that breed in the boreal forest. *American Birds* 58:10-20.
- Noble, R.E. 1977. Breeding-bird populations in hemlock-spruce old growth and clearcuts, Prince of Wales Island, Alaska. U.S. Forest Service, Tongass National Forest, Ketchikan, AK.

*Hermit Thrush*

- Phillips, A.R. 1991. The known birds of North and Middle America: Part II, Bombycillidae; Silviidae to Sturnidae; Vireonidae. Allan R. Phillips, Denver, CO.
- Pogson, T.H., S.E. Quinlan, and B. Lehnhausen. 1997. A manual of selected neotropical migrant birds of Alaska national forests. U.S.D.A. Forest Service, Juneau, AK.
- Quinlan, S.E. 1978. Bird communities and white spruce succession on the Kenai Peninsula, Alaska. Unpublished report, Chugach National Forest, Seward, AK.
- Quinlan, S.E. 1979. Effects of controlled burning and succession of white spruce forests on breeding bird communities, Kenai Peninsula, Alaska. Unpublished report, Chugach National Forest, Seward, AK.
- Rangen, S.A., K.A. Hobson, and R.G. Clark. 2000. A comparison of density and reproductive indices of songbirds in young and old boreal forest. *Wildlife Society Bulletin* 28:110-118.
- Ripley, S. D. 1964. Family Muscicapidae, Subfamily Turdinae. In: Checklist of birds of the World. Vol 10 (E. Mayr and R. A. Paynter, Jr., eds.). Museum of Comparative Zoology, Cambridge, MA.
- Rosenberg, K.V. 2004a. Partners in Flight continental priorities and objectives defined at the state and Bird Conservation Region levels, part 1: Alaska. Unpublished report, Cornell Lab of Ornithology, Ithaca, New York. Available online at: [www.iafwa.org/Attachments/bird\\_conservation/AK\\_PIF%20OBJ\\_PRIO.pdf](http://www.iafwa.org/Attachments/bird_conservation/AK_PIF%20OBJ_PRIO.pdf).
- Rosenberg, K.V. 2004b. Partners in Flight continental priorities and objectives defined at the state and Bird Conservation Region levels, part 2: Alaska. Unpublished report, Cornell Lab of Ornithology, Ithaca, New York.
- Sauer, J.R., J.E. Hines, and J. Fallon. 2005. The North American Breeding Bird Survey, results and analysis 1966-2005. Version 6.2.2006. USGS Patuxent Wildlife Research Center, Laurel, MD. Available online at: <http://www.mbr-pwrc.usgs.gov/bbs>. Accessed 26Jun2006.
- Sieving, K.E., and M.F. Willson. 1998. Nest predation and avian species diversity in northwestern forest understory. *Ecology* 79:2391-2402.
- Spindler, M. A. and B. Kessel. 1980. Avian populations and habitat use in interior Alaska taiga. *Syesis* 13: 61-104.
- Terres, J. K. 1980. The Audubon Society encyclopedia of North American birds. Alfred A. Knopf, New York, NY.
- Webb, W.L., D.F. Behrend, and B. Saisorn. 1977. Effect of logging on songbird populations in a northern hardwood forest. *Wildlife Monographs* No. 55. 35 pp.

Willson, M.F., T.L. De Santo, and K.E. Sieving. 2003. Red squirrels and predation risk to bird nests in northern forests. *Can. J. Zoo.* 81:1202-1208.

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