



CENTER FOR LARGE LANDSCAPE CONSERVATION
A PROJECT OF THE WILD FOUNDATION

Notable North American Migrations

By: Rob Ament, Katie Meiklejohn & Gary Tabor

Long-distance migrations are one type of movement for which connectivity is critically important. Migration – as opposed to dispersal or daily movements within a home range – is characterized by persistent, targeted movement over a distinct period of time (Dingle 1996). Migration behavior is triggered and controlled by physiological mechanisms and environmental stimuli (usually a deterioration of resources) that prepare and drive the organism to move to an area of desired or abundant resources (Dingle & Drake 2007).

Migration can be defined as a behavioral characteristic exhibited by plants, animals and insects that is driven by the availability of resources. In other words, organisms migrate in order to access sufficient quantities of high quality resources (e.g. food, water, habitat) required for survival.

Mass migrations like the ones listed in the table below are threatened by anthropogenic disturbances like landscape fragmentation, noise pollution in oceans and over-exploitation of natural resources, as well as by shifting environmental conditions brought on by global climate change (Harris *et al.* 2009). Migration is an important life history trait for many organisms and the survival of migrant species will be dependent on their ability to adapt and maintain traditional patterns of movement. Thus, maintaining connectivity between important resource areas for migrants is key to their successful conservation.

NORTH AMERICAN MIGRATION DISTANCES				
Species	Scientific Name	Geography	Mean Roundtrip Distance (km)	Source
Whales				
Sperm Whale	<i>Physeter macrocephalus</i>	Atlantic	10,000	Lockyer & Brown. 1981. in Alerstam et al. 2003.
Gray Whale	<i>Eschrichtius robustus</i>	Baja, CA - Chukchi Sea	12,000	Lockyer & Brown. 1981. in Alerstam et al. 2003.
Humpback Whale	<i>Megaptera novaeangliae</i>	Hawaii - Alaska	10,000	Darling & McSweeney. 1985.
Birds				
Sooty Shearwater	<i>Puffinus griseus</i>	CA-AK-Japan to New Zealand	64,000	Shaffer et al. 2004.
Arctic Tern	<i>Sterna paradisaea</i>	Arctic to Antarctic	>32,000	Hatch. 2002.
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>	Alaska to S. California	>8,000	Cornell Lab of Ornithology. On-line.
Blackpoll Warbler	<i>Dendroica striata</i>	Alaska - Bolivia	24,000	Alerstam et al. 2003.
Golden Eagle	<i>Aquila chrysaetos canadensis</i>	Hudson Bay to eastern U.S.	3,300-6,000	Brodeur et al. 1996.
Insects				
Monarch Butterfly	<i>Danaus plexippus</i>	Mexico - North America	72,000	Brower. 1996.
Fish				
Yukon River Chinook Salmon	<i>Oncorhynchus tshawytscha</i>	Alaska	>3200 (1 way in river)	Delaney. 1994.
Fraser River Sockeye Salmon	<i>Oncorhynchus nerka</i>	British Columbia	>1100 (1 way in river)	Crossin et al. 2004.
Connecticut River American Shad	<i>Alosa sapidissima</i>	northeast U.S.	228 (1 way in river)	Leonard and McCormick. 1999.
Ungulates				
Caribou (barren ground)	<i>Rangifer tarandus</i>	Arctic NWR, AK	4355	Fancy et al. 1988. in: Berger. 2004.
Pronghorn	<i>Antilocapra americana</i>	Tetons, WY	434	Sawyer & Lindzey. 2000. in: Berger. 2004.

Moose	<i>Alces alces</i>	Old Crow, YT, Canada	246	Mauer. 1998. in: Berger. 2004.
Flying mammals				
Indiana bats	<i>Myotis sodalis</i>	midwestern U.S.	>500	Kurta and Murray. 2002.
Carnivores				
Wolf	<i>Canis lupus</i>	Bathurst Region, NWT	743	Walton et al. 2001.
Cougar	<i>Felis concolor</i>	Sierra Nevada, CA	60	Pierce et al. 1999.
Amphibians				
Gopher Frogs	<i>Rana capito</i>	Florida	>0.69 (1 way)	Roznik and Johnson. 2009.
Striped Newt	<i>Notophthalmus perstriatus</i>	northern Florida	> 0.5 (1 way)	Johnson, S.A. 2003.
Plants				
White Trillium	<i>Trillium grandiflorum</i>	New York	>3 (1 way)	Velland et al. 2003.

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