

**Table S1.** Population trends of the House Sparrow and the Eurasian Tree Sparrow in European countries since 2000 based on the data of BirdLife International (2017). Countries (four) where the House Sparrow is decreased and the Eurasian Tree Sparrow is increased at the same time are in **bold**. Countries (six) where both sparrow species have declined are in *italics*.

	Decreased	Increased	Stable	Unknown
House Sparrow	Albania, <b>Bulgaria</b> , <i>Czech Republic, Estonia, Germany, Hungary, Lichtenstein, Luxembourg, Poland, Serbia, Slovakia, Spain, Sweden, Turkey</i> , Ukraine	Cyprus, Gibraltar, Ireland, Lithuanian, Slovenia	Austria, Belarus, Belgium, Denmark, Finland, France, Greece, Iceland, Moldova, Netherlands, Portugal, Russia, Switzerland, United Kingdom	Andorra, Armenia, Azerbaijan, Croatia, Georgia, Italy, Macedonia, Montenegro, Norway
	15 countries	5 countries	14 countries	9 countries
Eurasian Tree Sparrow	Belgium, <i>Czech Republic, Estonia, France, Germany, Greece, Italy, Luxembourg, Malta, Netherlands, Serbia, Spain</i>	<b>Bulgaria</b> , Finland, Ireland, <b>Lichtenstein, Poland</b> , Sweden, <b>Turkey</b> , United Kingdom	Austria, Belarus, Denmark, Hungary, Latvia, Lithuanian, Moldova, Slovakia, Switzerland	Croatia, Georgia, Kosovo, Macedonia, Montenegro, Norway, Portugal, Russia, Slovenia
	12 countries	9 countries	9 countries	9 countries

**Table S2.** Population trends with indices of the House Sparrow and the Eurasian Tree Sparrow in Finland according to the different bird monitoring.

Time frame	House Sparrow	Eurasian Tree Sparrow	Data type	Reference
1990/2000/2010	Urban: 160/75/55 Rural: 80/50/25 (ind./10 km)	Urban: 2/6/20 Rural: 2/11/22 (ind./10 km)	Winter line transect; ornithologists	Lehikoinen & Väisänen 2014
1974-79/1986-89/2006-10	1754/1641/2106 (numb. of 10kmx10km squares where breeding was confirmed or probable)	28/97/1148 (numb. of 10kmx10km squares where breeding was confirmed or probable)	Breeding bird atlas; ornithologists	Valkama et al. 2011
1975-2012	Abundance: Decreased about 60% during the last 29 years; decreasing very deeply especially during the end 1980s. Decreased on average 2.8%/year during 1984-2012	Abundance: Increased 4x during the last eight years. Increased on average 20.9/year during 2005-2012.	Breeding land bird monitoring; line transects, point counts and mappings; Ornithologists	Väisänen & Lehikoinen (2013)
1989-2017	Occupancy: Occupy currently 75% of the Finnish feeding sites. Decrease about 20-40%, more deeply in southern than in northern Finland Abundance: Decreased about 1/10 in southern, 1/3 in central and 50% in northern Finland during the last 29 years. Decreasing rate on average 8.3%/a in southern, 3.9%/a in central and 3.5%/a in northern Finland during 1989-2017	Occupancy: Occupy currently 46% of the Finnish feeding sites. Occupancy started to increase in southern and central Finland during the early 1990s, and northern Finland during 2000-2005. Abundance: Increased 4-5x in southern and central Finland during 2002-2017; increased 4-5x in northern Finland during the 2010 century. Increasing rate on average 6.6%/a in southern, 9.1%/a in central and 13.5%/a in northern Finland during 2002-2017.	Feeding site monitoring; Citizen-Science project	Väisänen (2018)

				Currently, the occupancy (%) and abundance is about the same in different areas of Finland. In some place the Eurasian Tree Sparrow is now even more common and abundant than the House Sparrow
2006/2010/2020	Occupancy: 30/26/20 (% of sites) Abundance: 2.4/2.3/1.4 (ind./yard)	Occupancy: 15/23/44 (% of sites) Abundance: 0.9/2.1/4.1 (ind./yard)	Yard Birding Event during winter; Citizen-Science project	BirdLife Finland (2020a)
2013/2015/2019	Occupancy:1.5/4.4/3.5 (% of sites) Abundance: 0.2/0.7/0.6 (% in nest boxes)	Occupancy: 12.8/14.6/19.7 (% of sites) Abundance: 2.7/3.2/4.2 (% in nest boxes)	Nest-box Twitching Event; Citizen-Science project	BirdLife Finland (2020b)
1979-2019		Numb. of observed individuals index: 8537% increase (from 1979-99 to 2011-2019) 680% increase (from 2000-2010 to 2011-2019)	Hanko Bird Observatory records; Ornithologists	Lehikoinen (2019)