



Background

The Tree Sparrow *Passer montanus* (Manx: *Jallyn ny Miljyn*) is a Wildlife Act 1990 **Schedule 1** specially protected species of farmland bird, which is on the *Birds of Conservation Concern in the Isle of Man 2021 Red List* owing to historic and recent decline on Island. Very few records have been received in recent years, suggesting an **ongoing, widespread and serious decline**. Without urgent conservation action, it is assessed that this decline is terminal, with the species **facing an imminent risk of extirpation on the Island**, following quickly on from the recent (2016) loss of the Yellowhammer, *Emberiza citrinella*, a farmland bird of similar ecological requirements.



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Description

The Tree Sparrow is a passerine bird in the sparrow family with a rich chestnut crown and nape, and a black patch on the pure white cheek. The chin, throat, and the area between the bill and throat are black. The upperparts are light brown, streaked with black, and the brown wings have two distinct narrow white bars. The legs are pale brown, and the bill is lead-blue in summer, becoming almost black in winter.

This sparrow is distinctive even within its genus in that it has no plumage differences between the sexes; the juvenile also resembles the adult, although the colours tend to be duller.

The Tree Sparrow has no true song, but its vocalisations include an excited series of *tschip* calls given by unpaired or courting males. Other monosyllabic chirps are used in social contacts, and the flight call is a harsh *teck*.

Tree Sparrow are 12.5–14cm long, with a wingspan of 20-22cm and a typical weight of 24g (19-25g).

Separation from House Sparrow: The contrasting facial pattern in Tree Sparrow makes this species easily identifiable in all plumages; the smaller size (10% smaller than House Sparrow) and brown, not grey, crown are additional differences from the male House Sparrow.

British Isles Distribution and Status

The UK Tree Sparrow population declined dramatically in the 1980s. Recent data, however, shows small signs of recovery, although this species remains on the UK Red List, where it has been found since 1996.

The severe UK decline was estimated at 93 per cent between 1970 and 2008. However, recent UK Breeding Bird Survey data suggests that numbers may have started to increase, albeit from a very low point. The UK currently holds some 245,000 breeding territories.

In the British Isles, the species is most often found in hedgerows and woodland edges and is scarcer in the uplands. Today, it is uncommon in the far north and west of the UK, with the main populations now being found across the Midlands, southern and eastern England and lowland Ireland. East Yorkshire is a stronghold for British Tree Sparrows, and they can be locally common during the April to August breeding season. Sadly, owing to range contraction it is now almost absent from the whole of Wales, and the southwest and northwest of England.

Change in occupied 10-km squares in the UK:

% change in range in breeding season (1968–72 to 2008–11)	-37.3%
% change in range in winter (1981–84 to 2007–11)	-17.5%

Occupied 10-km squares in UK (2008-2011):

% occupied in breeding season	36%
% occupied in winter	41%

Isle of Man Distribution & Status

Up-to-date knowledge on the distribution, abundance and status of this species is lacking.

Tree Sparrow have never been common on the Island, however at present, they appear to be in a perilous conservation state, almost certainly at their lowest Manx population size since ornithological recording began. Between the two, all-Island breeding bird censuses conducted by Manx BirdLife (the first from 1998-2003 and the second from 2006-2016), this species declined by -38%, with its range contracting -47%. Given the already localised population recorded in the first census, this decline is particularly worrying. The second census recorded probable breeding activity in just 2.7% of the Island's 1km squares. The latest population estimate (2021, based on the 2006-2016 data) is of only 60 breeding pairs and 240 overwintering individuals; however, these figures are already thought certain to be both considerably out-of-date and considerably higher than the present reality. During the winter of 2022-3, only six birds were regularly recorded across the Island, with a high count of only 25 birds in 2021 and 19 birds in 2022 (both on the Calf, which may even be non-Manx migratory individuals).

Habitat

This species is very much a bird of farmland edge, especially arable land. In the Island, they are shy than House Sparrows and, by contrast, Tree Sparrows are less often found in close association with Humans.

Ecology

Feeds mainly on seeds, but invertebrates are also consumed, particularly during the breeding season. As with other small birds, lack of food supply, infection by parasites and diseases, and predation by birds of prey result in a typical life span is about 2 years. Breeding is typically at 1 year. Maximum UK recorded age from ringing is 10 years, 10 months and 20 days (1996). The average proportion of adult birds which survive each year is only 43%.

Commuting, Dispersal or Migration

Once thought to be a sedentary species, it is now known to regularly undertake small scale dispersal movements and annual migrations between breeding and over-wintering food-rich sites.

Despite the collapse of the Manx population since 2007, the Calf of Man still records movements (often in small groups) during most spring and autumn migrations, suggesting a potential for dispersal and migration around the Irish Sea.

In the UK, outside of the breeding season Tree Sparrows can move quite some distance with some breeding areas being vacated altogether. Some of the East Yorkshire birds have been reported during the winter months in Suffolk, heading back north in spring.

Seasonal movements from breeding grounds to winter feeding grounds are witnessed on the Island.

Breeding

The nest is untidy and built in a natural cavity, a hole in a building or a nest box. First clutch is laid between 23 April and 16 July (English median date - 17 May). The typical clutch is five or six eggs which hatch in 12-13 days with chicks being altricial (parent-dependant) and naked. The fledgling period is 15-17.5 days. Tree Sparrows feed their young on insects and can have 2 to 3 broods per year.

Tree Sparrows can be found in small, loose breeding colonies where small flocks may be seen.

Over-wintering

In winter, larger flocks can be seen, often mixing with finches and House Sparrows at those sites where food is readily available, such as stubble fields and weedy vegetable plots.

For the rest of the year, they largely depend on seeds, preferring smaller weed seeds to cereal grain.

Legal protection

Isle of Man: Wildlife Act 1990 Schedule 1

International: Bern Convention (Annex III)

Threats

The loss of traditional, mixed Manx farming during the transition to specialisation in grass-based agriculture, along with modern, intense farming practices on the remaining arable area are driving Tree Sparrow declines, primarily through a lack of available food (invertebrates, arable weed seeds and spilt grains).

The increased use of modern selective herbicides mean that these seeds are now much harder to find, as the seed bank in the soil of arable fields declines. The trend away from the more beneficial spring sown cereals towards autumn sowing (or just grass) results in the loss of beneficial winter stubble fields and therefore reduces food availability in winter. Use of insecticides reduces the invertebrate required by the young chicks.

Other threats include the increased efficiency of combining, the historic lack of an all-Island agri-environment scheme, more secure storage of grain and the trend away from outdoor grain-based feeding of livestock and will all have contributed to the decline.

Suitable nest sites probably remain undiminished, however Dutch Elm Disease and Ash Dieback, both of which are (as of 2023) effectively unmanaged on the Island, may reduce natural nest sites in the long term.

Reason for BAP

Table 1: Population decline metrics this century. Data taken from the Sharpe *et al.* (2007), *Manx Bird Atlas*; Morris & Sharpe (2021), *Birds of Conservation Concern in the Isle of Man 2021* & author inferences from 2022-23 fieldwork.

	1998-2003 Atlas	2006-2016 Atlas	2021-2023 MWT Estimate
Breeding population	156-240 pairs	60 pairs	10-20 pairs?
Breeding distribution (% of 665 grid squares)	17%	2.7%	0.3%? (2 known sites)
Wintering population	<1000 individuals	240 individuals	c23 known individuals? 6 regularly recorded individuals
Wintering grid squares	13%	13% (no repeat survey)	1% (7 total recorded sites, 3 regularly reported sites)

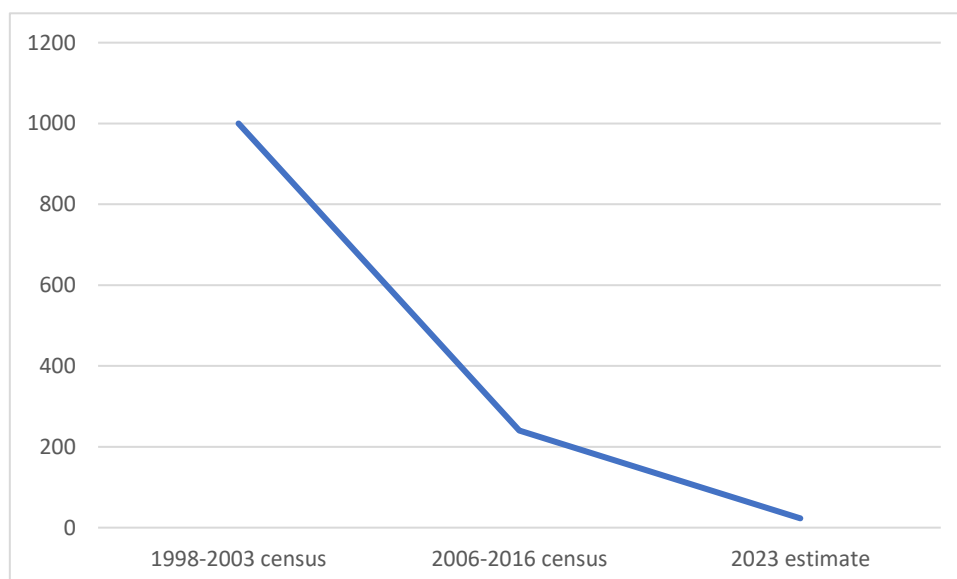


Fig. 1: Decline in known wintering population (individuals) since 1998. For sources, see Table 1.

Aims

The aim of this Tree Sparrow BAP is to ensure the ongoing survival of this species on the Isle of Man until such a time as long-term widespread and effective agri-environment initiatives allow for a self-sustaining Tree Sparrow population in line with the documented 1998-2003 population.

This BAP largely focuses on immediate and short-term priorities only. As our knowledge of the present status of this species grows, a revised BAP will be produced to ensure the longer-term sustainment of the species without the need for ongoing conservation intervention, aiming to restore and maintain the population as found in the 1998-2003 Manx Bird Atlas.

This project meets the Strategic Aims of the Isle of Man's 2015-2025 Biodiversity Strategy:

By 2025 we aim to:

- manage biodiversity change to minimise loss,
- maintain and where necessary restore or enhance native biodiversity, and
- actively involve society in understanding, appreciating and safeguarding biodiversity.

And more specifically, Action 25:

Continue to target conservation action on key species and priority habitats through Biodiversity Action Plans (BAPs).

Linked BAPS & Other Avian Beneficiaries

With the historic loss of Corn Bunting *Emberiza calandra* (1956) and the more recent loss of Yellowhammer (2016), Tree Sparrow remains the most urgent priority of all Manx granivorous birds. Several other Manx farmland birds are of serious or moderate conservation concern, however those listed below are all likely to benefit from the landscape-scale transient habitat actions that will be delivered by this BAP.

Table 2: Likely beneficiaries of this Tree Sparrow BAP, which may benefit from Farmland Birds Action of Wildlife Project. IOM conservation status and population estimates from Morris & Sharpe (2021), *Birds of Conservation Concern in the Isle of Man 2021*. N.B. Several non-granivorous farmland birds will indirectly benefit from actions under this BAP owing to overlapping habitat requirements including Woodcock *Scolopax rusticola* (Red, Schedule 1) and Lapwing *Vanellus vanellus* (Red, Schedule 1).

Common Name	Scientific Name	IOM Conservation Status 2021	Wildlife Act 1990 specially protected birds	2021 estimated breeding population (pairs)	2021 estimated winter population (individuals)
Stock Dove	<i>Columba oenas</i>	Red		10	30
Skylark	<i>Alauda arvensis</i>	Red	Schedule 1	538	1,500
Meadow Pipit	<i>Anthus pratensis</i>	Red		3,617	1,000
Twite	<i>Linaria flavirostris</i>	Red & Black	Schedule 1	Former breeder	80
Linnet	<i>Linaria cannabina</i>	Red		1,547	5,000
Yellowhammer	<i>Emberiza citrinella</i>	Red	Schedule 1	Extirpated	Extirpated

Corn Bunting	<i>Emberiza calandra</i>	Black	Schedule 1	Extirpated	Extirpated
Brambling	<i>Fringilla montifringilla</i>	Amber		Winter migrant only	20
Greenfinch	<i>Chloris chloris</i>	Amber		942	3,500
Lesser Redpoll	<i>Acanthis cabaret</i>	Amber		165	800
Reed Bunting	<i>Emberiza schoeniclus</i>	Amber	Schedule 1	119	200
Chaffinch	<i>Fringilla coelebs</i>	Green		4,414	20,000
Goldfinch	<i>Carduelis carduelis</i>	Green		1,217	4,000

Delivery Options	Active	Challenges
<u>Immediate</u> . Ensure that DEFA, Manx BirdLife (MBL), Manx Ornithological Society (MOS), Manx Wildlife Trust (MWT) and the farming community are working in unison via a Farmland Birds Working Group to prevent the extirpation of this species by supporting this BAP as one of the MWT-housed 'Action for Wildlife' projects, noting that the DEFA Agri-Environment Scheme is the long-term solution to the conservation of this species.	Yes	Lack of resources
<u>Immediate</u> . Secure funding to appoint and sustain a suitably qualified and licensed, part-time (one day a week, year-round) Farmland Birds Officer to deliver this BAP along with the necessary materials and consumables. Salary and expenses will be delivered via a restricted fund held within MWT, who will provide human resources and logistical support on an initial one-year contract for 8 hours/week (annualised).	Yes	Lack of resources
<u>Immediate</u> . A core role of the Farmland Birds Working Group will be to work with partner organisations to secure short and medium-term funding for this BAP. The Farmland Birds Officer role will be overseen by the Working Group, with the Officer providing them with a regular internal update, a publicly-available Annual Review and a published Annual Report for <i>Peregrine</i> , the <i>Journal of Manx Natural History</i> .	Yes	Lack of resources
<u>By mid-2023</u> . Initiate conservation measures including a targeted program to increase short-term breeding success and annual survival by the provision of artificial nest boxes, supplementary, year-round feeding, and targeted arable agri-environment initiatives to increase suitable transitory habitat.	Yes	Lack of resources AES payment rates insufficient
<u>By end 2023</u> . Gain a comprehensive understanding of the current status of this species, including its extant breeding and over-wintering locations and produce an updated population estimate: <ul style="list-style-type: none"> ○ Review all records since 1998, including ringing and nest record data. ○ Using a team of suitable experienced volunteers, conduct site visits to all recorded probable breeding sites since 2006 and to verify new records. 	Yes	Lack of resources

<ul style="list-style-type: none"> ○ Undertake appropriate liaison with landowners of likely/confirmed current sites. 		
<p><u>By mid-2024.</u> Increase awareness of this species and its conservation status amongst farmers, birders, landowners and managers, Government and potential funders to increase reporting, ensure enthusiastic cooperation and facilitate funding. Deliverables:</p> <ul style="list-style-type: none"> ○ Publish press releases and social media awareness campaigns. ○ Publish an awareness leaflet (for distribution to all farmers, agricultural suppliers, shooters, members of the MBL Garden Birdwatch Scheme and MBL, MOS & MWT supporters). ○ Produce a webpage and flagship video about the BAP. ○ Have a stall at the 2024 Tynwald Fair and both Agricultural Shows. ○ Hold guided walks, including one specifically for farmers, at project areas to highlight the identification of this species, its habitat requirements and its effective conservation. ○ Utilise a webpage, the <i>Manx Biodiversity</i>, <i>Manx Birds from my Window</i> and <i>Manx Early Birders</i> Facebook groups and the <i>Manx Birders</i> WhatsApp group for publicity and updates. ○ Establish a motivated group of Tree Sparrow conservation volunteers. ○ Establish a process for all verified records, regardless of the recording medium used, to be uploaded to the MBL National Birds Database & NBN Atlas IOM (at a suitable level of detail). ○ Maintain an increase in records, all of which will be validated, to such an extent that the Manx Bird Records Committee will no longer require a written description for records of this species due to the increased number of records and verification process included within this BAP. ○ Ensure the Agri-Environment Scheme is delivering pockets of suitable Tree Sparrow habitat at landscape scale across the whole Manx lowland area. 	Yes	Lack of resources
<ul style="list-style-type: none"> ○ Annual review and update of this document 	MWT	Due June 2024