Emblematic Papers of research in my lab (updated 4/20/19 AMK)

(#s from publication page: http://kilpatrick.eeb.ucsc.edu/publications/; Coding: *primarily wildlife disease*, **data-model integration**, conservation)

101 Cheng et al – data and model integration

100 de Wit et al - has both field studies and social science data

99 Hoyt et al – key findings from the bat – WNS system on the importance of infrequent and indirect connections that are potentially (likely) important in all disease systems

92 Kilpatrick et al -My own assessment of what would be needed to make the "dilution effect" useful for public health

91 Paull et al - the most rigorous analysis at climate impacts on disease for any system I know of

88 Kilpatrick et al - current gaps in Lyme disease ecology

87 Langwig – teasing apart hypotheses with models and data

83 Rochlin et al – sometimes climate and climate change are red-herrings in altering disease transmission (here: vector populations)

80 Wilbur et al – Integral projection models for "slow" diseases (diseases where pathogen load changes slowly relative to sampling intervals)

78 Ruybal et al - addresses a critical questions in predicting the impact of climate change on vector borne disease; a follow up study that hasn't been published is an experiment trying to examine the evolutionary response of mosquitoes to climate change that includes daily, and seasonal temp variation as well as predicted changes in mean temps

70 Langwig et al - a review of how to do wildlife disease management as a pathogen invades and establishes in a new region

69 Frick et al - The effect of disease on continental patterns of host abundance - a very provocative paper that changed the way I see the world in terms of why we see the patterns of distribution and abundance of species. If you ask: "why isn't this species at this site? it seems like good habitat". This paper (and others) suggests the answer could be: Because a disease (or predator) swept through this region in the past and drove that species extinct (or extirpated it from the area). Similarly with patterns of species abundance.

58 Kilpatrick & Pape - If you're interested in vector borne disease, this paper tests a key assumption underlying vector surveillance and provides a framework for control/action. It also provides a foundation for studies of mosquito abundance and prevalence. The topic seems so

simple it's unnecessary, and yet this was the first paper of its kind to examine both spatial and temporal variation in human cases and "entomological risk" for WNV.

54 Kilpatrick & Randolph - broad review on emerging vector borne disease

53 Langwig et al – predicting and understanding the long-term impact of disease on species with short term snapshot data and basic disease ecology theory; one of my defining papers

52 Levi et al - a provocative paper challenging the dogma for what has caused the increase in Lyme disease over the last 4 decades

50 Paull et al - a review of drivers of variation in disease

49 Kilpatrick - a review of the ecology of West Nile virus up to that point. Most conclusions are still supported by subsequent data.

44 Kilpatrick & Altizer - an overview of topics in Disease Ecology - a great introduction to many different topics

38 Kilpatrick et al - chytridiomycosis in amphibians - the first comprehensive review on the ecology of this disease

26 Kilpatrick et al - a more detailed review of WNV ecology with a synthesis of the infectiousness of different host species

18 Kilpatrick et al - the role of different hosts in the transmission of WNV - one of my defining papers; the analyses/math in this paper are somewhat flawed – the supplemental material for pub #49 (Kilpatrick 2011 Science) corrects these flaws

16 Kilpatrick – a quantitative framework for assessing the risk of pathogen introduction to a new region (for zoonotic vector borne diseases) (also used in #8, #27)

14 Kilpatrick – the role of multiple stressors (including disease) in driving species to extinction

12 Daszak et al - Disease is sometimes a red-herring in causing species declines