Data Submitted (UTC 11): 10/15/2021 4:20:11 PM
First name: Zachary
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Comments: To Whom It May Concern:

I would like to urge you to consider the conservation alternative put together by P1100 for the management of the Manti-La Sal National Forest. The conservation alternative can be viewed here:

https://www.mantilasalconservationalternative.org/post/the-conservation-alternative

It is important to keep managed honeybees off of forest service land in order to protect native bees. There is a broad body of research demonstrating negative effects of honeybees on native bees, particularly at high densities (as would be expected from apiaries). Specifically, honeybees can compete with native bees for floral resources, they can reduce the nest density of native bees near apiaries, they can spread pathogens to native bees.

Relevant research includes:

Garibaldi, L. A., N. Pérez-Méndez, G. D. Cordeiro, A. Hughes, M. Orr, I. Alves-dos-Santos, B. M. Freitas, F. Freitas de Oliveira, et al. 2021. Negative impacts of dominance on bee communities: Does the influence of invasive honey bees differ from native bees? Ecology. doi:10.1002/ecy.3526.

Renner, S. S., M. S. Graf, Z. Hentschel, H. Krause, and A. Fleischmann. 2021. High honeybee abundances reduce wild bee abundances on flowers in the city of Munich. Oecologia 195: 825-831. doi:10.1007/s00442-021-04862-6.

Ropars, L., L. Affre, L. Schurr, F. Flacher, D. Genoud, C. Mutillod, and B. Geslin. 2020. Land cover composition, local plant community composition and honeybee colony density affect wild bee species assemblages in a Mediterranean biodiversity hot-spot. Acta Oecologica 104. doi:10.1016/j.actao.2020.103546.

Ing, K., and C. L. Mogren. 2020. Evidence of Competition between Honey Bees and Hylaeus anthracinus (Hymenoptera: Colletidae), an Endangered Hawaiian Yellow-Faced Bee. Pacific Science 74: 75-85. doi:10.2984/74.1.6.

Hudewenz, A., and A. M. Klein. 2013. Competition between honey bees and wild bees and the role of nesting resources in a nature reserve. Journal of Insect Conservation 17: 1275-1283. doi:10.1007/s10841-013-9609-1.

Tapia-González, J. M., N. Morfin, J. O. Macías-Macías, A. De la Mora, J. C. Tapia-Rivera, R. Ayala, F. Contreras-Escareño, H. A. Gashout, et al. 2019. Evidence of presence and replication of honey bee viruses among wild bee pollinators in subtropical environments. Journal of Invertebrate Pathology 168. doi:10.1016/j.jip.2019.107256.

Manley, R., B. Temperton, T. Doyle, D. Gates, S. Hedges, M. Boots, and L. Wilfert. 2019. Knock-on community impacts of a novel vector: spillover of emerging DWV-B from Varroa -infested honeybees to wild bumblebees . Ecology Letters: 1306-1315. doi:10.1111/ele.13323.

Alger, S. A., P. A. Burnham, H. F. Boncristiani, and A. K. Brody. 2019. RNA virus spillover from managed honeybees (Apis mellifera) to wild bumblebees (Bombus spp.). Plos One 14: e0217822.

doi:10.1371/journal.pone.0217822.

Hung, K. L. J., J. M. Kingston, A. Lee, D. A. Holway, and J. R. Kohn. 2019. Non-native honey bees disproportionately dominate the most abundant floral resources in a biodiversity hotspot. Proceedings of the Royal Society B: Biological Sciences 286. doi:10.1098/rspb.2018.2901.

Portman, Z. M., V. J. Tepedino, A. D. Tripodi, A. L. Szalanski, and S. L. Durham. 2018. Local extinction of a rare plant pollinator in Southern Utah (USA) associated with invasion by Africanized honey bees. Biological Invasions 20. Springer International Publishing: 593-606. doi:10.1007/s10530-017-1559-1.

Magrach, A., J. P. González-Varo, M. Boiffier, M. Vilà, and I. Bartomeus. 2017. Honeybee spillover reshuffles pollinator diets and affects plant reproductive success. Nature Ecology & Evolution. doi:10.1038/s41559-017-0249-9.

Honeybees are also well-documented to have negative effects on bumblebees, which is of special concern in the Manti-La Sal National Forest due to the presence of Bombus occidentalis. For example, see:

Thomson, D. M. 2016. Local bumble bee decline linked to recovery of honey bees, drought effects on floral resources. Ecology letters 19: 1247-1255. doi:10.1111/ele.12659.

Meeus, I., L. Parmentier, G. Smagghe, M. Pisman, and D. C. De Graaf. 2021. Reduced nest development of reared Bombus terrestris within apiary dense human - modified landscapes. Scientific Reports: 1-9. doi:10.1038/s41598-021-82540-6.

Goulson, D., and K. R. Sparrow. 2009. Evidence for competition between honeybees and bumblebees; effects on bumblebee worker size. Journal of Insect Conservation 13: 177-181. doi:10.1007/s10841-008-9140-y.

This is just a portion of the relevant research. Given the likely negative effects of honeybee apiaries on native bees in the Manti-La Sal National Forest, I encourage you to prevent the stocking of honeybees on Forest Service land and to consider the conservation alterative put forward by P1100.

Sincerely,

Zach Portman, PhD