



**Honey Bee Health Coalition/Keystone Policy Center
Bee Integrated Demonstration Project
Final Summary Report to North Dakota Outdoor Heritage Fund
June 2020**

1. Project Purpose

The overarching goal of the Bee Integrated Demonstration Project is to demonstrate how honey bee health can be improved by using a portfolio of tools together in the same agricultural landscape to address the primary risk factors affecting bee health. The project demonstrates and evaluates the capacity of Honey Bee Health Coalition projects, tools and recommendations to enhance beekeeping in the agricultural environment by improving health outcomes for honey bees. It demonstrates how existing best practices for forage and nutrition, crop pest control, varroa management, and farmer/beekeeper cooperation can be effectively combined and implemented.

2. Work Accomplished

Bee Integrated launched in 2017, with three farmer/beekeeper pairs in North Dakota participating for 3 years. In 2018, it was expanded to a total of six farmer/beekeeper pairs in North Dakota. Methods included: 1) pairing of beekeepers and landowners/farmers; 2) sharing and implementation of best practices for establishment of forage, monitoring and treatment of varroa mites, crop pesticide stewardship, and communications; 3) support of participants with technical assistance; 4) measurement of outcomes through monitoring and survey analysis. Highlights of work accomplished include:

1. Habitat planted through the Bee and Butterfly Habitat Fund on 6 sites in ND totaling 110 acres (in LaMoure, Streeter, Baldwin, Hatton, Sheyenne, and Willow City, ND).
2. Habitat was evaluated for plant species and wild and native bee visitation; pollen identification determined what plants bees foraged on as compared to sites without habitat enhancements.
3. Farmers received training on best practices for pesticide stewardship and pollinator protection.
4. Beekeepers met 4 times per year with the Bee Informed Partnership to monitor colony health and implement the Honey Bee Health Coalition's *Tools for Varroa Management Guide*.
5. Farmers and beekeepers participated in job swaps.
6. The project was broadly communicated to beekeeper, farmer, and other audiences nationwide through conferences, a field tour, case studies, social media, websites, etc.

3. Project results

Significant results supported by ND OHF funding:

- Bees at best practice sites are collecting a more diverse diet of pollen from various flowering pollinator forage species.
- Bee and Butterfly Habitat Fund sites have higher flower abundance and higher visits by native and managed bees as compared to other land use types
- Farmers report that the project has been well worth their time and effort; identifying a partnering beekeeper as a potential beneficiary was a critical motivator for BMP adoption.

4. Value to the citizens of North Dakota

Crop production and honey production are important facets of North Dakota's agricultural industry. This project increased North Dakota beekeeper-farmer collaboration, pollinator habitat, and implementation of best practices for pollinator protection and bee health. This pilot effort will provide a model for expansion of the Bee Integrated approach within North Dakota and beyond.