Risk assessor names:		Paddy Sleeman	**Version:** FINAL	**Traffic light system**	Uncertain	Low	
Species:		Short-tailed field vole (*Microtus agrestris*)	**Externally reviewed**: 25/09/2024; 11/06/2025; 07/07/2025		Medium	High	
Risk assessment area:		Ireland and Northern Ireland		**Result of assessment**	16		
This version date (DD-MM-YYYY):		30/06/2025					
Criteria	**Number**	**Criteria**	**Click on each cell to access dropdown menu**	**Assessor Comments** **Note:** Pressing 'Alt' and 'Return' at the same time will allow you to enter paragraph breaks. Pressing 'F2' allows you to edit text entered in a cell.	**Assessor confidence (High, Medium, Low, Other)**	**References**	**Score and traffic light**
Current distribution	**1**	Does the species currently have a widespread recorded distribution on the island of Ireland? **Guidance note:** Where possible, reference published papers, grey literature, National Biodiversity Data Centre and/or CEDaR.	Species has a localised distribution - 3	**In Ireland:** Reported from Monaghan (Moynagh & Viscardi 2022) (H32). Present there since 2020 probably earlier. Prey of cats. Tissues sent to South East Technological University Molecular Laboratory. Trapped at site in 2024. Also in Cavan in 2022, Kilashandra (H20) probably earlier. In 2024 Virginia (H68) again prey of cats, confirmed by photos. And at H20 in 2023, H30 in 2023 and H68 in 2024 in Cavan in barn owl pellets as prey, by Birdwatch Ireland. Over 30 % of the prey in two cases. Results will be published in Irish Birds. Some overlap more searching and specimens and details needed. **In Northern Ireland:** Reported from Down, (South Belfast) Edenderry, Giants Ring (Ballynahatty) (2021) and Minnowburn (prey of cats dogs and signs). Slievenacloy Nature Reserve (2023) Ulster Wildlife in long eared owl pellet, trapped and signs (nest). From Antrim from Slievenorra as cat prey (2018) and Legoniel/Wolf Hill Dam in Belfast (2024) one specimen (lost) signs found. All being followed by, and compared with suggested but unconfirmed reports in 2011-2012. Discussions with locals suggest voles have been present much earlier, since around 2018. Mapped distribution to Nov 2024: https://maps.biodiversityireland.ie/Species/119478	High	Moynagh, J., and Viscardi, P. (2023) Vouchered record of field voles (Microtus agrestis) in Ireland from Co Monaghan (H32). *Irish Naturalists' Journal* 39:104-105. Moore, K., O'Flynn, C., Ross, C., Bell, K., Lusby, J., McCarthy, A., Reid, N., Sleeman, D.P. and Montgomery, W.I. (2024) Status of the non-native Short-tailed Field Vole (*Microtus agrestis*) (Rodentia, Cricetidae) in Ireland. *Irish Naturalists' Journal* (Preprint).	**3**
Expanding range	**2**	Is the species currently expanding it's range on the island of Ireland? **Guidnace note:** Where possible, reference published papers, grey literature, National Biodiversity Data Centre and/or CEDaR. Expert opinion may be required.	Species is expanding its range - 2	Data to suggest spread from established sites in Ireland from barn owl prey records where 30% of prey at two sites in Cavan suggest plentiful and widespread population (John Lusby and Alan Mc Carthy). Reports from Northern Ireland suggest spread (Dr Angela Ross NMNI & Ian Montgomery *pers comm*). The situation needs more data rapidly. In Ireland the invasive bank vole (*Mydoes glareolus*) expands its range at up to 4.7 (about 2+) km per year (White *et al*. 2013) very variable by habitat(s). With regard to Short tailed voles its possible, if they adapt or are adapted, that they will spread rapidly, at their preferred habitat is common. Short-tailed field vole dispersal studied by trapping in Sweden and increases in breeding season (Sandell *et al*. 1990). In Finland they move further in narrow buffer zones (Yietyinen & Norrdahl 2008).	High	Sandell, M., Agrell, J., Erlinge, S. and Nelson, J., 1991. Adult philopatry and dispersal in the field vole *Microtus agrestis*. *Oecologia*, 86, pp.153-158. Yletyinen, S. and Norrdahl, K., 2008. Habitat use of field voles (*Microtus agrestis*) in wide and narrow buffer zones. *Agriculture, ecosystems & environment*, 123(1-3), pp.194-200. White, T.A., Perkins, S.E., Heckel, G. and Searle, J.B., 2013. Adaptive evolution during an ongoing range expansion: the invasive bank vole (*Myodes glareolus*) in Ireland. *Molecular Ecology*, 22(11), pp.2971-2985.	**2**
Invasive history	**3**	Is the species in its present introduced range (including Ireland) known to be invasive i.e. to threaten species, habitats or ecosystems? **Guidnace note:** Where possible, reference published papers, grey literature, NOBANIS, ISSG, DAISIE or other appropriate source. If this is the first instance of this species occuring outside its native range state this and list as 'Uncertain'.	Uncertain - 1	Given Ireland has lacked any open ground small mammal since the lemming went extinct these animals can be assumed to be invasive and threaten the suitable open terrestrial parts of the ecosystem, as the bank vole is presently. However, Ireland for historical reasons, has vastly more open ground than woodlands or shrub cover, the bank voles preferred habitats, therefore STV may be expected to be more invasive.	High	Moore, K., O'Flynn, C., Ross, C., Bell, K., Lusby, J., McCarthy, A., Reid, N., Sleeman, D.P. and Montgomery, W.I. (2024) Status of the non-native Short-tailed Field Vole (Microtus agrestis) (Rodentia, Cricetidae) in Ireland. *Irish Naturalists' Journal* (Preprint).	**1**
Spread potential	**4**	Is there potential for this species to be spread intentionally or unintentionally across Ireland? **Guidance note:** Consider and list the major pathways of spread. Describe if spread could be expected to be rapid or slow. Describe if spread will be primarily by natural means or could the activities of people spread the species.	Viable pathways of spread identified - 2	It is unlikely that the species arrived by chance, unintentionally. Therefore deliberate human agency is most probably responsible (Moore *et al*. 2024 Preprint) as has happened with other species for example deer in ireland (lucey *et al*. 2020). Apparently accompanied by what is thought to be translocation of bank voles to near Lough Neagh in Northern Ireland from ROI (Tosh and Twinings (pers comm).	High	Lucy, F.E.,*et al* (2020) Horizon scan of invasive alien species for the island of Ireland. *Management of Biological Invasions* 11(2): 155–177, https://doi.org/10.3391/mbi.2020.11.2.01.	**2**
Habitats	**5**	How widespread are suitable habitats to allow establishment of the species? **Guidnace note:** Use available information on suitable habitats and species current distribution to help answer this question. It may be useful to use the Generated Niche Model on the GBIF portal. http://data.gbif.org/welcome.htm	Suitable habitats for this species are widespread - 3	Prefer grassland, meadows and marshland, especially permanent pasture with thick matting where they make tunnels through the matted old grass. Therefore, in intensive 'improved' grasslands they may prefer headlands, and may also prefer road verges like in Britian. These are common habitats in both parts of Ireland. Also, the widespread edges of wetlands in Ireland such as lake shores and stream and river banks would be ideal but as of yet there are no records yet from such habitats, but very likely to be used in Slievenacloy near Belfast. This will be very suitable for Generated Niche Modelling. Photos of suitable habitats photographed and published in Moore *et al.* (2024 Preprint).	High	Lydon, K. (2018) National Land Cover Map of Ireland, 2018, Final Report. Project delivered through a partnership between the Ordnance Survey Ireland and the Environmental Protection Agency. Moore, K., O'Flynn, C., Ross, C., Bell, K., Lusby, J., McCarthy, A., Reid, N., Sleeman, D.P. and Montgomery, W.I. (2024) Status of the non-native Short-tailed Field Vole (*Microtus agrestis*) (Rodentia, Cricetidae) in Ireland. *Irish Naturalists' Journal* (Preprint).	**3**
Conservation impacts	**6**	Where the species has become established has it impacted upon the conservation objectives for the area? **Guidance note:** Use avaialble published information on the impacts associated with the species. Consider how relevant these impacts are to the island of Ireland. Include references	Uncertain - 1	STV are already accounting for above 30% + of barn owl (*Tyto alba*) prey where established (John Lusby and Alan Mc Carthy 2024). It can be assumed that they must have spread to allow such predation rates. Predators in Ireland such as barn owls will likely benefit from establishment of STV. Unknown consequences yet of STV becoming a significant prey item in the landscape.	High	Harris, S *et al* (1995). *A Review of BritishMammals*. Joint Nature Conservation Committee, Peterborough. McCarthy, A. and Lusby, J., (2024). First record of Field Vole Microtus agrestis in the diet of Barn Owls Tyto alba in Ireland. *Irish Birds*, 46, pp.19-24	**1**
Animal health	**7**	Is the species poisonous, or does it pose a risk to plant and animal health? **Guidance note:** Use avaialble information.	Uncertain - 1	Not known	High		**1**
Human health	**8**	Is the species poisonous, or does it pose a risk to human health due to its parasites, pathogens or other intrinsic factor? **Guidance note:** Use avaialble information.	No identified human health impacts - 0	Little known, but are significant reservoirs of Hantavirus in England (Thompson et al. 2017). A risk may be increased rates of Lyme disease Borrelia burgdorferi, a tick borne zoonotic disease, associated with increases in small mammal densities. GI tracts of 5 voles from one site have been examined by Dr Peter Stuart at Munster Technological University at Tralee for analysis for parasites. Initial examination of the 5 voles found no parasites (Dr. Peter Stuart pers comm). Further sampling is planned.	Low	Thompson, A.G. *et al.* (2017) Endemic hantavirus in Field Voles, Northern England. *Emerg Infect Dis* 23: 1033-1035 Dr. Peter Stuart pers comm (November 2024)	**0**
Economic impact	**9**	Has the species directly or indirectly caused economic losses in Ireland or elsewhere? **Guidance note:** Economic impacts can be difficult to estimate. Use what available estimates you can find for the species in question. Consider the likelyhood that any associated impacts could lead to fines for non-compliance with WFD, Birds and/or Habitats Directives.	Uncertain - 1	All voles are pests of forestry and some crops. Given Irelands ambitious plans for tree cultivation this might be a problem. The bank vole is already a known pest of trees, especially in winter barking younger trees (Rooney & Hayden 2002, Imholt *et al*. 2017).	Low	Rooney, S., & Hayden, T.J.F., (2002) *Forest Mammals- Management and Control*. COFORD, National Council for Forest Research and Development, University College, Dublin Imholt, C., Reil, D., Plašil, P., Rödiger, K., Jacob, J. (2017). Long-term population patterns of rodents and associated damage in German forestry. *Pest Management Science*, Vol 73 Issue 2.	**1**
Control	**10**	Are there acceptable and effective control method/s that can be applied? **Guidance note:** Consider control methods for similar or related species in this assessment.	Effective management which can be resource intensive and/or with non target impacts and/or difficult to implement - 2	Rodenticides might be used, but advice is to limit their use to commensal species (Anonymous 2016). Widespread use of rodenticides would also put predators of the Short-tailed vole and other non-target species at risk (Brakes & Smith 2005). Barn owls would be natural predators affording some control. Attempting to trap-out the STFV is likely to be unfeasible and in-effective once the species has become established. Landscapes (e.g. Large Rivers or Urban Areas) may slow spread and could allow time for adaptations.	High	Anonymous (2016) *Effective control of rodent pests on farms*. Department of Agriculture Food and the Marine, Dublin. *Brakes, C.R. and Smith, R.H. (2005)* Exposure of non-target small mammals to rodenticides: short-term effects, recovery and implications for secondary poisoning. *Journal of Applied Ecology*. 42, 118–128	**2**