Supplemental Information "Multiple Mortality Events in Bats: A Global Review", *Mammal Review* 2016, O'Shea, Cryan, Hayman, Plowright, Streicker.

We provide summaries of pertinent details regarding multiple mortality events of bats in a series of nine appendices. Appendix S10 lists all references cited in Appendices S1-S9. Events are given by region alphabetically, then chronologically within regions. The number of events entered into tallies are given in parentheses under the "Description" column. We attempted to be conservative in designating numbers of events. Unfortunately not all sources provide enough information to allow accurate judgments in each case. Generally we considered events extending over multiple years as one event per year, and events observed at more than one dispersed location as separate events. We considered events impacting more than one species of bat as separate events for each species, unless there was insufficient information on numbers per species. Events with insufficient information for each species were treated as single events. Scientific names follow Simmons (2005) in Wilson and Reeder's (2005) Mammal Species of the World, 3rd edition (http://www.vertebrates.si.edu/msw/mswcfapp/msw/index.cfm), with the exceptions of *Myotis escalerai (*Ibáñez *et al*. 2006), *Perimyotis subflavus*, and *Parastrellus hesperus* (Hoofer *et al*. 2006).

Appendix S8. Reports of multiple bat deaths due to the fungal agent of white-nose syndrome, *Pseudogymnoascus destructans*. Although *P. destructans* is known to infect and cause clinical disease in bats of Europe, disease-associated MMEs have been reported only from North America. Numbers of events are greater than enumerated here because complete data with carcass counts by species by year are not publicly available. Most sources only quantify population declines, often over multiple year periods.

Region and Species	**Date**	**Description**	**Location**	**Source**	**Case**
North America					
Myotis lucifugus, M. septentrionalis, Eptesicus fuscus, Perimyotis subflavus Unknown	2006-2008	Post mortem analysis of 117 diseased bats from 18 hibernation sites with marked mortality and population declines. (Most sites appear to be included in Frick et al. 2010)	New York, Connecticut, Massachusetts, and Vermont, USA	Blehert *et al*. 2009	S8-1

Myotis lucifugus, M. septentrionalis, Eptesicus fuscus, Perimyotis subflavus	Feb and Mar 2008 and 2009	38 dead or moribund bats with gross signs of fungal infection collected from hibernacula with mass mortality and population declines. (Most sites appear to be included in Frick et al. 2010)	New York and Connecticut, USA	Courtin *et al*. 2010	S8-2
Myotis lucifugus, others unspecified	2006-2010	Note disease has been confirmed in "at least 115 bat hibernacula" with associated mass mortality and population declines and present evidence showing tens of thousands of bats lost to disease. (minimum of 115 events; dates with carcass counts and species unavailable)	United States and Canada	Frick *et al*. 2010	S8-3
Myotis leibii, M. lucifugus, M. septentrionalis, M. sodalis, Eptesicus fuscus, Perimyotis subflavus	2007-2010	Analysed regional population trends and presented evidence of population declines attributable to WNS in 120 populations of six species at 37 sites. Most sites included in previous publications on WNS mortality.	New York, Vermont, Massachusetts, Connecticut	Langwig *et al*. 2012	S8-4
Myotis lucifugus/Myotis septentrionalis	Oct 2010 through Jun 2011	Collected 366 carcasses from the floor of a WNS affected cave and estimate that raccoons in the cave scavenged another 3169–3827 carcasses of bats killed by WNS. (2 events)	New Brunswick, Canada	McAlpine *et al*. 2011	S8-5

Myotis sodalis	2007-2011	Reported 59 infected hibernacula. Modelled historical count data for species and projected extirpation due to disease throughout large part of species' range. (Some sites included in other publications on WNS mortality but *M. sodalis* carcass counts not specified elsewhere.) (59 events).	Eastern North America	Thogmartin *et al*. 2012, 2013	S8-6
Myotis lucifugus, Myotis septentrionalis, Perimyotis subflavus, Eptesicus fuscus	2006-2010	Analysed census data from73 hibernacula; mass mortality and colony loss particularly high among species that formed large colonies. (Most sites appear to be included in other publications on WNS mortality.)	New York, Pennsylvania, Connecticut, Vermont, and Massachusetts, USA	Wilder *et al*. 2011	S8-7
Myotis lucifugus, Myotis sodalis, Myotis septentrionalis, Myotis leibii, Perimyotis subflavus, Eptesicus fuscus	2006-2011	Counts at 42 sites show a "precipitous decline in the number of hibernating bats after WNS, from 412,340 to 49,579 animals, for an overall decrease of 88%." Six species declined, with notable differences among species. *M. septentrionalis* decreased 98% (1,706 to 31 bats); *M. lucifugus* bats, 91% (348,277 to 30,260); *P. subflavus*, 75% (3,107 to 783); *M. sodalis*, 72% (55,028 to 15,650); *E. fuscus*, 41% (2,919 to 1,713); and *M. leibii*, 12% (1,303 to 1,142). Most sites appear to be included in other publications on WNS	New York, Pennsylvania, Vermont, Virginia, West Virginia, Four Canadian provinces	Turner *et al*. 2011	S8-8

		mortality, but number of affected sites in U.S. and Canada revised to 190, 75 above those indicated in Frick et al. 2010) (75 events)			
Myotis lucifugus	Mar-May 2011	100 dead bats, WNS. (1 event)	Nipissing District, Ontario, Canada	U.S. Geological Survey 2015c	S8-9
Myotis lucifugus	Mar-May 2011	25 dead bats, WNS. (1 event)	Abitibi-Temiscamingue, Quebec, Canada	U.S. Geological Survey 2015c	S8-10
Myotis lucifugus	May 2011	100 dead bats, WNS. (1 event)	Jamesie Region, Quebec, Canada	U.S. Geological Survey 2015c	S8-11
Myotis lucifugus	Winter 2011-2012	15 carcasses, WNS. (1 event	Acadia National Park, Maine, USA	U.S. Geological Survey 2015c	S8-12
Myotis lucifugus, Perimyotis subflavus	Jan-Mar 2012	200 carcasses, WNS. (1 event)	Cambria County, Pennsylvania, USA	U.S. Geological Survey 2015c	S8-13
Myotis lucifugus	Jan 2013	15 dead bats from WNS. (1 event)	Wadsworth, Ohio, USA	U.S. Geological Survey 2015c	S8-14
Myotis lucifugus	Winter 2013-2014	10 dead bats, WNS. (1 event)	Inverness County, Nova Scotia, Canada	U.S. Geological Survey 2015c	S8-15
Perimyotis subflavus	Mar-Apr 2014	40 dead bats, WNS. (1 event)	Rabun County, Georgia, USA	Perimyotis subflavus	S8-16
Myotis lucifugus	Apr 2014	50 dead bats, WNS. (1 event)	Keweenaw County, Michigan, USA	Myotis lucifugus	S8-17
Myotis lucifugus Myotis septentrionalis	Mar-Apr 2015	170 bats found dead of WNS. (2 events)	Dickinson County, Michigan, USA	U.S. Geological Survey 2015a	S8-18
Perimyotis subflavus Eptesicus fuscus	Apr 2015	Ca. 500 bats dead, WNS. (2 events)	Keweenaw County, Michigan, USA	U.S. Geological Survey 2015b; Carmody 2015	S8-19

Myotis lucifugus *Myotis septentrionalis,*					
Eptesicus fuscus *Myotis lucifugus* *Myotis septentrionalis* *Perimyotis subflavus*	Jan-Apr 2015	Ca. 500 bats dead, WNS (presumed). (2 events).	Ontonagon County, Michigan, USA	U.S. Geological Survey 2015b; Carmody 2015	S8-20