

Iowa Monarch Habitat Project



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Iowa Monarch Habitat Project

Integrated Monarch
Monitoring Program (IMMP)

Milkweed stem count

Flowering plant survey

Egg and larvae survey

Adult monarch count





Iowa Monarch Habitat Project

Year	# Site Visits
2016-2020	51
2021	405
2022	193





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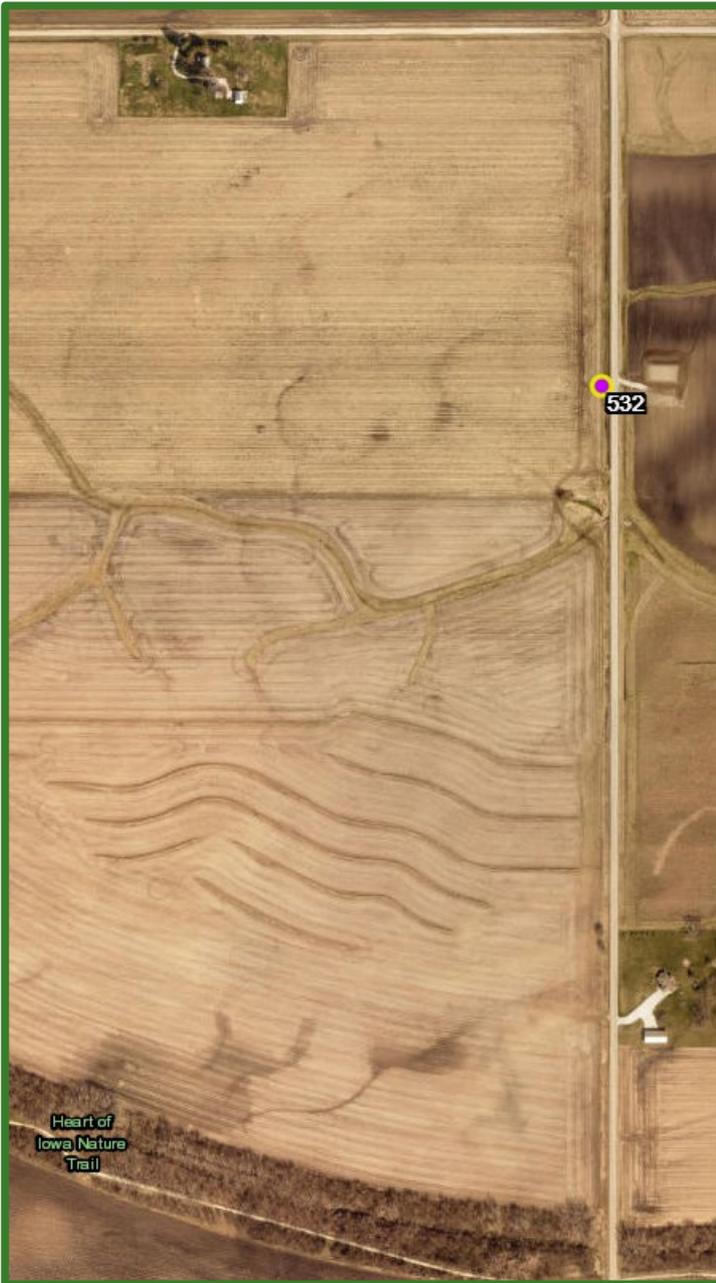
The crew is trained in the IMMP protocol by Karen Kinkead – IDNR Wildlife Diversity Program Director



Monitoring a Right-of Way

- Linear plot which is 500 meters long



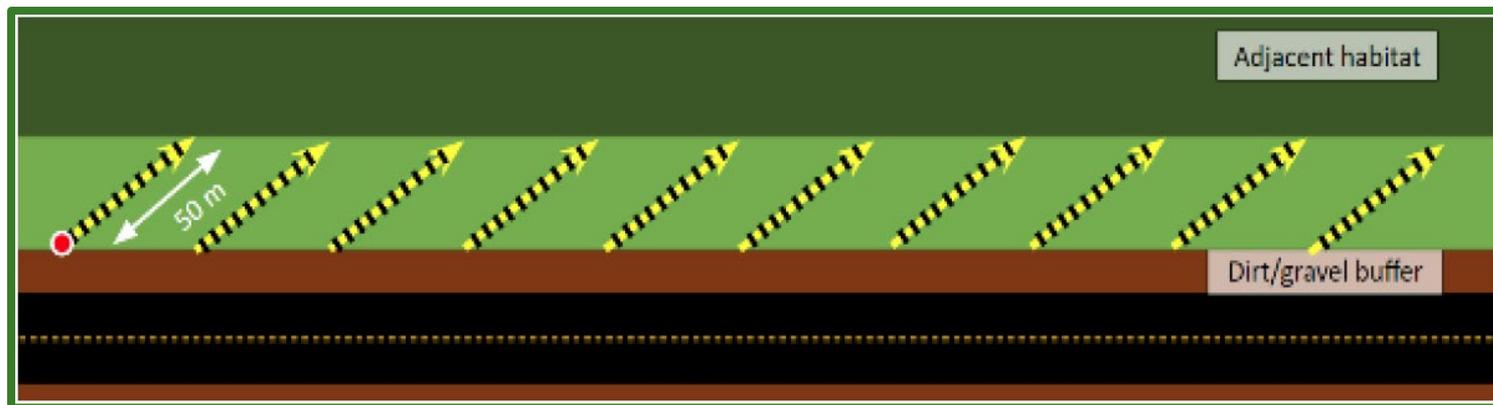


On site the crew determines the direction of the plot



Monitoring a Right-of Way

- The flowering plant survey transects the ROW every 50 meters until 10 transects are surveyed (100 subplots)





Milkweed Stems/Acre

- The U.S. Fish and Wildlife Service used a study by Thogmartin et al. 2017, as the benchmark for estimating the current and additional milkweed stems/acre needed to support the monarch population in the Midwestern states.
- That study estimated that the current milkweed stem/acre in Iowa is 4.

Land Use	# Sites	Average Milkweed Density (plants/acre), excluding <i>A. verticillata</i>	Average Milkweed Density (plants/acre), all species
2021 (all sites)	81	1,162	1,423
Agricultural Crop Land	1	688	688
Protected Grassland	22	1,101	1,379
Roadside Rights-of-Way	42	1,235	1,536
Unclassified Grassland	15	557	584
2022 (all sites)	87	565	1,240
Protected Grassland	30	452	817
Roadside Rights-of-Way	42	630	948
Unclassified Grassland	15	635	3,035



Flowering Plants

Year, Land Use Type	# Sites	Average Flowering Frequency	Average # Native Flowering Species	Average # Flowering Species (all spp.)
2021 (all sites)	81	0.24	1	4
Agricultural Crop Land	1	0.22	0	0
Protected Grassland	22	0.3	2	4
Roadside Rights-of-Way	42	0.22	1	3
Unclassified Grassland	15	0.23	1	4
2022 (all sites)	87	0.3	6	11
Protected Grassland	30	0.37	9	14
Roadside Rights-of-Way	42	0.22	4	9
Unclassified Grassland	15	0.34	6	9



Monarch Eggs and Larvae

Year, Land use type	# Sites	Total # of eggs/larvae observed across sites	Avg # of eggs/larvae per survey	Avg # monarchs per plant (density)
2021 (all sites)	80	2,019	7	0.091
Agricultural Crop Land	1	3	3	0.03
Protected Grassland	22	296	4	0.079
Roadside Rights-of-Way	42	1,542	10	0.109
Unclassified Grassland	15	178	3	0.064
2022 (all sites)	98	385	2	0.039
Protected Grassland	36	82	1	0.042
Roadside Rights-of-Way	46	271	3	0.037
Unclassified Grassland	16	32	1	0.042



Monarch Adults

Year, Land use type	# Sites	Total # of monarch adults observed across sites	Avg # adult monarchs observed per survey
2021 (all sites)	79	276	1
Agricultural Crop Land	1	4	4
Protected Grassland	22	122	2
Roadside Rights-of-Way	41	108	1
Unclassified Grassland	15	42	1
2022 (all sites)	96	57	0
Protected Grassland	36	22	0
Roadside Rights-of-Way	44	16	0
Unclassified Grassland	16	19	1

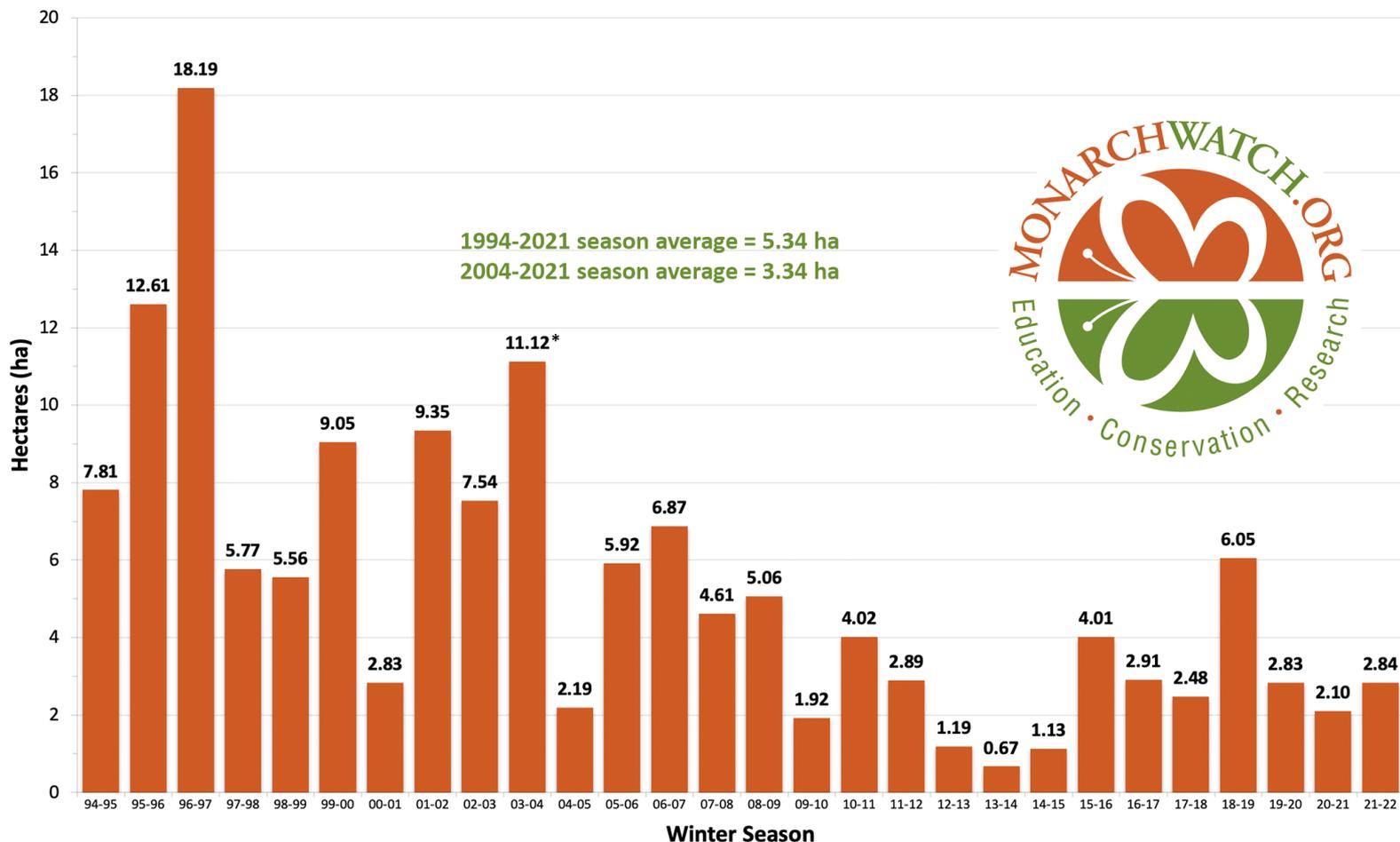


Counties Surveyed

Blackhawk	Madison
Boone	Mahaska
Bremer	Marshall
Butler	Monona
Clay	Osceola
Crawford	Palo Alto
Dallas	Polk
Franklin	Sioux
Hardin	Story
Jasper	Tama
Kossuth	Woodbury



Total Area Occupied by Monarch Colonies at Overwintering Sites in Mexico

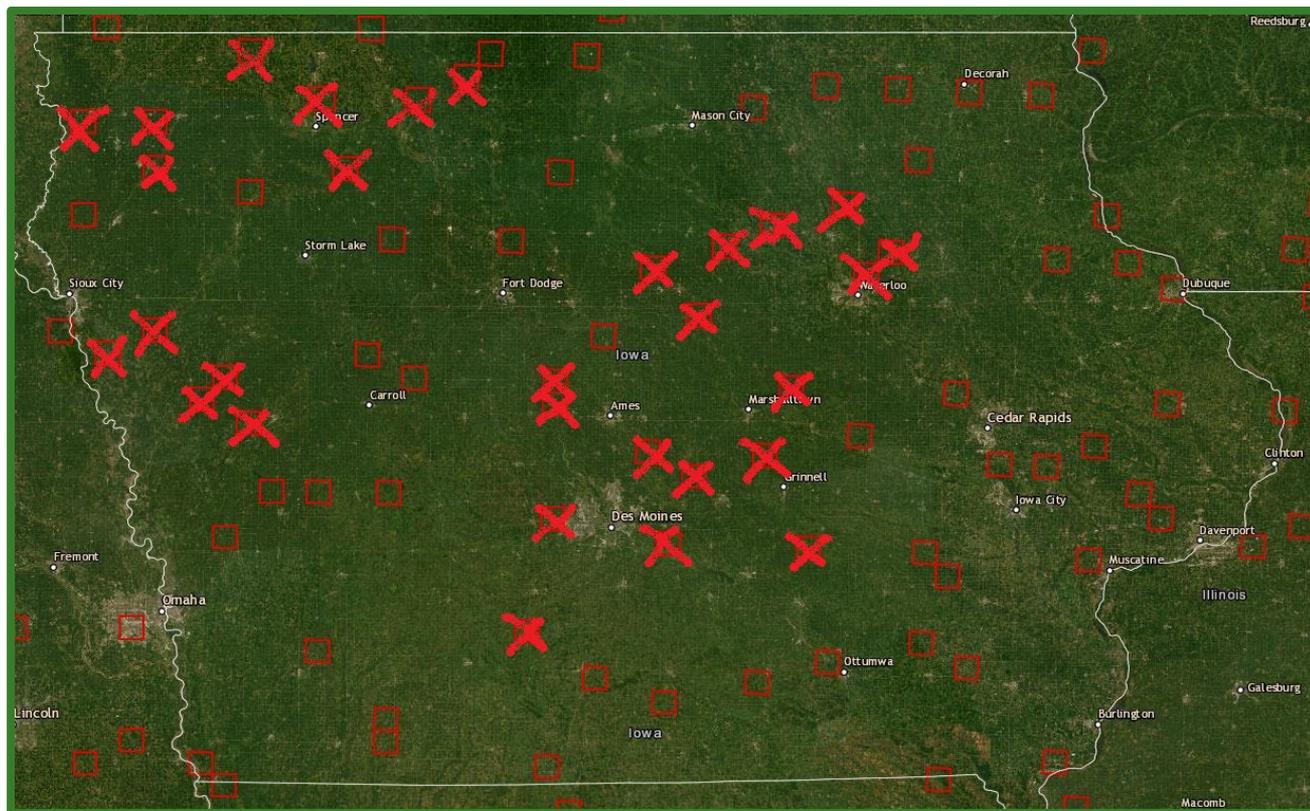


1994-2003 data collected by personnel of the Monarch Butterfly Biosphere Reserve (MBBR) of the National Commission of Natural Protected Areas (CONANP) in Mexico. 2004-2021 data collected by World Wildlife Fund Mexico in collaboration with the National Commission of Natural Protected Areas (CONANP), the National Autonomous University of Mexico (UNAM), and the MBBR.

* Represents colony sizes measured in November of 2003 before the colonies consolidated. Measures obtained in January 2004 indicated the population was much smaller, possibly 8-9 hectares. CT



New Counties in 2023



Montgomery, Taylor, Decatur, Clark, Lucas, Wayne, Monroe, Wapello, Jefferson, Washington, Johnson, Linn, Fayette, Winneshiek



Questions?

