

Appendix 1 – Risk assessment protocol for springtails developed by Greenslade (2002: page 341)

- 1) *Distribution, preferred climate – maximum score 4.*
 - a) Proximity: does it originate in the Northern Hemisphere?
 - b) extent: has it dispersed from its origin?
 - c) dispersal ability: is the area it has so far invaded large probably as a result of multiple invasions?
 - d) area invaded: does it occur in adjacent regions with similar climates (in this case other sub-Antarctic islands? If so how many of the six; Crozet, Heard, Kerguelen, Macquarie, Marion, South Georgia)?
- 2) *Life history – maximum score 5.*
 - a) Reproduction: is it parthenogenetic?
 - b) population size: does it have a rapid intrinsic rate of increase i.e. is it *r* selected?
 - c) length of life cycle: is the life cycle short at the ambient temperatures to be encountered?
 - d) feeding type: does it have generalist feeding habits?
 - e) seasonality: will it be able to survive from season to season i.e. does it have a resting or resistant stage?
- 3) *Habitat – maximum score 4.*
 - a) General habitat: are there any suitable habitats available?
 - b) microhabitat preference: is the preferred microhabitat present?
 - c) macrohabitat preference: is the preferred macrohabitat present?
 - d) predator vulnerability: will it be relatively free of heavy predation?
- 4) *Ecological synchrony or tolerance – maximum score 4.*
 - a) Climatic limitations, temperature: are the normal climatic temperatures to be encountered suitable for at least some of the time?
 - b) climatic limitations, humidity: are the normal humidities to be encountered suitable?
 - c) Tolerance of climatic variations to be encountered: are the normal climatic variations to be encountered tolerable?
 - d) tolerance of climatic extremes to be encountered: can the extreme climatic variations to be encountered be tolerated?
- 5) *Dispersal mechanisms – maximum score 4.*
 - a) Wind: can the species be dispersed by wind?
 - b) Water: can the species be dispersed by water (fresh or saline)?
 - c) human intervention: is the species dispersed in mechanised transport systems in packing materials, plants, soil or food?
 - d) animals/birds: is the species dispersed naturally by other organisms e.g. birds?

Appendix 2. References

1. ATCM XXIX WP 5 *Practical guidelines for ballast water exchange in the Antarctic Treaty Area.*
2. ATCM XXIX WP 13 *Non-native Species in the Antarctic. Report of a Workshop.*
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4. ATCM XXXII IP 036 *A framework for analyzing and managing non-native species risks in Antarctica.*
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