

Transborder Migration: The Monarch Butterfly and US-Mexico Relations

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Faculty Introduction

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This paper explores the historical and cultural significance of the migration of the eastern monarch butterfly, illuminating the important role of international cooperation between Mexico and the United States to diminish threats to the monarch and ensure its continued survival. Kurstin bases the transnational research project on primary and secondary sources, placing the butterfly's migration within the paradigm of cross-border migrations. The work reflects a semester-long, student-driven, original research paper required for completion of the Bachelor of Arts in History.

Abstract

While monarch butterflies' unique migratory patterns have granted them high esteem among multiple cultures, their transborder migration has also presented them with a distinct set of threats. In light of the drastic decline of monarch populations in recent decades, the social, cultural, and ecological significance of these insects should warrant international solutions. Mexico has made various efforts toward the conservation and protection of the species; however, the United States has not fully reciprocated these measures. This research paper demonstrates the historical significance of the monarch butterfly both ecologically and culturally, outlines the prevalent issue and factors involved in the butterfly's decline, and exemplifies the need for more effective international relations.

While the journey across the border remains a dangerous route for Mexican immigrants, there is another group of transborder migrants the governments have failed to protect that faces possible extinction. Crime and carelessness on either side of the US-Mexico border are threatening the survival of one of the most beloved creatures to inhabit North America—the monarch butterfly.

For centuries, monarch butterflies have attracted the attention of various societies and cultures all over the continent, largely due to their unique migratory patterns. For several decades, scientists have wondered where the eastern population of monarchs migrated to during the winter, until 1975 when zoologist Fred Urquhart learned of their transborder occupancy.¹ However, entomologists only began to measure the size of the monarch population at the Monarch Butterfly Biosphere Reserve in Mexico just two and a half decades ago.² Since then, they have observed a dramatic decline in the eastern population. Researchers and environmentalists have primarily attributed their massive decline to illegal logging in Mexico and intensive agricultural practices in the United States for destroying the insect’s habitat.

There has been some controversy regarding whether the US and Mexico are both at fault, and whether each nation should assume partial responsibility, but concerned citizens of both nations have pressured the governments to make mutual efforts toward conservation. The monarch has accumulated its fame and has become a symbol, icon, and link for societies and

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cultures, to the point of impacting social issues. The magnitude of social and cultural significance that the monarch butterfly has generated over time—

augmented by the threat of decline in monarch populations—evokes a sense of meaning and purpose for citizens that has transcended politics and even altered international relations.

¹ Fred A. Urquhart and Bianca Lavies, “Found at Last: The Monarch’s Winter Home,” *National Geographic Magazine*, August 1976, 161. <http://tinyurl.galegroup.com/tinyurl/9B4992>.

² Homero Aridjis, “40 Years Ago the World ‘Discovered’ Mexico’s Monarch Habitat—Today Its Survival Is at Stake,” *Huffington Post* (blog), March 22, 2015. https://www.huffingtonpost.com/homero-aridjis/mexico-monarch-survival_b_6501656.html.

Two Separate Monarch Populations

Despite the insect's long history of international travel, Fred Urquhart and his team of trackers claimed in 1975 that they discovered the monarch's winter home in Mexico. Fred and his wife, Norah, began attempting to track the butterflies in 1937 by labeling their wings, and after finding a successful method of attaching the labels, they invited citizens to assist with their tagging program.³ Within a few decades, they had accumulated enough data to plot the monarchs' migration routes, which reflected a flight pattern from the northeast to southwest across the United States and indicated their passage from Texas into Mexico.⁴ In 1972, Norah wrote to Mexican newspapers asking for volunteers to help track the monarchs. Mexico City resident Kenneth Brugger responded with interest and, with his wife's help, would ultimately be the one to find the monarchs' winter refuge.⁵

While the eastern population had attracted Urquhart's attention, a separate population of monarchs in the western part of the United States was known to spend the winter on the California coast. In fact, the overwintering site in Pacific Grove, California, is the most well-known monarch wintering location in the United States.⁶ Every year, since about 1940, the coastal city has hosted an annual children's parade welcoming the monarch's return in the fall.⁷ In 1967, thousands of children of various ages joined together to organize and participate in the parade before crowds of relatives and town visitors who numbered in the thousands.⁸ Photographs of the parade depict children carrying welcome signs and wearing paper wings decorated with black and gold attached to their backs. The article's author distinguishes the town from other California cities for its refusal to commercialize the monarch and efforts to preserve its peaceful state in nature, declaring its nickname, "Butterfly Town." While the eastern and western monarch populations had separate locations, they both shared cultural significance. Just as the western population was celebrated and revered in their US winter home, so too was the eastern population in Mexico. By the time the

³ Urquhart and Lavies, "Found at Last," 164.

⁴ Urquhart and Lavies, "Found at Last," 165-66.

⁵ Urquhart and Lavies, "Found at Last," 166.

⁶ Paul A. Zahl, "Mystery of the Monarch Butterfly," *National Geographic Magazine*, April 1963, 594. <http://tinyurl.galegroup.com.ezproxy.shsu.edu/tinyurl/9EoeM6>.

⁷ "American Town Where Butterfly is King," *Times*, November 1967, 5. <http://tinyurl.galegroup.com.ezproxy.shsu.edu/tinyurl/9Epi88>.

⁸ Zahl, "Mystery of the Monarch," 597.

article was written, the monarch had long been an object of admiration, and the mystery surrounding it only added to its charm.

Mystery Surrounding the Monarchs

Although admirers of the western population did not have to wonder where they went upon their seasonal departure, knowing they returned to the northern US and Canada, their migration still aroused curiosity. The newspaper articulated the question that remained a mystery for citizens and scientists alike: “how such delicate creatures [could] fly a 2,000-mile round trip, and why...they home on the same trees year after year,” and proclaimed that “memory will not answer...for the butterflies that return [each] year are offspring of last year’s visitors who since have died.”⁹ Biologist and senior scientist for the National

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Geographic Society Paul A. Zahl offered a hypothesis for the same question in an article for *National Geographic*, suggesting that

each new generation might “rely on celestial navigation—possibly the polarized rays of the sun—to guide its flight...We can only surmise that a dim instinct and built-in biochemical forces urge the monarch on and guide it.” Although witnesses to the migration of the western population of monarchs knew, to some degree, the extent of their journey, observers of the eastern monarch population did not yet know where it ended, at least, not until Kenneth and Cathy Brugger’s discovery of millions of monarchs roosting in a forest of Oyamel trees on Cerro Pelon in Michoacán, Mexico.¹⁰

Although the eastern monarchs’ winter destination had been a mystery to American and Canadian citizens prior to Brugger’s encounter, the accounts of Mexican residents attest to a long history of awareness, appreciation, and anticipation for their winter visitors. Mexican poet and environmentalist Homero Aridjis recalls picnics at the Plain on the Mule, school trips to *La montaña de las mariposas* (Butterfly Mountain) and growing up in the village of Contepec—each of the memories painted with images of butterflies vibrantly filling the sky. He argues that Urquhart and Brugger’s encounter with the colony at their winter home in Mexico was no discovery. Rather, it was “a mutual

⁹ “American town where butterfly is king,” 5.

¹⁰ Aridjis, “40 Years Ago.”

enlightenment for people at both ends of the fabulous 3,000-mile-long migration of the monarch butterfly,” because just as their counterparts north of the border had not known where the butterflies spent the winter, neither had Mexican spectators known “where they had come from, nor where they went each spring.”¹¹ They simply celebrated their arrival at the end of every October. The mystery of the butterfly linked cultures across time and space with curiosity and adoration.

Social and Cultural Icon

The monarch connected people across distances and political boundaries by its social significance, but it also connected people across time and cultural boundaries. In fact, locals in Michoacán had anticipated the annual winter arrival of the monarch butterflies since pre-Hispanic times. For example, the Purépecha Indians—the native people who have populated most of Michoacán and inhabited the region since before the Spanish Conquest—believed the spirits of the departed continued living after death in a spiritual world where they rest until the time comes when they can visit.¹² The indigenous group recorded the monarchs’ routine visits long before Spanish settlement in Mexico.¹³ As it happens, the monarchs’ arrival to Mexico coincides with the three-day holiday known as *Día de los Muertos* (Day of the Dead), a Mexican festival of holy days brought to Mexico by the Spanish and celebrated from October 31 to November 2. The Hispanic traditions and indigenous customs blended to produce a culturally symbolic butterfly, which represented the individual souls of lost family members who return each autumn to visit.¹⁴

The monarch butterfly has become such an important aspect of Mexican culture that its symbolic meaning is expressed in Mexican literature. Mexican poet Rigoberto Alcalá uses metaphors to express the meaning of the monarch as a symbol of Mexican culture and spirituality, comparing its wings to flames that sputter and consume the air; then burnt paper carrying a message; and then leaves that replace the ones that have fallen from bare trees, only to drop away again. He uses these metaphors to

¹¹ Aridjis, “40 Years Ago.”

¹² María Estela Romero, “The Day of the Dead,” *Journey North*, accessed March 21, 2019. <https://journeynorth.org/tm/monarch/DiaMuertosMER.html>.

¹³ Wendy Redal, “Mexico’s Monarchs Return for the Day of the Dead,” *Good Nature Travel: The Official Travel Blog of Natural Habitat Adventures*, November 1, 2017. <https://www.nathab.com/blog/mexicos-monarchs-return-for-the-day-of-the-dead/>.

¹⁴ Redal, “Mexico’s Monarch Return.”

reference the monarchs' seasonal departure, but also the cycle of life and death. The message they carry is an answer to the prayers of mothers who have lost their children. His poem claims that, to these mothers, "the Monarch's eggs / Complete their prayers like rosary beads; they are flammable / Like the heads of matches. But we value the chrysalis of bone, / The blue shell that brought down the sky within our reach."¹⁵ He refers to the cycle of life and death and the changing of seasons by saying the eggs will catch fire, meaning they hatch and grow into monarchs with blazing orange wings and then depart as a part of their yearly cycle, just like departure is part of the cycle of life and death. While it burns that they must go, the cycle is valued because it promises their return both physically as butterflies and spiritually as the deceased souls they represent, and it leaves the living neighbors with hope. The emotion in his writing demonstrates his connection to the butterfly as a cultural symbol by personal experience. Aridjis conveys a similar appreciation

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by reflecting on his childhood memories in Contepec, but he describes the recollection "as if [returning] to a lost world." The childhood village he remembers no longer exists because the monarchs'

recent population decline pushed their numbers to an all-time-low.¹⁶ When Aridjis wrote his article in 2015, the monarchs had not visited Contepec for years.¹⁷ The monarchs' social and cultural significance was only magnified by concern of its decline and disappearance.

The Recent Threat of Population Decline

Measuring of the monarch population began in the mid-nineties and has since become a prominent topic of environmental concern. Mexico established the Monarch Butterfly Biosphere Reserve northwest of Mexico City in 1986 to protect much of the monarchs' overwintering

¹⁵ Rigoberto Alcalá, "The Flight South of the Monarch Butterfly," *Revista Chicano-Riquena* 22, no. 3/4 (September 1994): 63–64. <https://ezproxy.shsu.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=h6a&AN=44879134&site=ehost-live&scope=site>.

¹⁶ Aridjis, "40 Years Ago."

¹⁷ Homero Aridjis, "Last Call for Monarchs," *Huffington Post* (blog), December 6, 2017. https://www.huffingtonpost.com/homero-aridjis/mexico-monarch-butterfly-migration-_b_4745915.html.

sites.¹⁸ In 1996, their population in the Biosphere Reserve was estimated at one billion, and in less than two decades, those figures dropped to a mere 33 million.¹⁹ Other estimates show the butterflies occupied forty-four acres of forest in 1997 and diminished to only six acres by 2018.²⁰ The remaining population is just a fraction of what it had been. The decrease has been attributed to several factors, which have been discussed among environmentalists and entomologists who form conservation groups with the goal to minimize threats toward the monarch population and prevent further reduction. The factors discussed include severe weather patterns, excessive ecotourism, and reduction of habitats, with the most emphasis being placed on genetically engineered crops, the overuse of herbicides in the US and illegal logging in the Oyamel Forests of the Biosphere Reserve that monarchs inhabit during the winter.²¹

The Roles of the US and Mexican Governments

While their decline has evoked equally passionate responses from both sides of the US-Mexico border, some of the responses have been controversial. Many articles on the issues of monarch population decline are limited in scope. Some have argued that Mexico is mostly responsible for the decline in the monarch population. Still others claim that Mexico has failed to resolve the issues alleged to be the main contributing factors. While they suggest that the United States re-examine the extent to which herbicide-based agriculture is affecting the monarch habitats in the American Midwest, they place more emphasis on the failure of Mexico to eliminate illegal logging, enforce limitations on ecotourism, and produce adequate data on the butterflies.²² Illegal logging within the Monarch Butterfly Biosphere Reserve was outlawed in 1986, but they argue that the Mexican government needed to do more.²³ Studies in 2016 concerned an illegal logging operation that took place in the overwintering area on Sierra

¹⁸ Lincoln P. Brower and Homero Aridjis, "The Winter of the Monarch," *The New York Times* (2013). <https://www.nytimes.com/2013/03/16/opinion/the-dying-of-the-monarch-butterflies.html>.

¹⁹ Aridjis, "40 Years Ago."

²⁰ Omar Vidal, "The Monarch Butterfly and Donald Trump's Demagogic Promises," *El Universal* (2018). <https://www.eluniversal.com.mx/english/monarch-butterfly-and-donald-trumps-demagogic-promises>.

²¹ Brower and Aridjis, "The Winter of the Monarch."

²² Brower and Aridjis, "The Winter of the Monarch."

²³ Brower and Aridjis, "The Winter of the Monarch."

Chincua within the core zone of the Reserve that occurred in 2015. The authors use high-resolution images of the area before and after the operation to demonstrate its impact, reference decades of data to show it disrupts monarch migratory patterns, and discuss the negligence on the part of the Mexican government to promptly announce the issue publicly.²⁴ In addition, there have been other studies conducted to disprove alleged threats associated with US agricultural practices. The *Proceedings of the National Academy of Sciences* (PNAS) concluded that “the impact of *Bt* corn pollen from current commercial hybrids on monarch butterfly populations is negligible.”²⁵ Their findings were a follow-up to a report published by the US Environmental Protection Agency (EPA) that concluded the potential impact of *Bacillus thuringiensis* corn pollen “on sensitive larvae of *Lepidoptera* was negligible because of factors that limit environmental exposure.”²⁶

The implications of such work were met with opposition. In another article, researchers asserted that “the main culprit for this precipitous decline is no longer logging...Relentless spraying of glyphosate herbicides on the fields has destroyed the once abundant milkweed... The monarch butterfly is literally being starved to death.”²⁷ Recently, Mexican scientist and environmentalist Omar Vidal wrote an article for *El Universal* maintaining that the primary threat against the monarch species is habitation loss due to “unsustainable agricultural practices in the US”²⁸ He mentions illegal logging among the other lesser concerns, but argues that Mexico has done their fair share to preserve the species while the US “did not reciprocate these urgent conservation measures.”²⁹

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Mexico has dramatically reduced illegal logging by federal enforcement, and in the wake of socioeconomic issues, provided environmental

²⁴Lincoln P. Brower, et al., “Illegal Logging of 10 Hectares of Forest in the Sierra Chincua Monarch Butterfly Overwintering Area in Mexico,” *American Entomologist* 62, no. 2 (June 2016): 92–97. <https://academic-oup-com.ezproxy.shsu.edu/ae/article/62/2/92/1751792>.

²⁵Mark K. Sears, et al., “Impact of *Bt* corn pollen on monarch butterfly populations: A risk assessment.” *PNAS* 98, no. 21 (2001). <https://www.pnas.org/content/98/21/11937?sid=3De0%3D>.

²⁶Mark K. Sears, et al., “Impact of *Bt* corn pollen on monarch butterfly populations: A risk assessment.” *PNAS* 98, no. 21 (2001). <https://www.pnas.org/content/98/21/11937?sid=3De0%3D>.

services and financial support to create local jobs.³⁰ Meanwhile, the US government has not shown substantial interest in the matter. Although President Barack Obama, alongside Canadian Prime Minister Steven Harper and Mexican President Enrique Peña Nieto, pledged to “devise a plan for saving the continent’s endangered migration of monarch butterflies” at the North American Leaders Summit in 2014, he neglected to include the monarch task force on a list of summit deliverables, which left room for doubt about his regard for the issue.³¹ Moreover, while US citizens and environmentalists attempt to aid the cause, the recent trend in planting tropical milkweeds has actually heightened the problem by making monarchs more susceptible to the deadly protozoan parasite *Ophryocystis elektroscirrha*.³²

The Monarch’s Role as an Icon Enhanced by Threat of Decline and Vice Versa

These contrasting perspectives pertaining to causes and solutions collectively fail to divert the issue from one nation to the other, but instead exemplify that the problem is mutual. Both nations contribute to the decline in one way or another, and equally benefit from the insect’s economic and ecological contributions. Since the nations share the species and its ecological benefits, so must they share the responsibility of its preservation, which will require international cooperation.³³ If the species were to be lost, it would mean “losing vital human connections too: the stories, folklore, and admiration that have connected communities across thousands of miles for ages.”³⁴ Recent discussions about immigration reminds Vidal that the monarch is not bound by political barriers, but rather, monarchs “transcend political boundaries and cultures.”³⁵ However, it is cultural reverence that has elevated the monarch to the status of a social icon, a cultural symbol, and a metaphorical bridge between two cultures, surpassing the physical

²⁷ Aridjis, “40 Years Ago.”

²⁸ Vidal, “Trump’s Demagogic Promises.”

²⁹ Vidal, “Trump’s Demagogic Promises.”

³⁰ Vidal, “Trump’s Demagogic Promises.”

³¹ Howard LaFranchi, “A Win for Monarch Butterflies at Mexico Summit,” *The Christian Science Monitor* (2014). <https://www.csmonitor.com/World/Americas/Latin-America-Monitor/2014/0220/A-win-for-monarch-butterflies-at-Mexico-summit>.

³² Aridjis, “40 Years Ago.”

³³ Vidal, “Trump’s Demagogic Promises.”

³⁴ Vidal, “Trump’s Demagogic Promises.”

³⁵ Vidal, “Trump’s Demagogic Promises.”

and mental barriers established by each society. So, by this tiny creature, two divided worlds are connected, and by obtaining that level of cultural significance, the monarch has been able to mobilize people, initiate environmental awareness, and even inspire political change. According to Gustafsson et al., the monarch's ability to "generate public passions, spawn organizations, and capture the attention of world leaders rests on a biological and a social-historical foundation," both of which contributed to "the social construction of the monarch butterfly as an icon."³⁶ For a vast and unknown length of time, the mystery surrounding these creatures has intrigued humanity and earned them social and cultural significance.

The butterfly's status has not only inspired debate among scientists and environmentalists, it has also gained the attention of political figures. Its lasting relationship and significance to human beings has mobilized monarch enthusiasts for its cause. The monarch has become intertwined with celebrations, traditions, and even belief systems. Now that the relationship is being disturbed, its diverse support group is uniting to preserve their symbol of joy, hope, and family. Meena Yust, an attorney with an interest in the environment, was one of many people initiated into the butterfly's support group. Recognizing the importance of multinational relevance, she argues that the US, Canada, and Mexico should enact a Migratory Insect Treaty to protect the monarchs and other migratory insects. She also argues that current laws are insufficient to protect the monarch, made apparent by the ongoing failures of each side, and concludes that this is indicative of the need for more international conservation treaties.³⁷ These efforts, and that of other concerned citizens, were the tools that gained the attention of all three national governments at the 2014 North American Leaders Summit.

A Window for Solutions

The mystery surrounding the monarch butterflies—where, why, and how they migrate annually, returning to the same exact locations as their ancestors—prompted scientists to study their migratory patterns during

³⁶ Karin M. Gustafsson, Anurag A. Agrawal, Bruce V. Lewenstein, and Steven A. Wolf. "The Monarch Butterfly through Time and Space: The Social Construction of an Icon." *BioScience* 65, no. 6 (2015): 612-22. <https://www-jstor-org.ezproxy.shsu.edu/stable/90007299>.

³⁷ Yust, "Wings Without Borders," 745.

the twentieth century. However, the origins of their social and cultural significance go back much further, before the colonization of North America. Over the years, they became intertwined with many different societies and cultures as co-inhabitants, proving capable of transcending any physical or psychological man-made boundaries. The monarch butterfly became the basis for social events and cultural expression, and its position as an icon has endured long past the establishment of modern borders. The efforts of citizens, scientists, and environmentalists in response to its iconic status and significance, and ability to provoke responses from multiple national governments and connect the people that the nations divide, demonstrates how the expanse of the monarch's social and cultural significance stretches far beyond diplomatic relations to the point that it forces governments to acknowledge its magnitude. ■

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Student Biography

Kurstin Buckmaster graduated from Sam Houston State University in Spring 2019 with a BA in History. Her passion for knowledge and desire to understand the human condition motivated her to pursue a degree in history. In addition, her son's Mexican heritage ultimately compelled her to study the history of the Texas-Mexico borderlands and US-Mexico relations during her final semester at Sam. Her senior seminar focused on injustice and discrimination in the borderlands. She completed a semester-long research project incorporating these themes under the advisement of Dr. Charles Heath. She plans to continue her education at Sam Houston State University through their graduate history program.