American Petroleum Institute

AMERICAN EXPLORATION & PRODUCTION COUNCIL

WESTERN ENERGY ALLIANCE

COLORADO OIL & GAS ASSOCIATION

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NEW MEXICO OIL AND GAS ASSOCIATION

March 12, 2025

Via Regulations.gov

Public Comments Processing
Attn: FWS-R3-ES-2024-0137
U.S. Fish and Wildlife Service
MS: PRB/3W
5275 Leesburg Pike
Falls Church, VA 22041-3803

Re: Comments on the U.S. Fish and Wildlife Service's Proposal to List the Monarch Butterfly as a Threatened Species, Establish a Section 4(d) Rule for the Conservation of the Species, and Designate Critical Habitat (FWS-R3-ES-2024-0137); 89 Fed. Reg. 100,662 (December 12, 2024)

Dear U.S. Fish and Wildlife Service:

This letter provides comments from the American Petroleum Institute ("API"), the American Exploration and Production Council ("AXPC"), the Western Energy Alliance, the Colorado Oil and Gas Association ("COGA"), North Dakota Petroleum Council ("NDPC"), and the New Mexico Oil and Gas Association ("NMOGA") (collective, "the Associations") on the U.S. Fish and Wildlife Service's ("FWS's" or "the Service's") proposed determination ("Proposed Listing") that the monarch butterfly should be listed as a threatened species under the Endangered Species Act ("ESA" or "the Act"), and associated proposal to establish a rule under Section 4(d) of the Act ("Proposed 4(d) Rule") to tailor the Service's protective regulations to facilitate and appropriately recognize voluntary conservation efforts that are protecting monarchs and their habitat.[1] FWS also proposes to designate 4,395 acres of overwintering habitat in California as critical habitat.[2] While the Associations broadly recognize the importance of overwintering habitat protections to the conservation of monarch butterflies, we are not herein providing comment on the scope and extent of the Service's proposed critical habitat. Instead, given many API members' extensive efforts to

[1] 89 Fed. Reg. 100,662 (Dec. 12, 2024).
[2] 89 Fed. Reg. at 100,689.

protect and conserve monarch butterflies, these comments focus on FWS's Proposed Listing and Proposed 4(d) Rule.

The Service's current proposal to list the monarch butterfly as a "threatened" species is seemingly at odds with its prior findings with respect to the species. The Service's first determination of the status of the monarch butterfly occurred in 2020 in response to a listing petition.[3] Although FWS determined at the time that listing monarchs as "endangered" or "threatened" species may be warranted, it refrained from listing the species due to other higher priority listing actions.[4] More specifically, FWS ranked the monarch's listing priority on a 12-point scale under which a listing priority number ("LPN") of one represents the greatest and most imminent threats and an LPN of 12 represents the lowest and least imminent threats.[5] FWS assigned the monarch butterfly an LPN of 8 based on a determination that "the magnitude of threats" to monarchs "is moderate to low".[6] The Service reached this same conclusion in 2022[7] and 2023.[8]

The Service's 2020 decision to delay the listing of monarchs was also based on FWS's determination that "conservation efforts are in development or underway and likely to address the status of the species."[9] Since that time, the number of monarch conservation efforts in the Monarch Conservation Database ("MCD") more than tripled from 48,812[10] to 145,455,[11] and the number of monarch conservation plans increased more than ten percent from 113[12] to 126.[13]

The Service's current Proposed Listing seemingly stands in stark contrast to these previous determinations. As outlined in the comments below, best scientific and commercial information available suggests that monarch populations are likely to persist and not driven to the brink of extinction at any point in the foreseeable future. Rather, the best scientific and commercial information available indicates that monarchs are highly adaptable and resilient, and that their expansive range-wide populations currently have sufficient suitable habitat.

Although native to North America, the monarch butterfly's range "has expanded west via human assistance to many islands in the Pacific Ocean and to the east to the Iberian Peninsula to now occupy 90 countries, islands, and island groups."[14] Given the monarch's "presence over a large geographical range where the climatic conditions and habitat vary widely," predicted "continued presence in an estimated 84 of the 90 countries, islands, and island groups where it occurred historically or to where it has dispersed," and "low risk of becoming extirpated from multiple locations should a large-scale catastrophic event occur" FWS herein proposes to determine that "the monarch butterfly is not currently in danger of extinction throughout all of its range" and "is not likely to become in danger of extinction within the foreseeable future throughout all of its

[3] 85 Fed. Reg. 81,813 (Dec. 17, 2020).
[4] 85 Fed. Reg. at 81,813.
[5] 85 Fed. Reg. at 81,817.
[6] 85 Fed. Reg. at 81,817.
[7] 87 Fed. Reg. 26,152 (May 3, 2022).
[8] 88 Fed. Reg. 41,560 (June 27, 2023).
[9] 85 Fed. Reg. at 81,817.
[10] 85 Fed. Reg. at 81,817 (as of June 1, 2020).
[11] 89 Fed. Reg. at 100,675 (as of September 2024).
[12] 85 Fed. Reg. at 81,817 (as of June 1, 2020).
[13] 89 Fed. Reg. at 100,675 (as of September 2024).
[14] 89 Fed. Reg. at 100,666.

range."[15] In other words, FWS concluded that the range-wide population of monarch butterflies do not meet the ESA's definition of either endangered or threatened species. These comments concur with this conclusion.

FWS then assessed whether the monarch is in danger of extinction or likely to become so within "a significant portion of its range."[16] After determining "that North America is significant for the purposes of evaluating a significant portion of the monarch's range," the Service once again similarly "concluded that the monarch butterfly in North America is not in danger of extinction within this significant portion of its range and does not meet the definition of an endangered species."[17] The Associations agree with this conclusion as well.

Critically, however, when the Service "next considered whether the monarch butterfly is likely to become an endangered species within the foreseeable future in the North America portion (*i.e*., if it meets the Act's definition of a threatened species)," FWS assessed the status of only *migratory* monarch populations in North America.[18] Non-migratory monarchs that "remain year-round at the southern end of their breeding range in North America"[19] were not meaningfully assessed.

Even though the Service's status assessment for North America was seemingly limited to *migratory* monarch populations, FWS relied on the assessment to more broadly "conclude that the monarch butterfly is likely to become in danger of extinction within the foreseeable future throughout North America."[20] This conclusion is inconsistent with the Act and fundamentally misconstrues scientific evidence on the potential loss of the North American monarch migration as evidence of the potential loss of the North American monarchs themselves.

Moreover, as noted above and in the more detailed discussion in Section III.d, the Service's 2020 determination that "conservation efforts are in development or underway and likely to address the status of the species,"[21] proved to be accurate, if not an understatement given the substantial growth and expansion of the efforts and plans since 2020. As FWS seemingly acknowledged in 2020 and fails to adequately recognize here, various habitat protections and enhancement measures, research studies, survey efforts, and funding mechanisms have been implemented internationally and nationally by federal agencies, state and local governments, private citizens, industries, and conservation groups to protect and enhance Monarch habitat. API's members alone have voluntarily committed to protect and improve large areas of breeding and migratory habitat, and have undertaken or otherwise funded millions of dollars' worth of monarch conservation, habitat improvements, monitoring, and research. Our industry's efforts stand alongside similarly expansive habitat enhancement efforts in the utility, electrical transmission, renewable energy, agriculture, and transportation sectors.

As explained in Section III.d below, we believe that FWS should have conducted an extensive and transparent examination of the potential impact of these many different conservation efforts on the monarch's listing status using the Joint Policy for the Evaluation of Conservation Efforts When

[15] 89 Fed. Reg. at 100,679-100,680.
[16] 16 U.S.C. § 1532(6).
[17] 89 Fed. Reg. at 100,681.
[18] 89 Fed. Reg. at 100,681.
[19] 2023 SSA at 13.
[20] 89 Fed. Reg. at 100,681.
[21] 85 Fed. Reg. at 81,817.

Making Listing Decisions ("PECE Policy").[22] However, even in the absence of a PECE Policy analysis, The Associations believe that these collaborative and ongoing conservation efforts support a determination that listing the monarch as either threatened or endangered under the ESA is not warranted. The Associations therefore respectfully urges FWS to reevaluate the proposed listing by taking into consideration the detailed information shared in this comment letter.

While the Associations believe that the best available evidence shows that monarch butterflies do not satisfy the ESA's definitions of either endangered or threatened species, if FWS is intent on finalizing its proposed "threatened" listing, the Associations support the Service's related proposal to exercise FWS's authority under Section 4(d) of the Act to tailor its protective regulations in a manner that is "necessary and advisable to provide for the conservation" of monarch butterflies.[23] To that end, Section IV of these comments provides recommendations on revisions to clarify and improve the Service's Proposed 4(d) Rule. A Section 4(d) that reasonably tailors the ESA's "take" prohibitions can more effectively promote conservation on private lands and further incentivize participation in the many conservation plans and strategies that are critical to ensure monarch butterflies not only persist, but thrive, far into the foreseeable future. Additionally, regardless of whether oil and gas industry projects or activities enhance or create habitat, we recommend that FWS exercise its authority under Section 4(d) to ensure that these responsibly conducted and economically important activities is protected from liability for any incidental take of monarchs.

[22] 68 Fed. Reg. 15,100.
[23] 16 U.S.C. § 1533(d).

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I. INTERESTS OF THE ASSOCIATIONS

API is the national trade association representing America's oil and natural gas industry. Our industry supports more than 11 million U.S. jobs and accounts for approximately 8 percent of U.S. Gross Domestic Product ("GDP"). API's nearly 600 members, from fully integrated oil and natural gas companies to independent companies, comprise all segments of the industry. API's members are producers, refiners, suppliers, retailers, pipeline operators, and marine transporters, as well as service and supply companies, providing much of our nation's energy. API was formed in 1919 as a standards-setting organization and is the global leader in convening subject matter experts across the industry to establish, maintain, and distribute consensus standards for the oil and natural gas industry. API has developed more than 700 standards to enhance operational safety, environmental protection, and sustainability in the industry.

API and its members are dedicated to safely and responsibly developing, transporting, and supplying critical energy resources to the nation and are committed to doing so in a manner that protects species and their habitats. Our upstream and midstream industry sectors have actively participated in significant conservation efforts to protect many species across millions of acres of habitat.

The American Exploration and Production Council (AXPC) is a national trade association representing the leading independent oil and natural gas exploration and production companies in the United States. AXPC companies produce some of the cleanest and safest oil and natural gas in the world, while supporting millions of Americans in high-paying jobs and investing a wealth of resources in our communities. Dedicated to safety, science, and technological advancement, our members strive to deliver affordable, reliable energy while positively impacting the economy and the communities in which we live and operate. As part of this mission, AXPC members understand and promote the importance of ensuring positive environmental and public-welfare outcomes and responsible stewardship of the nation's natural resources. It is important that regulatory policy enables us to support continued progress on both fronts through innovation and collaboration. AXPC works with regulators and policymakers to create sound, fact-based public policies that enable responsible development of America's vast oil and natural gas resources in order to meet domestic and global energy demands.

Working with a vibrant membership base for over 50 years, Western Energy Alliance stands as a credible leader, advocate, and champion of independent oil and natural gas companies in the West. Our expert staff, active committees, and committed board members form a collaborative and welcoming community of professionals dedicated to abundant, affordable energy and a high quality of life for all. Most independent producers are small businesses, with an average of fourteen employees.

Founded in 1984, the Colorado Oil & Gas Association's (COGA) mission is to foster and promote the beneficial, efficient, responsible and environmentally sound development, production and use of Colorado oil and natural gas. COGA serves as the unified political and regulatory voice for the oil and natural gas industry in Colorado by supporting our members through advocacy, partnerships, education and stakeholder engagement.

Established in 1952, the NDPC is a trade association that represents more than 550 companies involved in all aspects of the oil and gas industry, including oil and gas production, refining, pipelines, transportation, mineral leasing, consulting, legal work, and oil field service activities in North Dakota, South Dakota, and the Rocky Mountain Region. Our members have an extensive history of responsible oil and gas development and environmental stewardship in North Dakota, which boasts some of the cleanest air and water in the country.

The New Mexico Oil & Gas Association (NMOGA) is a coalition of oil and natural gas companies, individuals, and stakeholders dedicated to promoting the safe and environmentally responsible development of oil and natural gas resources in New Mexico. Representing over 200 member companies, NMOGA works with elected officials, community leaders, industry experts, and the general public to advocate for responsible oil and natural gas policies and increase public understanding of industry operations and contributions to the state.

a. API and its Members' Conservation Initiatives

Given our industry's operation in areas utilized by monarchs, API's members have also undertaken proactive efforts to minimize potential adverse impacts associated with our operations, and utilize numerous activities to preserve and improve monarch habitat in areas where we operate. Multiple of these member companies have enrolled more than 1.3 acres of potential Monarch habitat in voluntary conservation agreements, implemented and/or funded millions of dollars in habitat improvements, and contributed to a growing body of monarch butterfly conservation research.

These actions, together with industry best practices and technology advances further detailed below, demonstrate the industry's commitment to conduct their activities in an environmentally responsible manner. API's primary interest is to continue providing critical energy resources in ways that minimize impacts to species and habitat, while avoiding unwarranted restrictions that could be a hinderance to national energy security objectives and divert industry and government resources away from other, higher-priority biodiversity conservation needs.

b. Industry Practices and Technological Advances

Irrespective of where our members operate, our industry employs a wide variety of protective and/or beneficial practices and technologies during all phases of our operations to enable the safe and responsible development of the nation's oil and natural gas resources while reducing and/or mitigating potential impacts to species, habitats, land, water, and other natural resources. These conservation measures and technologies have helped our industry minimize its impacts on wildlife and the environment while still providing much-needed resources to the American public.

- **Conservation Measures:** API members often employ a variety of best practices when they construct, operate, maintain, reclaim, or repair facilities or other sites near protected species or their habitat. Some measures utilized when conditions and regulatory requirements allow are:

    - Pre-Construction Habitat Evaluations and the Consideration of Habitat in Siting Decisions: The oil and natural gas industry utilizes rigorous pre-construction habitat evaluations to help identify and potentially avoid protected species habitat

and areas like native prairieland that contain critical habitat resources for species like the monarch and other pollinators, such as the Dakota Skipper. These careful site selection processes can help our industry minimize disruption to the monarch butterfly habitat by locating projects in less ecologically sensitive areas whenever feasible.

- Construction Timing and Seasonal Considerations: Many API members protect a variety of species, including monarch butterflies and other pollinators, by scheduling construction activities outside of the monarch's breeding season whenever possible. These efforts help minimize or significantly abate any potential adverse impacts our operations may have on species during their most vulnerable life stages.

- **Technological Advancements:** API members employ a variety of advanced technologies that can significantly reduce surface disturbances and minimize the impacts of our operations on wildlife and habitat. The following technological advances benefit numerous listed and unlisted species and represent just one part of a continuously improving evolution of industry's capability to operate in proximity to species and their supporting habitats:

  - Horizontal and Directional Drilling: Through technological advancements like horizontal and directional drilling, our industry has taken significant steps to minimize its impacts on wildlife and the environment while still providing much-needed resources to the American public. The shift to horizontal drilling has changed modern oil and gas development's disturbance, fragmentation, and activity profiles. It provides for a 70 percent reduction in the surface footprint associated with our members' operations.[24]

  - Use of Closed-Loop Drilling Fluid Systems: To further minimize our operations' potential adverse impacts on protected species and habitat, the oil and natural gas industry has adopted closed-loop drilling fluid systems that recycle drilling fluids, thereby decreasing water consumption and the risk of contamination to nearby water sources.

  - Advanced Well Control Systems: The oil and natural gas industry's development of advanced well control systems, including automated shutdown mechanisms and real-time monitoring, has significantly reduced the risk of spills and blowouts in the upstream sector. These systems protect habitat areas around drilling sites by allowing operators to promptly identify and address any anomalies in real-time to make our drilling operations safer and more protective of ecological resources.

- **Sustainability Initiatives:** Our industry is working to further reduce emissions and keep methane in the pipe throughout our operations to deliver natural gas to families and businesses and to address the risks of climate change. Operators have taken significant

[24] D. Applegate & N. Owens, *Oil and Gas Impacts on Wyoming's Sage grouse: Summarizing the Past and Predicting the Foreseeable Future*, HUMAN-WILDLIFE INTERACTIONS, Vol. 8, Iss. 2, Article 15 (2014).

> voluntary steps to identify and implement cleaner engineering technology solutions within their operations and facility designs, and industry emissions across U.S. onshore production regions dropped 42% between 2015 and 2023 according to the U.S. Environmental Protection Agency ("EPA"), even as production increased by 51% to meet demand. This progress is a result of individual company action and industry-led initiatives such as The Environmental Partnership – a coalition of U.S. operators sharing practices on how to replace, remove or retrofit equipment, decrease flare volumes and advance other emissions-reducing solutions.

The oil and natural gas industry's frequent efforts to responsibly reclaim former oil and natural gas development sites has contributed to species conservation efforts, including for pollinator species. Reclamation activities often improve habitat above the baseline conditions in adjacent undisturbed habitat that were never developed or reclaimed. For instance, multiple studies show that reclaimed and reseeded well pads contain higher insect abundance and diversity than adjacent reference ecosystems in the three years following reclamation.[25] Plus, a subsequent study showed that "reclaimed well pads with vegetation communities in later successional stages" continue to positively benefit insects for up to twelve years following reclamation.[26]The study examined well pads that had been reclaimed in the past five to twelve years and found that insects were far more abundant on reclaimed well pads than on reference sites (76.5 percent of insects found on reclaimed well pads vs. 23.5 percent found on reference sites).[27] The study also found a significantly more diverse mix of insect species on reclaimed well pads than on reference sites (233 different insect species were found on reclaimed well pads vs. 121 different insect species on reference sites).[28]

A more recent study "examined pipeline right-of-way reclamation for insects and found similar results with clear evidence that reclamation efforts which result in diverse native plant communities host more insects than those which are dominated by non-native or lack vegetative

[25] *See* Curran, M.F.; Robinson, T.J.; Guernsey, P.; Sorenson, J.; Crow, T.M.; Smith, D.I.; Stahl, P.D, *Insect Abundance and Diversity Respond Favorably to Vegetation Communities on Interim Reclamation Sites in a Semi-Arid Natural Gas Field*, LAND, Vol. 11, Iss. 4, 527 (2022); *See also* Curran, M.F.; Sorenson, J.R.; Craft, Z.A.; Crow, T.M.; Robinson, T.J.; Stahl, P.D., *Ecological Restoration Practices Within a Semi-Arid Natural Gas Field Improve Insect Abundance and Diversity During Early and Late Growing Season*, ANIMALS, Vol. 13, Iss. 1, 134 (2022)

[26] Curran, M.F.; Allison, J.; Robinson, T.J.; Robertson, B.L.; Knudson, A.H.; Bott, B.M.M.; Bower, S.; Saleh, B.M., *Insect Abundance and Richness Response to Ecological Reclamation on Well Pads 5–12 Years into Succession in a Semi-Arid Natural Gas Field*, DIVERSITY, Vol. 16, Iss. 6, 324 (2024).

[27] Curran, M.F.; Allison, J.; Robinson, T.J.; Robertson, B.L.; Knudson, A.H.; Bott, B.M.M.; Bower, S.; Saleh, B.M., *Insect Abundance and Richness Response to Ecological Reclamation on Well Pads 5–12 Years into Succession in a Semi-Arid Natural Gas Field*, DIVERSITY, Vol. 16, Iss. 6, 324 (2024).

[28] Curran, M.F.; Allison, J.; Robinson, T.J.; Robertson, B.L.; Knudson, A.H.; Bott, B.M.M.; Bower, S.; Saleh, B.M., *Insect Abundance and Richness Response to Ecological Reclamation on Well Pads 5–12 Years into Succession in a Semi-Arid Natural Gas Field*, DIVERSITY, Vol. 16, Iss. 6, 324 (2024).

diversity."[29] Out of 931 individual insects captured in the study area, 82 percent were found within the pipeline right-of-way vs. 18 percent in the reference sites.[30]

API in 2022 established the API Conservation Initiative in order to support our member companies and to further our shared interest in protecting and improving habitat for pollinator species. The API Conservation Initiative aims to establish conservation programs and connect American energy companies with state and federal regulators as well as conservation and other relevant community groups to support habitat enhancement on pipeline rights-of-way ("ROW") and other related facilities. The goal is to identify and, where appropriate, conduct conservation efforts on the more than 12 million acres of industry assets. Designed to advance ongoing conservation and community engagement efforts, the Initiative has launched pilot projects along pipeline routes and in communities to deliver a wide variety of wildlife habitat goals, including the support of native perennials and the protection of pollinator species. Pipeline operations provide untapped wildlife habitat opportunities to connect fragmented landscapes throughout the country, unlocking a greater potential and diversity for these critical acres, including creating habitat, which is critical for pheasants, quail, pollinators, butterflies, songbirds, and more.

In addition to the well-documented conservation benefits associated with reclaimed oil and natural gas sites and pipeline ROW, our industry is also working on ways to create and enhance monarch butterfly habitat more broadly. Multiple pipeline and terminal companies across the country are managing portions of their assets or are planning to launch projects to support a broad array of pollinator species. These companies are coordinating with state and local agencies, tribal nations, academia, conservation organizations, community stakeholders, and others to remove invasive plant species and support or plant native wildflowers with the ultimate objective of providing habitat for pollinator species. Active projects are underway in multiple states throughout the country.

For instance, Devon Energy is in the process of converting 262 acres of grasslands near Lake Illo, North Dakota back to native prairie habitat. Through a partnership and agreement with North Dakota State University, Devon is funding native prairie restoration research with the goal of determining the most successful way to eradicate non-native invasive grass communities and re-establish a prairie community composed of native grasses and forbs. The re-establishment of native prairie will benefit the monarch butterfly as well as other pollinators such as the Dakota skipper and regal fritillary butterflies. Devon's primary objectives for this project are to reseed degraded areas, control invasives, and mow at appropriate times to maintain habitat quality.

Devon is currently utilizing a test plot to assess the optimal treatment approach for safely and beneficially eradicating the invasive plant community that has been established on the property.

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[29] *See* https://www.asrs.us/wp-content/uploads/2024/06/ASRS-2024-Abstracts.pdf (describing Curran, M.F.; Murphy, E.; Robinson, T.J.; Robertson, B.L.; Knudson, A.H.; Bott, B.M.; Bower, S., *Insect Response to Ecological Reclamation Activity Along a Pipeline Right-Of-Way in a Semi-Arid Natural Gas Field* (in preparation for publication in RECLAMATION SCIENCES)).

[30] Curran, M.F.; Murphy, E.; Robinson, T.J.; Robertson, B.L.; Knudson, A.H.; Bott, B.M.; Bower, S., *Insect Response to Ecological Reclamation Activity Along a Pipeline Right-Of-Way in a Semi-Arid Natural Gas Field* (in preparation for publication in RECLAMATION SCIENCES).

The company plans to seed the plot with a pollinator mix this spring, analyze the results through the summer of 2025, and then implement one of the processes at a larger scale in the fall of 2025.

The importance of the API Conservation Initiative is also abundantly illustrated by the efforts of Shell Pipeline Company LP ("Shell") to improve habitat along pipeline ROW and enhance environmental stewardship through the initiative. Working with local community groups, Shell launched the Wildflower Energy Project in St. Mary Parish in Louisiana. This project established a wildflower area on pipeline and electric power line ROW and provides community support and opportunities to engage with wildlife. The beginning phase of the Wildflower Energy project established an approximately 20-acre area of native wildflowers and grasses on Bayou Teche National Wildlife Refuge in St. Mary Parish near Franklin and Centerville. Over time, Shell may expand the project to cover additional areas on pipeline and electric power line rights-of-way.

Additionally, in Houma, Louisiana, Shell has partnered with Nicolls State University to research the benefits of artificial habitats for bee species along their ROW. Similarly, in Pennsylvania, Shell's partnership with Pheasants Forever, Penn State University, and local communities allowed the company to implement a conservation project on the Falcon pipeline ROW. This project focused on adjusting management techniques for more beneficial environmental outcomes along five miles of ROW. In this same area, Shell engaged with local communities and identified areas where pollinator and wildlife habitat boxes would benefit multiple species.

Marathon Pipe Line LLC ("MPL") is similarly focused on conservation along pipeline rights of way and enhancing environmental stewardship through the API Conservation Initiative. Multiple of these member companies are working to enroll thousands of acres of potential Monarch habitat in voluntary conservation agreements, To achieve this goal, MPL is harnessing the power of nature-based solutions — Integrated Vegetation Management ("IVM") and Integrated Habitat Management plans — through stakeholder partnerships and technology. Together, these practices help MPL to operate its pipelines safely while enhancing habitat for pollinators and wildlife, reducing impact to operations and promoting long-term environmental health.

MPL is enhancing their operations for environmental benefits by:

- Incorporating pollinator and plant species preservation into operational approaches, including voluntarily adopting both temporary and permanent changes to prioritize endangered species and their critical habitats;

- Developing construction schedules to avoid disrupting pollinator species' migration, spawning, nesting and other activities;

- Being mindful of pesticide and herbicide types, volumes and timing of use to reduce impacts to compatible vegetation that supports pollinators and wildlife;

- Implementing conservation mowing on select pipeline rights of way to avoid disrupting population dynamics such as breeding, feeding and reproductive behaviors;

- Restoring all disturbed areas to pre-construction conditions by seeding/hydroseeding with native seed mixes;

- Adhering to weed management plans to keep previously disturbed areas free of invasive and non-native weeds;

- Conducting post-construction surveys and research to verify sensitive areas have been appropriately restored;

- Monitoring wetland and waterway crossing sites on pipeline rights of way to confirm they are fully restored and functioning;

- Training employees and contractors about biodiversity and maintaining assets in sensitive areas; and,

- Using signage to indicate sensitive areas.

Likewise, in Cushing, Oklahoma, another of API's midstream members has enhanced the environmental benefits of their operations through a myriad of projects that provide numerous ecological services. By adopting conservation mowing practices, the company is protecting species during their most vulnerable life stages, reducing impacts to vegetation and improving wildlife habitat and connectivity.

Additionally, the midstream company has established a pollinator area focused on planting native species aimed at ensuring habitat supports local wildlife populations, including pollinator species like the monarch butterfly. By working with Pheasants Forever, this API member has been able to incorporate additional environmental preservation approaches into operations for ecological benefits. These approaches include managing their herbicide use to ensure native areas thrive and establishing managed haying areas that provide environmental benefits. Lastly, in an effort to combat the decline of shortgrass prairies across the country, the company has established a shortgrass prairie area on their assets in Cushing. Through these efforts, the company is voluntarily adopting operational changes to prioritize endangered species and their critical habitats.

Many other API members are also increasingly implementing IVM practices to advance positive conservation and management outcomes. According to the U.S. Environmental Protection Agency ("EPA"), IVM is generally defined as the practice of promoting desirable, stable, low-growing plant communities that will resist invasion by tall growing tree species through the use of appropriate, environmentally-sound, and cost-effective control methods.[31]

The cost savings frequently associated with IVM practices are important to conservation as well as companies' bottom lines because these savings help facilitate the widespread adoption of these practices and ensure that the benefits of IVM endure well into the future. Indeed, API members have reported that employing IVM practices have not only proven to be cost-effective means of enhancing pollinator habitat, but they often also result in significant net decreases in operating costs. For example, one API member company initiated a sustainable landscapes program in response to the financial strain caused by the COVID-19 pandemic in 2020, which required cost-saving measures to be implemented for managing 10,000 miles of pipeline. To establish a better stand of vegetation at a lower cost, reduce the need for frequent right-of-way maintenance, and

[31] *See* EPA, *Integrated Vegetation Management Fact Sheet* (2008).

position the company for long-term benefits, the program utilized various conservation and habitat management methods, including mowing, select herbicide application, enhanced planting, grazing, and idling (letting the land sit for a year or two between projects). Utilizing this holistic and integrated approach helped the company achieve improved revegetation while reducing annual maintenance costs.

Another API member company realized significant benefits and cost savings through the use of IVM in one of their projects by combining mowing and herbicide applications. Through thoughtful application and use, they managed to use less than 20 gallons of herbicides per acre, which minimized the impact of the chemicals on habitat resources and pollinator species while also reducing costs.

The foregoing represents only a few examples of the API members' efforts to safely and responsibly develop and supply critical energy resources in a manner that protects pollinator species and their habitats. Indeed, the magnitude of our industry's efforts to protect and improve pollinator habitat is plainly demonstrated in the historic extent and scale of the oil and natural gas industry's participation in multiple monarch butterfly conservation efforts.

While the number of monarch and pollinator conservation programs in which API member companies participate is far more numerous, we believe our industry's commitment to monarch butterfly conservation is thoroughly demonstrated by our participation and leadership in just three efforts: (1) The Nationwide Candidate Conservation Agreement with Assurances and Candidate Conservation Agreement for Monarch Butterfly on Energy and Transportation Lands ("CCAA/CCA"); (2) the Mid-America Monarch Conservation Strategy developed by the Midwest Association of Fish and Wildlife Agencies ("MAFWA Plan"); and (3) and the Western Monarch Butterfly Conservation Plan developed by the Western Association of Fish and Wildlife Agencies ("WAFWA Plan").

CCAA/CCA – API and a number of its members are members of the "Rights-of-Way as Habitat Working Group" at the University of Illinois at Chicago ("UIC"), which led a national, multi-sector collaborative effort to develop a voluntary conservation agreement to provide habitat for the monarch butterfly. This effort led to the CCAA/CCA that was finalized in April of 2020.

The CCAA/CCA is a voluntary agreement between the FWS and private parties intended to preserve the at-risk monarch butterfly species. The CCAA/CCA covers 26 million acres of land in the lower 48 states, including lands managed by more than 200 energy, transportation, government, and non-profit organizations. The agreement's goal is to limit the potential impacts to the butterfly from ongoing operations and maintenance activities on ROW and instead, implement conservation measures that enhance habitat on non-federal and federal lands.

As part of that collaborative effort, we have contributed to the development and finalization of the CCAA, advocated for FWS to approve the enhancement of survival permit that provides participants the necessary assurance "that they will not have to implement additional conservation measures should the species be listed,"[32] and commenced an extensive and continuing effort to promote the widespread enrollment of land in the agreement.

[32] 89 Fed. Reg. at 100,674.

The goal of this CCAA/CCA is to enroll "up to 26 million acres of energy and transportation lands, which could contribute over 300 million stems of milkweed, and 2.3 million acres of monarch foraging habitat, over the coming decades."[33] As of the date of this letter, at least 60 energy companies and transportation organizations have committed to implement monarch conservation measures on more than 1.3 million acres throughout the 48-state range of the monarch butterfly.[34] Additionally, enrolled acreage is growing and expanding continually.

Indeed, while multiple pipeline operators have already committed to enroll acreage and implement conservation measures pursuant to the CCAA/CCA, many more companies are either in the process of submitting their candidacy requests or have plans to launch their efforts in the near future. API, as part of its Conservation Initiative, is actively promoting the CCAA/CCA, encouraging industry operators to enroll in the CCAA/CCA, and providing potential participants with valuable information and resources about the ecological, economic and regulatory benefits of participating in the CCAA/CCA.[35]

MAFWA Plan – Multiple API members are key participants in the landscape-level conservation strategy developed by MAFWA "in collaboration with National Wildlife Federation, Pheasants Forever, the Association of Fish and Wildlife Agencies, and other partners."[36] The purpose of the MAFWA Plan is to facilitate cohesive, coordinated conservation actions necessary to recover the eastern monarch butterfly population through establishment of regional and state goals and strategies. The strategy is focused on the mid-America range of the monarch butterfly, "which includes states in the Midwest and South-Central regions" and is intended "to facilitate cohesive, coordinated conservation actions," including "habitat restoration and enhancement" sufficient "to support an average overwintering monarch population occupying six hectares in Mexico, as recommended by the Pollinator Health Task Force and the Monarch Conservation Science Partnership."[37] As such, the MAFWA Plan "established a goal of adding 1.3 billion stems of milkweed on the landscape by 2038."[38] Multiple API members and other ROW operators, along with 29 states,[39] "private landowners, agricultural and nongovernmental organizations, ROW organizations, and Federal, State, and local governments" "have agreed to participate in the effort to reach the 1.3-billion-stem goal."[40] As of June 2023, state participants in the MAFWA Plan reported that they had undertaken 116,892 conservation efforts (completed, implemented, or planned) on 8,575,229 acres, for an estimated increase of 521,865,945 milkweed stems.[41]

WAFWA Plan – Multiple API members also participate in the WAFWA Plan, which is a 50-year plan to identify and promote "conservation strategies for the entire life cycle of the western

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[33] CCAA/CCA at 3.
[34] The CCAA/CCA also encompasses Puerto Rico.
[35] *See e.g.,* API Conservation Initiative Summary; API Guidance for Conservation Programs on Pipeline Right-of-Way; and Right-of-Way Conservation Benefit Resource.
[36] MAFWA, *Mid-America Monarch Conservation Strategy*. Available at https://mafwa.org/?page_id=2347.
[37] MAFWA, *Mid-America Monarch Conservation Strategy*. Available at https://mafwa.org/?page_id=2347.
[38] 2018 MAFWA Plan at 42.
[39] Arkansas, Connecticut, Delaware, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Hampshire, New Jersey, New York, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Dakota, Texas, Vermont, Virginia, West Virginia, and Wisconsin.
[40] 89 Fed. Reg. at 100,674.
[41] 2023 MAFWA Plan Update at 19-20. Not all participating states contributed data on their monarch conservation efforts.

monarch population, including the overwintering grounds in California and breeding and migratory habitats throughout the western U.S."[42] The plan, which "encompasses the States of Arizona, California, Idaho, Nevada, Oregon, Utah, and Washington,"[43] established the following short-term goals: (1) protecting and managing 50 percent of all currently known and active monarch overwintering sites, including 90 percent of the most important overwintering sites by 2029; and (2) providing a minimum of 50,000 additional acres of monarch-friendly habitat in California's Central Valley and adjacent foothills by 2029.[44] In furtherance of these conservation goals, the WAFWA Plan sets forth overwintering and breeding habitat conservation strategies, education and outreach strategies, and research and monitoring efforts that can help advance participants' understanding of the western monarch population's abundance, range, and conservation needs. Many land managers who oversee overwintering sites in California have already used this information to develop and implement "grove management strategies" or to include "monarch groves in their general management plans."[45] "Conservation efforts in California's Central Valley currently amount to nearly 9,000 ac (3,600 ha)."[46] As of September 2024, State agencies had implemented milkweed restoration efforts on over 8,780,404 ac (3,553,303 ha), adding more than an estimated 546 million milkweed stems to the landscape nationwide.

II. MONARCH LISTING HISTORY AND CONSERVATION BACKGROUND

The monarch butterfly is a species of butterfly that is native to North America, but its range has significantly expanded, such that there are now monarch populations in approximately 90 countries and island nations.[47] "With the year-round presence of milkweed and suitable temperatures, many of these new monarch populations no longer annually migrate."[48]

In North America, "[t]his familiar orange and black butterfly is known for its unique long-distance, multi-generational migratory cycle and its reliance on milkweed, the monarch's larval host plant."[49] There are three primary monarch butterfly population segments in North America, but the populations intermix to some degree and "there is no clearly agreed upon definition of potential subspecies of [monarchs] or where the geographic borders between these subspecies might exist."[50] "Two North American populations are migratory and located east and west of the Rocky Mountains."[51] A third segment of North American monarchs are non-migratory monarchs "live in areas where the climate permits year-round nectar resources and breeding, thereby negating the

[42] 2019 WAFWA Plan at 2.
[43] 2019 WAFWA Plan at 3.
[44] 2019 WAFWA Plan at 35.
[45] 89 Fed. Reg. at 100,674.
[46] 2023 Species Status Assessment ("SSA") at 39.
[47] 2023 SSA at 13.
[48] CCAA/CCA at 5.
[49] WAFWA Plan at 1.
[50] 2023 SSA at 5.
[51] CCAA/CCA at 5.

need to migrate."[52] These non-migratory monarchs "remain year-round at the southern end of their breeding range in North America, including in parts of Florida, the Gulf Coast, and California,"[53] but recent studies suggest that North American non-migratory populations are increasing and expanding due to climatic changes and year-round availability of resources and habitat.[54]

The two North American migratory populations begin their migrations to their respective overwintering sites in the fall. "Migratory individuals in eastern North America predominantly fly south or southwest to mountainous overwintering grounds in central Mexico, and migratory individuals in western North America generally fly shorter distances south and west to overwintering groves along the California coast and northern Baja California."[55]

Both the eastern and western migratory populations "have been monitored since the mid-to-late 1990s."[56] While these populations naturally fluctuate from year to year in response to the temperature, rainfall, the availability of food, and other factors, these census data indicate long-term declines in the population abundance at the overwintering sites in both populations."[57]

FWS and others attribute these declines to: "(1) loss and degradation of habitat [from conversion of grasslands to agriculture, widespread use of herbicides, logging/thinning at overwintering sites in Mexico, senescence and incompatible management of overwintering sites in California, urban development, and drought]; (2) continued exposure to insecticides; and (3) effects of climate change."[58] The magnitude or frequency (or both) of threats are expected to increase.

These declining trends led to several different actions in the U.S. and throughout North America. In 2008, stakeholders from Canada, Mexico and the U.S. adopted the North American Conservation Plan "with the aim of maintaining healthy monarch populations and habitats throughout the tri-national migration flyway."[59] The Commission for Environmental Cooperation's plan "primarily focused on collaborative actions, priorities, and targets to be considered for adoption, though it explicitly did not impose obligations on the three party nations."[60]

In August 2014, FWS received a petition to list the monarch butterfly as a threatened species under the ESA.[61] On December 31, 2014, the Service responded by taking two actions: (1) publishing a

[52] CCAA/CCA at 5.
[53] 2023 SSA at 13.
[54] World Wildlife Fund, *Monarch Butterfly Populations are on the Rise* (2019); L. Kimbrough, *Western Monarch Populations Reach Highest Number in Decades*, MONGABAY (2023); Monarch Joint Venture, *Western Monarch Populations Increase for the Second Year, but Our Work is Not Done* (2023).
[55] FWS Species Status Assessment and Listing Priority Assignment Form (June 23, 2021) at 6 (citing Solensky M.J., *The Monarch Butterfly: Biology and Conservation*, Overview of Monarch Migration, pp. 79–83 in Oberhauser, KS, Solensky M.J., eds., Ithaca, NY: Cornell University Press (2004)).
[56] CCAA/CCA at 5.
[57] 2023 SSA at 70.
[58] 2023 SSA at 70.
[59] WAFWA Plan at 1.
[60] WAFWA Plan at 1.
[61] 79 Fed. Reg. 78,775 at 78,777 (December 31, 2024).

90-day finding that the petition presented substantial scientific or commercial information that listing the monarch butterfly may be warranted; and (2) by initiating a status review.[62]

Along with surveys showing concerning declines in migratory monarch populations, this petition and status review precipitated significant new efforts to conserve the monarch butterfly. On May 19, 2015, the White House Pollinator Health Task Force established a National Strategy to Promote the Health of Honey Bees and Other Pollinators, which specifically included a goal of increasing migratory monarch butterfly populations such that the average occupied area of overwintering grounds in Mexico would cover 6 hectares. In furtherance of those monarch conservation goals, a 2017 paper entitled *Restoring Monarch Butterfly Habitat in the Midwestern US: 'All Hands on Deck'* described the domestic habitat protection and enhancements necessary to sustainably support more robust migratory monarch populations and explained how that habitat improvements at the necessary scale would only be possible through non-traditional, conservation partnerships from land management sectors.[63]

The broad-based multi-sector conservation efforts called for in the *All Hands on Deck* paper were coordinated and facilitated by the 2018 MAFWA Plan and 2019 WAFWA Plan. The CCAA/CCA is similarly "closely aligned with the broad monarch conservation strategy identified in" the *All Hands on Deck* paper,[64] and therefore also supports the MAFWA Plan's strategy for facilitating conservation actions within the ROW sectors, as well as the WAFWA Plan and "associated state plans for monarch conservation and pollinator protection."[65]

Notwithstanding the historic level of conservation planning and coordination initiated through these plans and strategies, on December 17, 2020, FWS published a 12-month finding that listing the monarch butterfly as an endangered or threatened species was warranted but precluded by higher priority actions.[66] The species remained so designated in the annual candidate notices of review on May 3, 2022,[67] and June 27, 2023.[68] Pursuant to deadlines the Service agreed to in a court settlement, FWS issued this Proposed Listing on December 12, 2024 and intends to take final action on a potential monarch butterfly listing by December 2025.

III. MONARCH BUTTERFLIES DO NOT MEET THE ESA'S DEFINITION OF EITHER AN ENDANGERED OR THREATENED SPECIES

The Associations' share the Service's concerns over recent observed declines in monarch butterfly abundance and desire to take action to address or offset the factors presumed to have caused or contributed to declines in monarch populations. Indeed, this shared concern underpins the

[62] 79 Fed. Reg. at 78,775.
[63] Thogmartin W.E., *et al*., *Restoring Monarch Butterfly Habitat in the Midwestern US: 'All hands on deck'*, ENVIRONMENTAL RESEARCH LETTERS, Vol. 12 (2017).
[64] CCAA/CCA at 4.
[65] CCAA/CCA at 4.
[66] 85 Fed. Reg. 81,813.
[67] 87 Fed. Reg. 26,152.
[68] 88 Fed. Reg. 41,560.

Associations and their members' significant efforts to protect and improve the habitats on which monarchs depend for breeding, migration, and overwintering.

The Associations' also shares and supports FWS's proposed determination that monarch butterflies do not fit the ESA's definition of "endangered species." While we share the Service's concerns, conservation interests, and proposed determination that monarchs are not endangered, we respectfully disagree with FWS's proposal to list monarch butterflies as threatened. As explained in the subsections that follow, the Associations believe that the best scientific and commercial information available reflects that monarch butterflies will not be pushed to the brink of extinction within the foreseeable future.

a. The ESA Requires a High Standard for Listing Species

The ESA sets a high standard for listing a species, subspecies, or distinct population segment ("DPS") as threatened or endangered. An "endangered" species is statutorily defined as one that is presently in danger of extinction throughout all or a significant portion of its range.[69] A "threatened" species is one that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.[70] When evaluating the status of a species, FWS must consider the following five factors:

> (1) the present or threatened destruction, modification, or curtailment of its habitat or range;
>
> (2) overutilization for commercial, recreational, scientific, or educational purposes;
>
> (3) disease or predation;
>
> (4) the inadequacy of existing regulatory mechanisms; and
>
> (5) other natural or manmade factors that affect the species' continued existence.[71]

In making these assessments, FWS must use "the best scientific and commercial data available"[72] after conducting a review of the status of the species and taking into account the efforts being made by any nation or political subdivision of a nation to protect the species, including through predator control, protection of habitat and food supply, or other conservation practices.[73]

Courts have interpreted these listing standards to reflect Congress' intent that the decision to list a species as threatened or endangered not be based on speculation or a misplaced intent to err on the side of species conservation:

> Under Section 4, the default position for all species is that they are not protected under the ESA. A species receives the protections of the ESA only when it is added to the list of threatened species after an affirmative determination that it is 'likely

[69] 16 U.S.C. § 1532(6).
[70] 16 U.S.C. § 1532(20).
[71] 16 U.S.C. § 1533(a)(1).
[72] Consistent with FWS's proposal, these comments hereafter refer to this evidentiary standard as the "best available evidence" standard.
[73] 16 U.S.C. § 1533(b)(1)(A).

> to become endangered within the foreseeable future.' Although an agency must still use the best available science to make that determination, *Conner* [*v. Burford,* 848 F.2d 1441 (9th Cir. 1988)] cannot be read to require an agency to 'give the benefit of the doubt to the species under Section 4 if the data is uncertain or inconclusive. Such a reading would require listing a species as threatened if there is any possibility of it becoming endangered in the foreseeable future. This would result in all or nearly all species being listed as threatened.[74]

Whether a species should be listed under the ESA (or not) is not a question of whether the species is important, iconic, or deserving of conservation. Nor can species be listed based on a finding that they are being harmed, may be harmed in the future, that their abundance and range have declined, or that there are limits to the species' future population growth. Listing status is measured by the prospect that the species will cease to exist. Assessing the prospect of extinction is necessarily imprecise, and the Service's judgments are entitled to deference if based on best available evidence and the five listing criteria. But the question the ESA requires FWS to answer does not change: Is this species at risk of extinction today, or is a risk of extinction likely to arise in the foreseeable future?

b. <u>The Service's Proposed Status Determination is Based on a Flawed Assessment of the North American Portion of the Monarch's Global Range</u>

In this action, the "species" FWS is assessing is the monarch butterfly (*Danaus Plexippus*) "throughout the known range of the species."[75] FWS decided to assess the monarch at this taxonomic level because "there is no clearly agreed upon definition of potential subspecies of *Danaus plexippus* or where the geographic borders between these subspecies might exist,"[76] and because the ESA does not allow FWS to designate and list an invertebrate species as a DPS.[77]

The known range of the monarch is quite broad. Although native to North America, the monarch butterfly's range "has expanded west via human assistance to many islands in the Pacific Ocean and to the east to the Iberian Peninsula to now occupy 90 countries, islands, and island groups."[78] Given the monarch's "presence over a large geographical range where the climatic conditions and habitat vary widely," predicted "continued presence in an estimated 84 of the 90 countries, islands, and island groups where it occurred historically or to where it has dispersed," and "low risk of becoming extirpated from multiple locations should a large-scale catastrophic event occur" FWS determined "the monarch butterfly is not currently in danger of extinction throughout all of its range" and "is not likely to become in danger of extinction within the foreseeable future throughout

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[74] *Trout Unlimited v. Lohn*, 645 F. Supp. 2d 929, 947 (D. Or. 2007); *see also Center for Biological Diversity v. Lubchenco*, 758 F. Supp. 2d 945, 955 (N.D. Cal. 2010) (finding that the "benefit of the doubt" concept does not apply in the Section 4 listing context); *Oregon Natural Resources Council v. Daley,* 6 F. Supp. 2d 1139, 1152 (D. Or. 1998) (holding that the ESA requires a determination as to the likelihood—rather than the mere prospect—that a species will or will not become endangered in the foreseeable future); *Federation of Fly Fishers v. Daley*, 131 F. Supp. 2d 1158, 1165 (N.D. Cal. 2000) ("The ESA cannot be administered on the basis of speculation or surmise.").

[75] 2023 SSA at 5, 101.

[76] 2023 SSA at 5.

[77] 16 U.S.C. § 1532(16).

[78] 89 Fed. Reg. at 100,666.

all of its range."[79] In other words, FWS concluded that the range-wide population of monarch butterflies do not meet the ESA's definition of either endangered or threatened species. The Associations concur with this conclusion.

However, because the Act provides that a species may still warrant listing if it is in danger of extinction or likely to become so within the foreseeable future throughout all *or a significant portion of its range*,"[80] FWS conducted a range assessment in accordance with its Final Policy on Interpretation of the Phrase "Significant Portion of Its Range" in the Endangered Species Act's Definitions of "Endangered Species" and "Threatened Species" ("SPR Policy").[81] Applying the SPR Policy, the Service considered "whether there is any portion of the species' range for which both (1) the portion is significant; and (2) the species is in danger of extinction in that portion."[82]

In the first step of this analysis, FWS "found that monarch habitat in North America represents a significant portion of the range… because it is physically large, representing a large proportion of the species' range, and has unique habitat features that support monarch migration."[83] The Service also "considered eastern and western North America as individual portions" of the monarch's range, "[h]owever, because these portions individually constitute smaller areas, they were not determined to be significant individually when compared to" the entire North American portion of the monarch's range.[84]

After determining "that North America is significant for the purposes of evaluating a significant portion of the monarch's range, [FWS] then proceeded to address the status question by examining the threats in that portion to determine if the species is endangered or threatened in that portion."[85] Consistent with its range-wide assessment, FWS "concluded that the monarch butterfly in North America is not in danger of extinction within this significant portion of its range and does not meet the definition of an endangered species."[86] The Associations' with this conclusion as well.

Critically, however, when the Service "next considered whether the monarch butterfly is likely to become an endangered species within the foreseeable future in the North America portion (*i.e.*, if it meets the Act's definition of a threatened species)," FWS assessed the status of only *migratory* monarch populations in North America.[87] Non-migratory monarchs that "remain year-round at the southern end of their breeding range in North America, including in parts of Florida, the Gulf Coast, and California"[88] were not assessed by the Service. FWS noted briefly and with little support that non-migratory monarch populations "are at risk" and "also in decline," but "[a]fter assessing the best scientific and commercial data available" only "found that *migratory* monarch butterflies in North America,… have a high likelihood of becoming extirpated in 60 years."[89]

[79] 89 Fed. Reg. at 100,679-100,680.
[80] 16 U.S.C. § 1532(6) (emphasis added).
[81] 79 Fed. Reg. 37,578 (July 1, 2014).
[82] 89 Fed. Reg. at 100,680.
[83] 89 Fed. Reg. at 100,680.
[84] 89 Fed. Reg. at 100,680.
[85] 89 Fed. Reg. at 100,680.
[86] 89 Fed. Reg. at 100,681.
[87] 89 Fed. Reg. at 100,681.
[88] 2023 SSA at 13.
[89] 89 Fed. Reg. at 100,681 (emphasis added).

Even though the Service's status assessment for North America was seemingly limited to *migratory* monarch populations, FWS relied on the assessment to more broadly "conclude that the monarch butterfly is likely to become in danger of extinction within the foreseeable future throughout North America."[90] The Associations does not believe that this conclusion accurately represents or is supported by the Service's own findings. Indeed, it fundamentally misconstrues scientific evidence on the potential loss of the North American *monarch migration* as evidence of the potential loss of the North American *monarchs themselves*.

The best scientific and commercial data available shows that:

> monarchs have a high reproductive rate and they are highly vagile (wide ranging). They are resilient in that they can quickly recover from conditions that led to sharp declines in numbers as we have seen during the recovery from 2013 (0.67ha, the all-time low) to 2015 (4.01) in the East and in the West from 2019 (30K) to 2022 (247K). Whether monarchs will be resilient enough to sustain the migration for the next 50 years is an open question. That will depend on the pace and extent of climate change, but surely, the migration will continue for several decades. However, even if the migration is lost, as a species, monarchs will always be with us.[91]

These same concerns about the Service's failure to distinguish the risk of monarch extinction from the risk that monarchs will discontinue their most noteworthy adaptive behavior were raised, but apparently not addressed, during FWS's peer review of the 2023 SSA:

> Notwithstanding all the explication of adaptation and genetic diversity etc., it should be clear that the most threatened entity is not the monarch itself but its migration. The persistence of non-migratory butterflies suggests that the monarch will persist for some time even in the event the migration crumbles. And as long as there is a winter breeding population in the five southernmost California counties— a population likely to expand northward as temperatures rise— there will be migratory monarchs in California, and an analogous situation exists in Florida.[92]

Even though "[t]here is no provision in the ESA… for protecting endangered phenomena," and despite that "the weak correspondence between the persistence of monarchs and that of their migration would seem to undercut the power of the ESA,"[93] FWS used its assessment of North American migratory monarchs to "conclude that the monarch butterfly is in danger of extinction within the foreseeable future within a significant portion of its range."[94]

This erroneous assumption that a threatened loss of migratory behavior equates to a threat that the global population of monarch butterflies will cease to exist fundamentally undermines the rationality of the Service's Proposed Listing. However, it is not the only analytical flaw on which the Proposed Listing is based. A second and similarly consequential analytical flaw regarding the Service's construal of monarch population dynamics and extinction risk is discussed in subsection

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[90] 89 Fed. Reg. at 100,681.
[91] Chip Taylor, *Why There Will Always Be Monarchs*, Monarch Watch Blog (Aug. 25, 2023) (emphasis added).
[92] Peer Review of 2023 SSA by Paul Z. Goldstein, PhD, Systemic Entomology Laboratory, USDA ("Dr. Goldstein Review") at 9.
[93] Dr. Goldstein Review at 8.
[94] 89 Fed. Reg. at 100,681.

III.c. below. Collectively, these two analytical framing issues call into serious question FWS's proposed determination that it can reasonably reliably predict[95] that the monarch butterfly is likely to face a substantial extinction risk by 2084 – a "foreseeable future" of 60 years.[96]

Perhaps more fundamentally, Congress did not delegate FWS authority to protect or preserve natural phenomena like the North American monarch migration. Congress enacted the ESA to "provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved [and] to provide a program for the conservation of such endangered and threatened species…"[97] although this represents a significant delegation of authority for FWS to take actions to protect endangered and threatened species, it is not so broad a delegation as to allow FWS to take actions to protect and preserve certain behaviors of, or phenomenon associated with, species. There is nothing expressed or implied within the Act's text to suggest that Congress delegated FWS authority over such behaviors or phenomenon.

c. The Service's Proposed Listing Misconstrues Population Dynamics and Extinction Risk

While the analyses underpinning the Service's Proposed Listing is multifaceted, much of the analysis is focused on FWS's assessment that "census data indicates long-term declines in the population abundance at the overwintering sites in both" eastern and western North American migratory monarch populations.[98] "These declining trends led to the petition to list the monarch butterfly for protection under the Endangered Species Act of 1973,"[99] and these same trends framed the Service's review and consideration of the listing petition as well as the present status determination.

More specifically, FWS considered these trends in order to understand the factors that may have caused or contributed to past declines and to project potential future impacts on North American migratory monarch populations. The Proposed Listing, which is based exclusively on FWS's determination that North American migratory monarch populations are likely to continue their observed decline in the foreseeable future until "population abundance reach[es] the point at which extinction is inevitable,"[100] therefore hinges on: (1) whether FWS reasonably projected future population declines and (2) whether the extinction risk threshold FWS utilized is supported and consistent with the determination the Service is required to make under the ESA. While the Associations share the Service's concern over observed declines in North American migratory monarch populations and the potential that these populations may one day be extirpated, we believe that the Service's assessment of these factors overstates the likelihood that North American migratory monarch populations, much less the global distribution of migratory and non-migratory monarchs, will be driven to the brink of extinction within the foreseeable future.

[95] 89 Fed. Reg. at 100,667.
[96] 89 Fed. Reg. at 100,679.
[97] 16 U.S.C. § 1531(b).
[98] 2023 SSA at iii.
[99] 2023 SSA at iii.
[100] 89 Fed. Reg. at 100,676.

1. Population Dynamics and Observed Declines

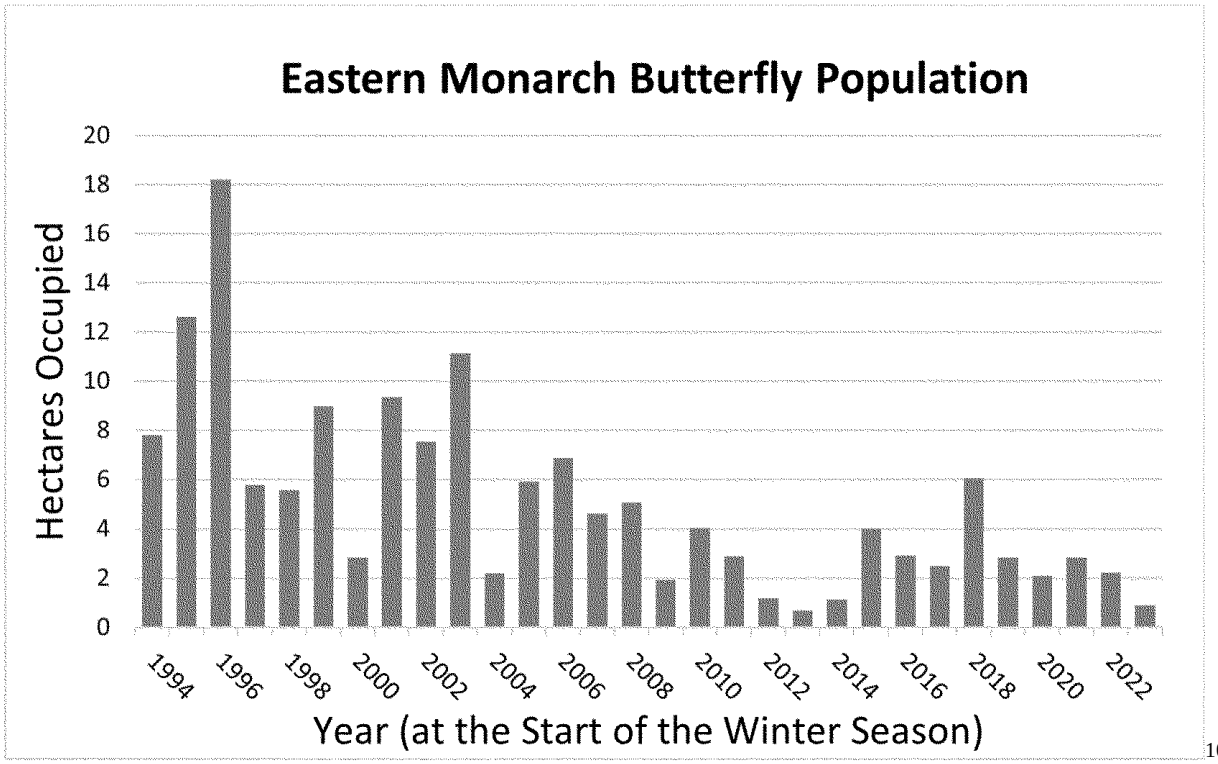
The Associations agree that the available data show that North American migratory monarch populations have generally declined over multiple decades, but we disagree that those declines are as precipitous as FWS suggests or that prior declines continue unabated and can be used to project potential future declines.

The Proposed Listing is largely driven by observed declines in the eastern migratory population (which is the largest monarch population) at overwintering sites in Mexico.[101] The presumed risk to this population, and therefore monarchs worldwide, is:

> based largely on the premise that the monarch populations of the mid-1990s (1994-1996) represented the average numbers that could be expected at the overwintering sites each winter. Based on that standard, due to the declines in monarchs in the following decades, many observers declared that the population has declined by 85%.[102]

But "[t]he first years for which census data are available for the eastern population (1994 - 1996) cannot be read as representative of historical baseline conditions."[103] As reflected in the table reproduced below from the Service's Proposed listing, "the conditions and numbers of monarchs reaching the overwintering sites at the time were not the norm."[104] Monarch observances "were not only unusually high" during this period, "but also comprise the only period in the entire census effort so far in which there was positive growth in three consecutive years."[105]

[101] Chip Taylor, *Why There Will Always Be Monarchs*, Monarch Watch Blog (Aug. 25, 2023).
[102] Chip Taylor, *Why There Will Always Be Monarchs*, Monarch Watch Blog (Aug. 25, 2023).
[103] Dr. Goldstein Review at 10.
[104] Dr. Goldstein Review at 10.
[105] Dr. Goldstein Review at 10; *See also* Mawdsley J.R.; Simmons T.; and Rubinoff D.; *Voluntary Conservation, not Regulation, will be key to Monarch Butterfly Recovery*, WILDLIFE SOCIETY BULLETIN, Vol. 44, Iss. 3, 585-589 (2020); *See also* Chip Taylor, *Monarchs: Weather and Population Sizes in the Past*, Monarch Watch Blog (July 21, 2023).



[106]

Multiple more recent published analyses estimate monarch abundance and population growth using more refined models and data, including non-overwintering population data, different time-series of annual population estimates, and different modeling assumptions about density-dependence and the relationship between population size and growth. In particular, Meehan and Crossley (2023) used a variable change model to characterize that the trend in eastern North American monarch abundance has stabilized and not measurably declined since 2014.[107] According to FWS peer reviewer, Dr. Goldstein, this:

> important recent (2023) paper by Meehan and Crossley… contradicts the SSA's findings by demonstrating that the population has not, in fact, been decreasing in the last 10 years. This is easily the most critical recent reference, as it reanalyzes available data and reaches conclusions the reverse of those within the SSA; it was responsible for the revisitation of the monarch's status by the IUCN…, which was recently changed from Endangered to Vulnerable… Meehan and Crossley compellingly demonstrate that the estimated probabilities of extinction obtained and used in the SSA are spurious (in addition to being below the threshold required for an "endangered" listing by IUCN).[108]

The stabilization of monarch populations in the last decade likely reflects mitigation of the threats that were believed to have caused the prior declines. For instance, several studies suggest that

[106] Reproduced from 89 Fed. Reg. at 100,676.
[107] Meehan T.D.; Crossley M.S.; *Change in Monarch Winter Abundance over the Past Decade: A Red List Perspective*, INSECT CONSERVATION AND DIVERSITY, Vol. 16, Iss. 5, 566–573 (2023).
[108] Dr. Goldstein Review at 12.

"[p]opulation declines in the mid-1990s and early 2000s were associated with the rapid adoption of herbicidally tolerant GMO corn and soybeans across the midwestern US from ~ 1994 to ~ 2006 and glyphosate application, which caused large declines in milkweed and monarch butterfly egg production."[109] As summarized by Professor Taylor in a recent Monarch Watch blog post:

> The high population numbers from 1994-1996 are taken as a baseline when the numbers were probably much lower many times in the past. There are no data supporting a supposition that these 1994-1996 populations were 'average'. They may well have been the exception. Aside from declines due to specific weather events, e.g., the late spring freeze in 1997 and the drought of 2000, etc., there is ample evidence that the decline was due to the adoption of herbicide tolerant (HT) crop lines (1998 to 2006) and the renewable fuel standard (RFS) from 2007-2011. In both cases, millions of acres with milkweed that supported monarchs were eliminated from the landscape. There seems to be an assumption that the decline has continued following the end of the surge in corn growing that was spurred by the adoption of the RFS. Perhaps it has, but if so, such effects are too small to be detected given the variability in the annual cycle and the measurements of the colonies in Mexico. Rather, as shown by Meehan and Crossley (2023), there is reason to believe that the monarch population is relatively stable.[110]

As indicated by the quote above, the "relatively stationary"[111] monarch abundance observed in recent years does not mean that populations have not or will not decline in some years. "It is likely that Monarch numbers have fluctuated wildly—as do most populations of insects— not only with weather in the broad sense but specifically with the frequency of weather events (hot, cold, dry or wet spells) at specific places and times."[112]

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[109] Diffendorfer, J.E, *et al.*, *Changes in Landscape and Climate in Mexico and Texas Reveal Small Effects on Migratory Habitat of Monarch Butterflies* (*Danaus plexippus*), SCIENTIFIC REPORTS, Vol. 14, Iss. 1 (2024); *see also* Flockhart, D. T. T., *et al.*, Unravelling the Annual Cycle in a Migratory Animal: Breeding-Season Habitat Loss Drives Population Declines of Monarch Butterflies, JOURNAL OF ANIMAL ECOLOGY, Vol. 94, Iss. 1, 155-165 (2015); *see also* Pleasants, J. M. & Oberhauser, K.S., *Milkweed Loss in Agricultural Fields Because of Herbicide Use: Effect on the Monarch Butterfly Population*, INSECT CONSERVATION AND DIVERSITY, Vol. 6, Iss. 2, 135-144 (2013); *see also* Stenoien, C., *et al.*, *Monarchs in Decline: A Collateral Landscape-Level Effect of Modern Agriculture*, INSECT SCIENCE, Vol. 25, Iss. 4, 528-541 (2018).

[110] Chip Taylor, *The Pending Decision: Will Monarchs be Designated as Threatened or Endangered?*, Monarch Watch Blog (June 14, 2023); *see also* Lark T.J.; Salmon J.M.; and Gibbs H.K., *Cropland Expansion Outpaces Agricultural and Biofuel Policies in the United States*, ENVIRONMENTAL RESEARCH LETTERS, Vol. 10, No. 4 (2015); *see also* Pleasants, J., *Milkweed Restoration in the Midwest for Monarch Butterfly Recovery: Estimates of Milkweeds Lost, Milkweeds Remaining and Milkweeds that must be Added to Increase the Monarch Population*, INSECT CONSERVATION AND DIVERSITY, Vol. 10, Iss. 1, 42–53 (2016).

[111] Diffendorfer, J.E, *et al.*, *Changes in Landscape and Climate in Mexico and Texas Reveal Small Effects on Migratory Habitat of Monarch Butterflies* (*Danaus plexippus*), SCIENTIFIC REPORTS, Vol. 14, Iss. 1 (2024).

[112] Dr. Goldstein Review at 3; *See also* Brower L.P., *et al.*, *Catastrophic Winter Storm Mortality of Monarch Butterflies in Mexico During January 2002* (published in K. S. Oberhauser and M. J. Solensky (eds.), The Monarch Butterfly: Biology and Conservation at pp. 151-166, Cornell University Press, Ithaca (2004)); *see also* Pleasants, J. M. & Oberhauser, K.S., *Milkweed Loss in Agricultural Fields Because of Herbicide Use: Effect on the Monarch Butterfly Population*, INSECT CONSERVATION AND DIVERSITY, Vol. 6, Iss. 2, 135-144 (2013); *See also* Semmens B.X., *et al.*, *Quasi-Extinction Risk and Population Targets for the Eastern, Migratory Populations of Monarch Butterflies (Danaus plexippus)*, SCIENTIFIC REPORTS, Vol. 6, No. 23265 (2016).

As such, the best available evidence is that the severity of previous monarch population declines were overstated, due to use of a baseline period with unusually high monarch observations, and that any prior observed declines attributable to significant habitat modification practices stabilized in the past decade when those practices abated. Therefore, evidence of previous declines in monarch abundance does not provide a reasonable basis from which to project potential future declines in monarch abundance, and by extension, do not support a determination that monarchs will be driven to the brink of extinction within the foreseeable future.

Nonetheless, FWS proposes to conclude that monarch butterflies' "relatively stationary"[113] abundance over the past decade is likely to end, and that the monarch will face a risk of extinction within 60 years based on the following potential threats:

> (1) "changes in breeding, migratory, and overwintering habitat (due to conversion of grasslands to agriculture, urban development, widespread use of herbicides, logging/thinning at overwintering sites, unsuitable management of overwintering groves, and drought);"
>
> (2) "continued exposure to insecticides;" and
>
> (3) "effects of climate change."[114] This proposed conclusion is not based on the best available evidence.

i. Changes in Breeding, Migratory, and Overwintering Habitat

As noted in the discussion above and as recognized by FWS,[115] the historic cropland conversions and habitat modifications that led to previous declines in monarch populations have ceased. These previous losses of monarch habitat are currently being addressed and increasingly offset by historic levels of conservation efforts to create and enhance monarch habitat, through private conservation measures as well as the MAFWA Plan WAFWA Plan, and the CCAA/CCA.

The availability of overwintering habitat is unlikely to significantly decline, and certainly not to levels that would drive monarchs to the brink of extinction. "Most overwintering sites used by eastern monarchs occur within the Monarch Butterfly Biosphere Reserve (Reserve), a 139,019-ac… protected area in Central Mexico."[116] Logging is banned within the Reserve's 33,485-ac… core zone,[117] but some studies have found that logging "continued to occur both legally (including salvage logging allowed after storms) and illegally at multiple colonies within the Reserve."[118]

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[113] Diffendorfer, J.E, *et al.*, *Changes in Landscape and Climate in Mexico and Texas Reveal Small Effects on Migratory Habitat of Monarch Butterflies* (*Danaus plexippus*), SCIENTIFIC REPORTS, Vol. 14, Iss. 1 (2024).

[114] *See* U.S. Fish and Wildlife Service, Monarch Butterfly (*Danaus plexippus*) Species Status Assessment Report, Version 2.3. Midwest Regional Office 2024 ("2024 SSA") at 30-31.

[115] 89 Fed. Reg. at 100,671-72.

[116] 89 Fed. Reg. at 100,672.

[117] Ramírez M.I., *et al.*, *Threats to the Availability of Overwintering Habitat in the Monarch Butterfly Biosphere Reserve: Land Use and Climate Change* (published in Oberhauser K.S., *et al.*, Monarchs in a Changing World: Biology and Conservation of an Iconic Insect, at pp. 157-168, Cornell University Press (2015)).

[118] 89 Fed. Reg. at 100,672; *See also* Vidal O. & Rendón-Salinas E., *Dynamics and Trends of Overwintering Colonies of the Monarch Butterfly in Mexico*, BIOLOGICAL CONSERVATION, Vol. 180, pp. 165–175 (2014); *see also* Brower

Anti-logging and reforestation efforts are currently being actively implemented to prevent additional illegal logging and mitigate the impacts of past logging.[119] In California, overwintering sites are increasingly protected by federal, state, and private efforts, including through the WAFWA Plan.

ii. Continued Exposure to Insecticides

Insecticides unquestionably harm monarch butterflies, but FWS's Proposed Listing does not provide any evidence to suggest that insecticides will begin to be used at such a scale that it would undermine the monarch's presently stabilized abundance. As noted by Dr. Goldstein, potential impacts from insecticide use

> may be significant in certain areas… but the extent of breeding areas with no applications at all is not taken into account. The coverage of pesticides seems to imply that the entire country is equally saturated with them, but their use that impacts monarchs is scattered. It represents only a very small portion of the monarch breeding habitat in both the East and West; that is to say, there is an issue of scale needed to qualify statements about pesticide impacts.[120]

Moreover, the longstanding use of insecticides is being mitigated as never before through efforts by MAFWA, WAFWA, the Right-of-Way as Habitat Working Group, API's Conservation Initiative, and more widespread use of IVM practices across multiple industries. These efforts are not only helping to reduce insecticide use, but they are also increasing awareness of the potential harm of insecticides to pollinators. "Additionally, the trend towards larger farming operations—which have the capital and capacity to more fully integrate newer technology such as variable rate technology (VRT) and upgrade to newest equipment—may also reduce the monarch's exposure to insecticides."[121]

Insecticides are also more rigorously regulated than they have been in the past. All pesticides distributed or sold in the United States must be registered (licensed) by the EPA. Before the EPA registers a pesticide under the Federal Insecticide, Fungicide, and Rodenticide Act ("FIFRA"), an applicant must show that using the pesticide according to specifications ''will not generally cause unreasonable adverse effects on the environment.''[122]

In 2024, EPA initiated a new strategy to consider how certain pesticides impact at-risk species, expects to apply the strategy when the agency reevaluates the registration of existing pesticides every 15 years. Similarly, in July 2024, the EPA released its draft Insecticide Strategy, which included "a framework to identify which agricultural uses of conventional insecticides impact

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L.P., *et al.*, *Illegal Logging of 10 Hectares of Forest in the Sierra Chincua Monarch Butterfly Overwintering Area in Mexico*, AMERICAN ENTOMOLOGIST, Vol. 62, Iss. 2 (2016).

[119] López-García J., *et al.*, *Forest Land-Cover Trends in the Monarch Butterfly Biosphere Reserve in Mexico, 1994–2017*, ENVIRONMENTAL CONSERVATION, Vol. 49, Iss. 4 (2022).

[120] Dr. Goldstein Review at 14.

[121] 2023 SSA at 57.

[122] 7 U.S.C. § 136a(c)(5)(d).

listed species and how to determine the amount and location of mitigation measures for those insecticides"[123]

iii. Effects of Climate Change

The Service's Proposed Listing identified climate change as a potential future threat to continued monarch abundance based on presumed direct and indirect adverse impacts "on overwintering, migratory, and breeding grounds."[124] While we recognize and appreciate the difficulty in predicting how climate change may one day impact monarch habitat and how monarchs might respond to those habitat changes, we believe that the Proposed Listing did not adequately account for monarch butterflies' adaptability and improperly dismissed substantial evidence that climate change could expand monarch habitat and increase resident and overwintering populations.

"[M]onarchs are a resilient species with high reproductive rate that is well adapted to recover from extreme climatic events and catastrophic mortality. It's clear that monarchs have recovered from low numbers many times in the past."[125] This resilience and adaptability is also reflected in their "widespread" presence "across a diversity of habitats, environmental gradients, and climates."[126] In the past two centuries, monarchs dispersed from North America "and now also occur in non-native or naturalized populations throughout 90 countries, islands, and island groups."[127] The same adaptability that allowed the monarch to disperse to thrive in a diversity of habitats, environmental gradients, and climates in the past will also likely help monarchs adapt to future climatic changes.

> As climate change progresses, many species escape unfavorable temperatures or colonize previously intolerable habitats via northward range expansion. *Lepidopterans*, especially butterflies, seem especially adept at capitalizing on newly available habitat at their northern limits. Given their ecological importance, both in natural communities and as pests in agricultural settings, increased attention has been given to predicting *lepidopteran* distributions under future climates. Yet many lepidopteran species specialize on one or a few host plant species and the ecological niche of their host plant(s) govern their geographic range as strongly as environmental factors. In contrast, monarchs can utilize a large number of different hosts…[128]

"In line with this, [Crossley (2022)] found a pattern of increasing monarch relative abundance with increasing average temperature in the northern US, with the strongest effects evident in the midwestern US."[129] Additionally, "[t]he eastern US and Canada, the area corresponding to the major monarch summer breeding ground for the eastern subpopulation, have generally seen

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[123] 89 Fed. Reg. at 100,675.
[124] 89 Fed. Reg. at 100,673.
[125] Chip Taylor, *Why There Will Always Be Monarchs*, Monarch Watch Blog (Aug. 25, 2023).
[126] 2023 SSA at 71.
[127] 2023 SSA at 71.
[128] Lemoine, N.P., *Climate Change May Alter Breeding Ground Distributions of Eastern Migratory Monarchs (Danaus plexippus) via Range Expansion of Asclepias Host Plants*, PLOS One, Vol. 10, Iss. 2 at p. 22 (internal citations omitted).
[129] Crossley, M.S., *et al.*, *Opposing Global Change Drivers Counterbalance Trends in Breeding North American Monarch Butterflies*, GLOBAL CHANGE BIOLOGY, Vol. 28, Iss. 15 at pp. 4726–4735 (2022).

increases in precipitation and only modest increases in summer temperature…, conditions that have apparently been providing favorable conditions for many butterfly species."[130] This northward shift and its positive impacts on monarch abundance was also identified in Zylstra (2021) which found "evidence that temperature and precipitation in North America is indirectly and positively impacting abundances of overwintering monarchs, via positive effects on breeding monarch population size"[131]

In addition to the projected northward shift in the monarch's North American distribution, climate change is projected to increase resident and overwintering populations. "For both eastern and western populations of winter breeding monarchs, [Momeni-Dehaghi (2024)] predicte[] an increase in total suitable area by 2100."[132]

> For both populations the areas of expansion will be larger than areas of contraction. These areas of expansion will be significantly farther north than the current distribution, e.g. expansion will occur in Arkansas, Missouri, Virginia, and Delaware for the eastern population and in Oregon and Washington for the western population…
>
> Under the low emissions scenario, our models suggest a potential increase in the range of winter-breeding monarchs by 21.8% in the east and 97.9% in the west, with an average northward shift of 250.6 km in the east and 327.4 km in the west. Under the intermediate emissions scenario, the range of winter-breeding monarchs increased by 38.2% in the east and 141.2% in the west, with an average northward shift of 403 km and 302.8 km for the eastern and western populations, respectively. Under the high emissions scenario, the range expanded by 33.7% in the east and 160% in the west, with the eastern and western monarchs shifting northward by 573.6 km and 340.1 km, respectively.[133]

Thus, while "[t]he scenario in which both eastern and western migrations cease purely as a function of climate change is quite plausible…, it should be clear that the most threatened entity is not the monarch itself but it's migration.[134]

> The persistence of non-migratory butterflies suggests that the monarch will persist for some time even in the event the migration crumbles. And as long as there is a winter breeding population in the five southernmost California counties—a population likely to expand northward as temperatures rise— there will be migratory monarchs in California, and an analogous situation exists in Florida.[135]

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[130] Crossley, M.S., *et al.*, *Opposing Global Change Drivers Counterbalance Trends in Breeding North American Monarch Butterflies*, GLOBAL CHANGE BIOLOGY, Vol. 28, Iss. 15 at pp. 4726–4735 (2022).
[131] Zylstra, E.R., *et al.*, *Changes in Climate Drive Recent Monarch Butterfly Dynamics*, NATURE ECOLOGY AND EVOLUTION, Vol. 5, Iss. 10 at pp. 1441–1452 (2021).
[132] Momeni-Dehaghi, I., *et al.*, *Projected Distribution Shifts of Resident Monarch Butterflies and Consequences for Migratory Monarchs*, J. FOR NATURE CONSERVATION, Vol. 82 (2024).
[133] Momeni-Dehaghi, I., *et al.*, *Projected Distribution Shifts of Resident Monarch Butterflies and Consequences for Migratory Monarchs*, J. FOR NATURE CONSERVATION, Vol. 82 (2024).
[134] Goldstein Review at 9.
[135] Goldstein Review at 9 (internal citations omitted).

Thus, while predictions of future climatic changes to monarch habitat and range as well as the monarch's presumed responses to changes are necessarily highly uncertain, there is substantial evidence suggesting that monarchs are sufficiently resilient and adaptable to persist and potentially even thrive under those change conditions. As such, we believe that FWS's proposed conclusion that climate change will push monarch butterflies to the brink of extinction in the foreseeable future is unsupported.

2. Extinction Risk Threshold

Critically, this same resiliency that is likely to allow monarch butterflies to adapt and recover from climate change impacts calls into serious question the extinction risk thresholds that FWS used to assess the point at which potential monarch population declines would drive the species to the brink of extinction.[136] This metric is important because the Service's entire Proposed Listing is based on FWS's estimation of the likelihood of North American migratory monarch "population size dropping below a threshold at which extinction would become likely inevitable (via a mechanism known as an extinction vortex)" within a 60-year foreseeable future.[137]

The extinction thresholds FWS selected did not reasonably consider that "[m]onarch butterfly populations, like other insects, naturally fluctuate from year to year in response to the temperature, rainfall, the availability of food, and other factors."[138] Nor did these thresholds reflect that "monarchs have a high reproductive rate and they are highly vagile (wide ranging)" or that "[t]hey are resilient in that they can quickly recover from conditions that led to sharp declines…"[139]

For example, for the western population, FWS used an extinction threshold of 20,000 to 50,000 individuals,[140] meaning that if population numbers dropped within or below this range, "extinction would become likely inevitable."[141] However, actual survey data demonstrated that this threshold was not only excessively conservative, it was flatly inaccurate. The western migratory population rebounded "from below 2,000 individuals in 2019–2020 to nearly 250,000 individuals the following winter."[142]

Plainly, "[m]onarchs are a resilient species with high reproductive rate that is well adapted to recover from extreme climatic events and catastrophic mortality."[143] This resiliency and ability to rebound has not only been observed in the western migratory population, but also in the eastern migratory population "from 2013 (0.67ha, the all-time low) to 2015 (4.01)." [144]

Thus, the best available evidence is that the thresholds for extinction risk that FWS used to assess the point at which potential monarch population declines would drive the species to the brink of extinction are erroneous. Because these thresholds are the foundation for the Service's

[136] 2023 SSA at 20.
[137] 2023 SSA at 20.
[138] 2023 SSA at 21.
[139] Chip Taylor, *Why There Will Always Be Monarchs,* Monarch Watch Blog (Aug. 25, 2023).
[140] 2023 SSA at 21.
[141] 2023 SSA at 20.
[142] 2023 SSA at 21.
[143] Chip Taylor, *Is the Eastern Monarch Population Continuing to Decline?,* Monarch Watch Blog (Mar. 29, 2024).
[144] Chip Taylor, *Why There Will Always Be Monarchs,* Monarch Watch Blog (Aug. 25, 2023).

determination that monarch butterflies will be driven to the brink of extinction within a 60-year foreseeable future, the Service's proposal to list monarch butterflies as "threatened" is not based on the best available evidence and should be withdrawn.

d. The Best Available Evidence Shows that Conservation Efforts Effectively Eliminate the Risk that Monarchs will go Extinct in the Foreseeable Future

As discussed in Section III.a above, the ESA requires FWS to consider five factors, including "the present or threatened destruction, modification, or curtailment of a species' habitat range."[145] FWS has interpreted this provision to require the Service "to consider the conservation efforts of not only State and foreign governments but also of Federal agencies, Tribal governments, businesses, organizations, or individuals that positively affect the species' status."[146]

The ESA also requires that listing decisions be made "solely on the basis of the best scientific and commercial data… *and after taking into account those efforts, if any, being made by any state or foreign nation or political subdivision of a state or foreign nation to protect such species*…"[147] The plain language of the ESA thus requires the FWS to consider conservation measures undertaken by other entities in determining whether listing of a species is warranted. The implementing regulations for the ESA similarly provide that the Secretary "*shall* take into account… those efforts, if any, being made by any State or foreign nation or any political subdivision of a State or foreign nation to protect such species…"[148]

In order to help guide their consideration of conservation efforts in making listing decisions, in 2003, FWS and the National Marine Fisheries Service, with whom FWS shares administrative jurisdiction of the ESA (together, "Listing Services"), published the Joint Policy for the Evaluation of Conservation Efforts When Making Listing Decisions ("PECE Policy").[149] The PECE Policy "identifies criteria [the Listing Services] will use in determining whether formalized conservation efforts that have yet to be implemented or to show effectiveness contribute to making listing a species as threatened or endangered unnecessary."[150] It sets forth two fundamental criteria that guide the Listing Services' evaluation of whether new conservation measures may be considered in a listing decision: (1) the certainty that the conservation measure will be implemented; and (2) the certainty that the conservation measure will be effective.[151] Under the PECE Policy, the Listing Services consider several criteria under each prong—implementation and effectiveness—in order to determine whether a specific conservation effort can be considered in the context of a listing decision.

To determine the "certainty that the conservation effort will be implemented," the PECE Policy requires FWS to evaluate the nine criteria related to the availability of resources and funding, legal

[145] 16 U.S.C. § 1533(a)(1)(A).
[146] 68 Fed. Reg. 15,101, 15,113 (Mar. 28, 2003).
[147] 16 U.S.C. § 1533(b)(1)(A) (emphasis added).
[148] 50 C.F.R. § 424.11(f) (emphasis added).
[149] 68 Fed. Reg. 15,100.
[150] 68 Fed. Reg. 15,100.
[151] 68 Fed. Reg. 15,100.

authority, procedural requirements, necessary authorizations and approvals, the type and level of voluntary participation, and the sufficiency of the implementation schedule.[152]

The PECE Policy also requires consideration of certain specified criteria for assessing the "certainty that the conservation effort will be effective." These criteria examine the nature and extent of threats to be addressed, as well as the clarity with which conservation objectives are stated, quantified, measured, monitored, and if necessary, adaptable to address changed circumstances. [153]

While the PECE Policy limits the Service's consideration of conservation efforts to those that are reasonably certain to be implemented and beneficial to the species, *nothing* in the policy suggests that the Service may limit its consideration to only those conservation efforts that are certain to eliminate *all* threats.[154] On the contrary, for purposes of evaluating the potential efficacy of conservation efforts, the PECE Policy requires only that the Service identify threats and conservation objectives, and evaluate whether the efforts "identify the appropriate steps to *reduce* threats to the species…"[155] Indeed, in making a listing decision, FWS must consider any conservation effort that the Service concludes "improves the status of the species…"[156]

Notwithstanding these clear analytical requirements, the Service's Proposed Listing and the 2023 SSA both fail to sufficiently explain how or to what extent FWS considered conservation efforts. The Proposed Listing states that the Service's projections of future habitat conditions and their potential impacts on monarch butterflies "also included conservation efforts outlined in large-scale monarch conservation plans, such as the MAFWA Strategy and WAFWA Plan."[157] However, the Proposed Listing also noted that FWS "did not evaluate these plans under the [PECE Policy] because these formalized conservation efforts have been implemented."[158]

FWS's decision to forego a PECE Policy analysis raises serious questions about the Service's overly pessimistic assessment of the potential condition of North American migratory monarchs. Although FWS is correct in characterizing the MAFWA and WAFWA Plans as "formalized conservation efforts [that] have been implemented,"[159] evaluating the certainty that conservation measure will be implemented represents only one prong of the two-part PECE Policy analysis.[160] The PECE Policy also requires FWS to assess the certainty that the conservation measure will be effective.[161]

It is not clear how FWS assessed the anticipated effectiveness of these plans. In fact, it is not even clear how the Service viewed the implementation status of these plans. The 2023 SSA's future conditions analysis appears to assume full implementation of the habitat improvements described

[152] 68 Fed. Reg. at 15,114.
[153] 68 Fed. Reg. at 15,115
[154] *See* 68 Fed. Reg. 15,100.
[155] 68 Fed. Reg. at 15,101.
[156] 68 Fed. Reg. at 15,101.
[157] 89 Fed. Reg. at 100,677.
[158] 89 Fed. Reg. at 100,677.
[159] 89 Fed. Reg. at 100,677.
[160] 68 Fed. Reg. 15,100.
[161] 68 Fed. Reg. 15,100.

in both the WAFWA Plan (50,000 ac of breeding habitat),[162] and in the MAFWA Plan (1.3 billion milkweed stems by 2038).[163] Although FWS "projected scenarios for milkweed and nectar from conservation efforts" encompassed within the MAFWA plan, when it calculated the "estimates of milkweed density based on land cover type," the Service determined that it "would result in *overestimates of increased milkweed and nectar* due to land cover change."[164]

Even though the Service's milkweed density and land cover models showed that "increases in milkweed resulted under all… scenarios considered,"[165] FWS adjusted those favorable projections of future habitat conditions by assuming that enrollment in the U.S. Department of Agriculture's ("USDA's") Conservation Reserve Program ("CRP") would substantially offset or eliminate much of the habitat improvements it projected would be realized through the MAFWA Plan.[166] As opposed to the Service's consideration of conservation efforts and land cover modeling, which showed "increases in milkweed resulted under all… scenarios considered,"[167] "[w]hen conservation effort, CRP, and land cover were considered holistically, overall projected changes in milkweed and nectar habitat range from a 11–22% increase in the Northcentral subregion, a 1% decrease to 3% increase in the Northeast subregion, and a 6% decrease to 5% increase in the South subregion."[168]

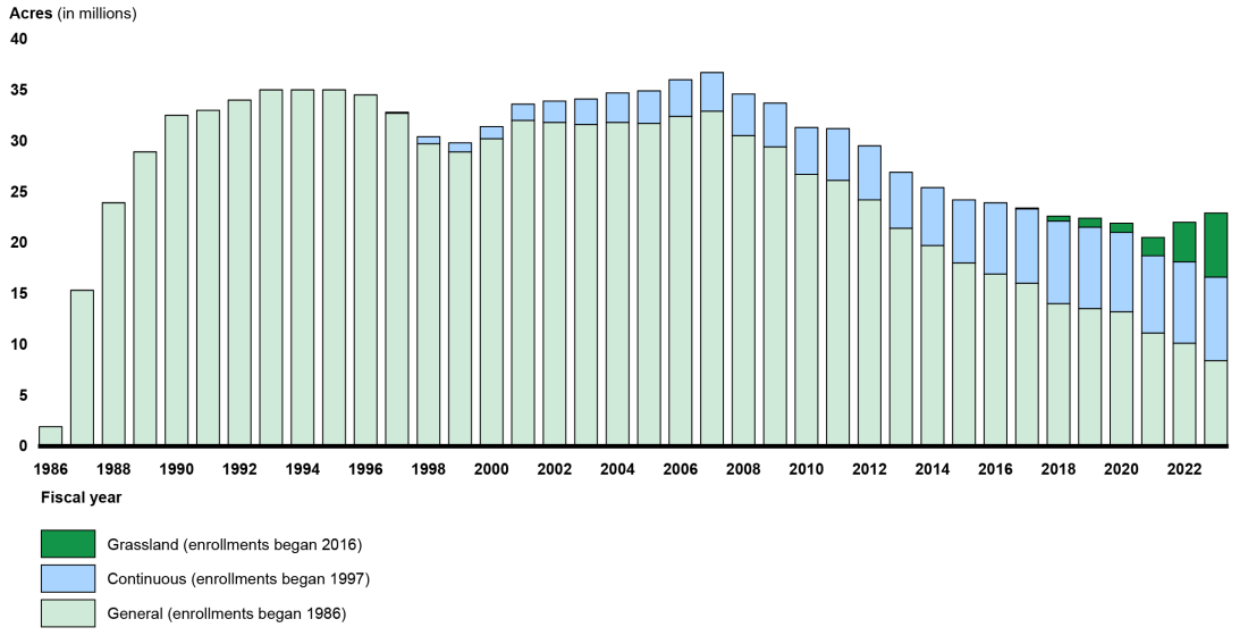
FWS used USDA's 2020 agricultural projections to inform the upper bound of the 2023 SSA's estimates of the extent of acreage that would be protected and improved under the CRP.[169] But the USDA's 2020 agricultural projections no longer represent the best scientific and commercial information available. According to the USDA's 2024 agricultural projections,[170] CRP acreage was projected to increase from 23.2 million in 2023 to 25.8 million acres in 2024, and "[a]fter 2024, CRP acres increase to 26.9 million for the remainder of the projections period [2033]."[171]

The 2023 SSA's "lower bound CRP scenario was based on 10-year national CRP acreage declines (2008–2018)."[172] FWS does not explain why it selected this specific 10-year period, but it does not appear representative of long-term or more current trends in CRP enrollment. As reflected in the table below, the 2008-2018 period that FWS selected represents an atypically severe and prolonged period of declining CRP enrollment that is not consistent with long-term CRP enrollment trends and fails to capture more recent enrollment increases, including the substantially

[162] 2023 SSA at 50.
[163] 2023 SSA at 48.
[164] 2023 SSA at 48 (emphasis added).
[165] 2023 SSA at 49.
[166] 2023 SSA at 48.
[167] 2023 SSA at 49.
[168] 2023 SSA at 49.
[169] 2023 SSA at 48.
[170] USDA, Office of the Chief Economist, *USDA Agricultural Projections to 2033*, Long-Term Projections Report OCE-2024-1 (2024) ("USDA 2024 Agricultural Projections). Prepared by the Interagency Agricultural Projections Committee.
[171] USDA 2024 Agricultural Projections at 29.
[172] 2023 SSA at 48.

increased proportion of CRP acreage that now consists of grasslands that are mostly likely to provide habitat resources to monarchs.[173]

Figure 6: Acres Enrolled in USDA's Conservation Reserve Program, by Enrollment Type, Fiscal Years 1986–2023

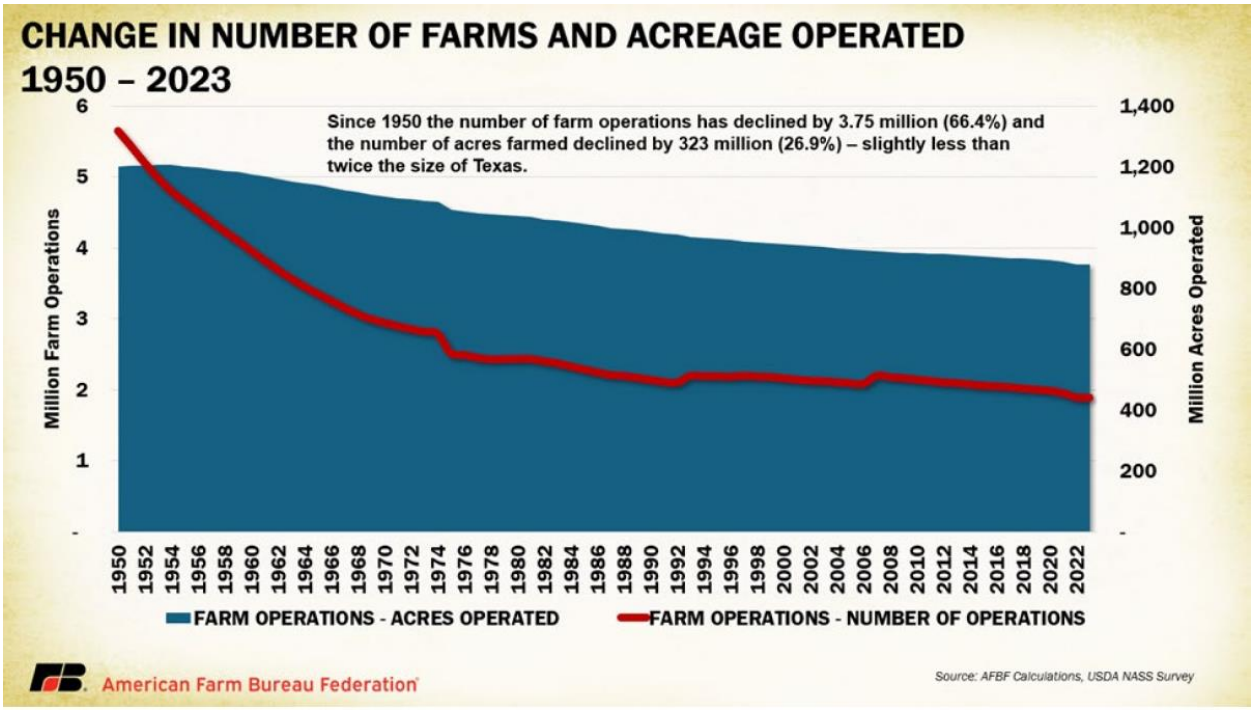


Source: GAO analysis of U.S. Department of Agriculture (USDA) information. | GAO-24-106311

More broadly, the Service's decision to use presumed rates of cropland conversion to offset the actual habitat gains achieved through conservation efforts is inconsistent with USDA data on farmed acreage. According to the American Farm Bureau Federation's ("AFBF") analysis of USDA National Agricultural Statistics Service Survey data, since 1950, U.S. farmed acreage has declined by 323 million acres, and between 2007 and 2017 cropland declined by 24 million acres, an area larger than the state of Indiana. [174]

[173] U.S. Government Accountability Office, *Conservation Reserve Program: Improving How USDA Selects Land Could Increase Environmental Benefits*, GAO-24-106311 at p. 19 (Sep. 2024).

[174] United States Department of Agriculture, National Agricultural Statistics Service (USDA NASS). (2024). Census of Agriculture. Available at: https://www.nass.usda.gov/Publications/AgCensus/2022/.



Although FWS considered the WAFWA and MAFWA Plans and CCAA to a limited degree and in a manner inconsistent with the PECE Policy, the Service's decision to forego the required PECE Policy analysis also means that FWS's analysis of future habitat conditions did not appropriately account for the amount of other types of conservation efforts that are currently benefitting monarchs and will likely continue to do so for the foreseeable future.

According to the Monarch Conservation Database ("MCD"), as of September 2024, there were 145,455 complete monarch conservation effort records that have a status of completed, implemented, or planned since 2014 and 126 monarch conservation plans.[175] "These efforts constitute a total of 10,457,316 ac (4,231,926 ha) of land area in the United States (10,246,876 ac (4,146,764 ha) and 178,920 ac (72,406 ha) in the eastern and western populations, respectively) enhanced or created for monarchs."[176]

Similarly, Monarch Watch has developed a "Waystation" database that allows individuals and entities to register "monarch Waystations" "that provide resources necessary for monarchs to produce successive generations and sustain their migration."[177] As of January 3, 2024, 49,311 Monarch Waystation habitats have been registered.[178]

These smaller-scale habitat conservation efforts are not only extensive and widespread, but several studies also show that they are critical to monarch conservation. For instance, a 2018 study found that "establishing many small patches of habitat, rather than few large patches, will yield the

[175] 89 Fed. Reg. at 100,675.
[176] 89 Fed. Reg. at 100,675.
[177] https://www.monarchwatch.org/waystations/.
[178] https://monarchwatch.org/waystations/index.html#registry.

highest numbers of eggs laid by individual monarchs."[179] This result suggests that both patch size and the distribution of patches on the landscape contribute to monarch abundance.

Another study from 2021 found that habitat "patch size did not affect monarch adult abundance along the transects, nor was there a significant effect of the interaction between patch size and the amount of habitat in the surrounding landscape."[180] "These findings suggest that high-quality patches of habitat occurring in landscapes with relatively few other habitats supported the highest densities of immature and adult monarchs, irrespective of patch size."[181]

Notwithstanding the clear conservation benefits of these widespread and diffuse smaller-scale conservation efforts, it is not clear whether to what extent FWS considered them. In fact, it appears that FWS only considered small-scale conservation efforts qualitatively and in cumulative fashion:

> Many conservation efforts implemented under Federal, Tribal, State, or other programs, such as the Farm Service Agency's Conservation Reserve Program; the Natural Resource Conservation Service's Environmental Quality Incentives Program, Agricultural Conservation Easement Program and Conservation Stewardship Program; and the Service's Partners for Fish and Wildlife Program, are expected to contribute to the overarching habitat and population goals of the MAFWA Strategy and WAFWA Plan. Smaller conservation efforts, such as pollinator gardens, implemented by local governments, nongovernmental organizations, private businesses, and interested individuals will also play an important role in reaching habitat and population goals established in the MAFWA Strategy and WAFWA Plan.[182]

While we agree with these statements and recognize the difficulty in assessing the impacts of an enormous number of diffuse and often overlapping conservation efforts on the status of a species as widespread as the monarch butterfly, the ESA demands more than qualitative assessment. Projections of diminished and degraded habitat are at the heart of the Service's status assessment and Proposed Listing, and therefore the historic and continually expanding conservation efforts to offset those projected losses should also be the central focus of the Service's status assessment and Proposed Listing.

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[179] Grant, T.J., Parry, H.R., Zalucki, M.P., & Bradbury, S.P. (2018). Predicting monarch buttery (Danaus plexippus) movement and egg-laying with a spatially-explicit agent-based model: The role of monarch perceptual range and spatial memory. Ecological Modelling, 374, 37–50. https://doi.org/10.1016/j.ecolmodel.2018.02.011.

[180] Bruce, Anna Skye, et al. "Landscape-and local-level variables affect monarchs in Midwest grasslands." *Landscape Ecology* (2021): 1-16.

[181] Bruce, Anna Skye, et al. "Landscape-and local-level variables affect monarchs in Midwest grasslands." *Landscape Ecology* (2021): 1-16.

[182] 89 Fed. Reg. at 100,675.

IV. IF FWS LISTS MONARCH BUTTERFLIES AS THREATENED, IT SHOULD CAREFULLY TAILOR ITS PROTECTIVE REGULATIONS IN A SIMULTANEOUSLY ISSUED RULE UNDER SECTION 4(D)

While the Associations believe that the best available evidence shows that monarch butterflies do not satisfy the ESA's definitions of either endangered or threatened species, if FWS is intent on finalizing its proposed "threatened" listing, the Associations support the Service's related proposal to exercise FWS's authority under Section 4(d) of the Act to tailor its protective regulations in a manner that is "necessary and advisable to provide for the conservation" of monarch butterflies.[183] FWS appropriately recognizes that "the monarch butterfly's general habitat use and wide distribution" necessitates and provides an opportunity to develop "broad conservation action, from small- to large-scale efforts, throughout its range,"[184] and further recognizes that the "[p]rivate landowner and general public support are crucial" to the "[c]reation, enhancement, and maintenance of higher quality habitat"[185] across the monarch's expansive range. Therefore, although the Associations herein recommends (in Section V below) certain revisions and clarifications to the Service's Proposed 4(d) Rule, we broadly share and support the Service's determination that it is "necessary and advisable" that FWS promulgate a 4(d) rule that "encourages landowners" to improve habitat, provides the general public "an opportunity to participate in a broad range of conservation efforts throughout the species' range," and allows private parties to "take action to participate in the recovery of monarchs without fear of unintentional violation for the Act."[186]

The Associations also recommend that any Section 4(d) rule assure that responsibly conducted and economically important activities such as energy exploration, production, and transportation are protected from incidental take liability. While companies within these industry sectors are increasing promoting the conservation, enhancement, and creation of monarch habitat, these sectors are not generally viewed as contributing to previous observed declines in monarch populations, and their continued operations are not among the primary factors that FWS believes may drive monarchs to the brink of extinction within the foreseeable future. Even if oil and gas industry operations were viewed as threats to monarchs, FWS has discretion under the ESA to issue 4(d) rules that do not prohibit all activities that may result in "take" or that do not address every possible threat to a species.[187] As such, regardless of whether oil and gas industry projects ultimately enhance or create habitat, FWS should exercise its authority under Section 4(d) to ensure that this economically important activity is protected from liability for incidental take of monarchs.

It is simply not the case that the greatest conservation benefits can only be achieved through the most restrictive protective ESA regulations. Indeed, while the Section 9 prohibition on "take" is

[183] 16 U.S.C. § 1533(d).
[184] 89 Fed. Reg. at 100,683.
[185] 89 Fed. Reg. at 100,683.
[186] 89 Fed. Reg. at 100,683.
[187] *See State of Louisiana v. Verity*, 853 F.2d 322 (5th Cir. 1988).

one of the conservation mechanisms with which the ESA is most frequently identified, it is neither the ESA's sole conservation tool, nor its most effective tool.

The ESA was created to "provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate" to achieve those goals.[188] Congress defined the terms "conserve," "conserving," and "conservation" to mean "to use and the use of *all methods and procedures* which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary."[189] FWS's authority to impose Section 9 prohibitions therefore represents a tool in furtherance of this mandate—not the mandate itself.

In drafting the ESA, Congress understood that FWS would need to meet its conservation mandate through actions outside of its Section 9 authority, like:

> [E]ncouraging the States and other interested parties, through Federal financial assistance and a system of incentives, to develop and maintain conservation programs which meet national and international standards is a key to meeting the Nation's international commitments and to better safeguarding, for the benefit of all citizens, the Nation's heritage in fish, wildlife, and plants.[190]

A tailored and species-specific approach to Section 9 prohibitions helps encourage states and other stakeholders to participate in conservation, and to ensure that its "take" prohibitions do not needlessly constrain economically important activities. Tailored prohibitions, and the increased likelihood of more tailored prohibitions, allow states, landowners, land use industries, and private conservation stakeholders of every size and type the opportunity to undertake conservation measures with less risk that FWS will impose redundant or contradictory prohibitions. Moreover, as particularly relevant here given monarch butterflies' expansive distribution and extensive reliance on habitat resources on state and private land for multiple different life stages, tailored prohibitions also provide states, landowners, and other private parties the incentive to undertake conservation measures in exchange for FWS's imposition of a narrower suite of Section 9 prohibitions for threatened species.

Meeting the ESA's conservation mandate plainly requires FWS to succeed in protecting species and habitat on private land. Take prohibitions on private land, however, are difficult to enforce and only successful if landowners perceive a credible threat of enforcement.[191] "Whatever successes the ESA has had in other contexts… the regulatory model has failed on private land. As *Science* reported in 2005, 'it's become clear over three decades that its regulatory hammer isn't enough.'"[192]

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[188] 16 U.S.C. § 1531(b).
[189] 16 U.S.C. § 1533(3) (emphasis added).
[190] 16 U.S.C. § 1531(a)(5).
[191] Ferrero P.; McIntosh C. & Ospina M., *The Effectiveness of the U.S. Endangered Species Act: An Econometric Analysis Using Matching Methods*, J. ENVTL. ECON. & MGMT., Vol. 54, Iss. 3 at 256 (2007).
[192] Adler J., *The Leaky Ark*, AMERICAN ENTERPRISE INSTITUTE (2011) (quoting Stokstad E., *What's Wrong with the Endangered Species Act*, SCIENCE, Vol. 309, Iss. 5, 744 at 2,152 (2005)).

Voluntary conservation succeeds where Section 9 prohibitions fail because it can leverage the funding and resources that FWS cannot provide and because it incentivizes landowners to protect and improve habitat on private land. There are few better examples of this than the MAFWA and WAFWA Conservation Plans, the CCAA, and thousands of other large- and small-scale efforts that, to date, have collectively created, protected, and improved millions of acres of monarch habitat, facilitated the propagation of a substantial number of stems of milkweed.

This historic level of species conservation is not only orders of magnitude larger than what FWS could provide with its limited resources; it also facilitates habitat protections and enhancements that are well beyond what FWS has the jurisdiction or resources to implement or impose. FWS may not have the resources to manage or process all the potential consultations that will come about with the listing of the monarch butterfly, especially without modifying the Proposed 4(d) Rule as outlined within this letter. This will have significant adverse impacts on new energy projects, including delays, operational restrictions, and unnecessary costs. Such an outcome would impede the development of domestic energy resources, and would therefore be inconsistent with the current Administration's executive order on unleashing American energy.[193]

The ESA gives FWS little jurisdiction over private lands because it generally cannot require private landowners to undertake particular conservation action; it simply prohibits the "taking" of species. To be sure, private parties' potential "take" liability from otherwise lawful activities on private land can often directly and indirectly contain the use and enjoyment of private lands. The extent of conservation measures FWS may be able to leverage on private land under threat of "take" liability pales in comparison to the level of voluntary conservation FWS can facilitate by insulating private landowners from liability for routine and/or necessary actions that may result in the "take" of listed species.

The threat of "take" liability is not only an ineffective means of protecting and conserving species on private land, but it also often leads to perverse incentives and poor conservation outcomes. If a landowner discovers that their property holds species that are facing increasing threats, and that may potentially be listed under the ESA in the future, the landowner has a greater incentive to rid his land of the species and of its habitat before the Service can take listing action and impose regulation, as opposed to the landowner taking active measures to conserve the species. Sometimes, concerns about potential future "take" liability and land use restrictions can also incite landowners to prevent the development of habitat on their land before they are straddled with conservation restrictions.

For example, in the 1980s, landowner Ben Cone in North Carolina was arrested and threatened with fines and criminal charges for cutting down old-growth pine trees present on his property because the pine trees could potentially provide habitat for an endangered bird species.[194] Though Cone settled out of court with the federal government, his case caused other landowners with younger trees to pre-emptively cut those trees before they became old growth to avoid playing host

[193] Executive Order 14154.

[194] Alavalapati, J.R.R., *et al.*, *Longleaf Pine Restoration* (published in Jose, S., *et al.*, *The Longleaf Pine Ecosystem*, Springer Series in Environmental Management. Springer, New York, pp. 403–412 (2006)).

to potential habitat.[195] While those landowners were not going so far as to shoot and kill the birds, it is doubtless that their actions harmed the species.[196]

One of FWS's peer reviewers, Dr. Paul Goldstein, raised similar concerns that a proposal to list the monarch butterfly "will spur farmers, ranchers and other landowners to eliminate milkweeds from their landscapes rather than deal with new regulations, and that this will have an impact comparable to that of conversion in the wake of the Renewable Fuel Standard."[197] These same concerns were echoed by Orley R. "Chip" Taylor, a retired professor at the University of Kansas Department of Ecology and Evolutionary Biology who founded Monarch Watch. In a June 14, 2023 blog post on Monarch Watch, Professor Taylor questioned whether a decision to list the monarch as threatened would "constitute a threat in itself to landowners who currently have milkweeds on their lands? This possibility seems real since many landowners' fear regulations, and along the lines of the 'shoot, shovel and shut up' practice that is spoken of in connection with the endangered species act, they might simply eliminate milkweeds from their lands."[198]

Therefore, in light of the Service's statutory obligation under ESA Section 4(d) to tailor the FWS's protective regulations in a manner that is "necessary and advisable to provide for the conservation" of monarch butterflies,[199] FWS is effectively required to tailor its protective regulations in a manner that encourages, facilitates, and meaningfully protects conservation efforts by landowners, land use industries, and all other private conservation stakeholders.

V. FWS SHOULD REVISE AND CLARIFY ITS PROPOSED 4(d) RULE TO ALLOW FOR THE CONTINUATION OF ECONOMICALLY BENEFICIAL ACTIVITIES AND PROVIDE FOR THE CONSERVATION OF MONARCH BUTTERFLIES

As noted above, while the Associations broadly support the Service's proposed use of its ESA Section 4(d) authority to tailor its protective regulations should FWS finalize the Proposed Listing, we believe that certain revisions and clarifications to the scope of the Proposed 4(d) Rule are "necessary and advisable" to better promote economically beneficial and responsibly conducted activities and to more effectively provide for the conservation of monarch butterflies.

a. Clarify and Expand the Proposed Section 4(d) Exclusion for Responsibly Conducted and Economically Beneficial Activities that may Disturb Habitat

The Service's Proposed 4(d) Rule would exempt from incidental take liability those "[a]ctivities that may maintain, enhance, remove, or establish milkweed and nectar plants within the breeding and migratory range that do not result in conversion of native or naturalized grassland, shrubland, or forested habitats."[200] The Associations support this proposed exclusion but believes it should be

[195] *See Anderson* at 28.
[196] *See Anderson* at 28.
[197] Dr. Goldstein Review at 3.
[198] Chip Taylor, *The Pending Decision: Will Monarchs be Designated as Threatened or Endangered?*, Monarch Watch Blog (June 14, 2023).
[199] 16 U.S.C. § 1533(d).
[200] 89 Fed. Reg. at 100,685.

expanded and clarified in order to encourage landowners and land access industries to take feasible steps to mitigate the potential adverse impacts of their operations and to enhance or create monarch habitat whenever practicable. The Associations also recommend that any Section 4(d) rule assure that responsibly conducted and economically important activities such as energy exploration, production, and transportation are protected from incidental take liability.

Although they may be implicitly included, the Service's proposed exclusion for habitat restoration activities does not appear to recognize that these activities often follow and are the consequence of activities that initially disturb or modify monarch habitat. Notwithstanding that certain construction, operation, maintenance, and management activities may adversely impact monarchs and monarch habitat in the short-term, a growing body of scientific evidence demonstrates that post-activity reclamation practices can not only abate any adverse species impacts associated with the activity, but very often improve habitat above the baseline conditions in neighboring habitat in undisturbed areas that were never disturbed or reclaimed.[201]

As explained in the CCAA/CCA, "energy and transportation lands present an incredible opportunity to provide valuable wildlife habitat to species that depend on early successional plant communities and structures, such as monarch butterflies and other pollinators."[202] "Most covered activities occurring on these lands are temporary in their duration and relatively minor or infrequent in their impacts,"[203] and "[w]hile much of these lands may contain infrastructure, facilities, or routinely mowed areas as required for safety and security, portions of the lands associated with energy and transportation can support nesting and egg-laying habitat for pollinators, including monarchs, and have the potential to act as corridors for pollinator movement."[204] In fact, a recent study "examined pipeline right-of-way reclamation for insects and found… clear evidence that reclamation efforts which result in diverse native plant communities host more insects than those which are dominated by non-native or lack vegetative diversity."[205] Out of 931 individual insects captured in the study area, 82 percent were found within the pipeline ROW vs. 18 percent in the reference sites.[206]

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[201] *See* Curran, M.F.; Robinson, T.J.; Guernsey, P.; Sorenson, J.; Crow, T.M.; Smith, D.I.; Stahl, P.D, *Insect Abundance and Diversity Respond Favorably to Vegetation Communities on Interim Reclamation Sites in a Semi-Arid Natural Gas Field*, LAND, Vol. 11, Iss. 4, 527 (2022); s*ee also* Curran, M.F.; Sorenson, J.R.; Craft, Z.A.; Crow, T.M.; Robinson, T.J.; Stahl, P.D., *Ecological Restoration Practices Within a Semi-Arid Natural Gas Field Improve Insect Abundance and Diversity During Early and Late Growing Season*, ANIMALS, Vol. 13, Iss. 1, 134 (2022); *see also* Curran, M.F.; Allison, J.; Robinson, T.J.; Robertson, B.L.; Knudson, A.H.; Bott, B.M.M.; Bower, S.; Saleh, B.M., *Insect Abundance and Richness Response to Ecological Reclamation on Well Pads 5–12 Years into Succession in a Semi-Arid Natural Gas Field*, DIVERSITY, Vol. 16, Iss. 6, 324 (2024). Numerous API members also utilize "interim reclamation," which involves reducing the well pad size following initial development. This allows companies to reclaim and reseed unutilized portions of the well pad long before post-activity reclamation activities would commence.

[202] CCAA/CCA at 16.

[203] CCAA/CCA at 26.

[204] CCAA/CCA at 66.

[205] *See* https://www.asrs.us/wp-content/uploads/2024/06/ASRS-2024-Abstracts.pdf (describing Curran, M.F.; Murphy, E.; Robinson, T.J.; Robertson, B.L.; Knudson, A.H.; Bott, B.M.; Bower, S., *Insect Response to Ecological Reclamation Activity Along a Pipeline Right-Of-Way in a Semi-Arid Natural Gas Field* (in preparation for publication in RECLAMATION SCIENCES)).

[206] *See* Curran, M.F.; Murphy, E.; Robinson, T.J.; Robertson, B.L.; Knudson, A.H.; Bott, B.M.; Bower, S., *Insect Response to Ecological Reclamation Activity Along a Pipeline Right-Of-Way in a Semi-Arid Natural Gas Field* (in preparation for publication in RECLAMATION SCIENCES).

While ROW, accompanying lands and parcels for energy transmission and distribution can play a uniquely critical role as resource corridors for migrating monarchs, reclamation activities in the upstream sector have also been shown to improve monarch habitat above baseline habitat conditions in the surrounding area. For instance, multiple studies show that reclaimed and reseeded well pads contain higher insect abundance and diversity than adjacent reference ecosystems in the three years following reclamation.[207] This higher abundance of insects is likely due to the removal of understory and the seeding of a diverse mix of native flowering plants.[208]

A subsequent study showed that well pad restorations continue to positively benefit insects for up to twelve years following reclamation.[209] The study examined well pads that had been reclaimed in the past five to twelve years and found that insects were far more abundant on reclaimed well pads than on reference sites (76.5 percent of insects found on reclaimed well pads vs. 23.5 percent found on reference sites).[210] The study also found a significantly more diverse mix of insect species on reclaimed well pads than on reference sites (233 different insect species were found on reclaimed well pads vs. 121 different insect species on reference sites).[211]

While many companies in the oil and natural gas industry increasing contributing to the conservation, enhancement, and creation of monarch habitat, it is not because the oil and natural gas industry is viewed as one of the primary factors contributing to previous observed declines in monarch populations or because our operations are likely to cause monarchs to be driven to the brink of extinction within the foreseeable future. The oil and natural gas industry's operation throughout the monarch's 48-state range may "present an incredible opportunity to provide valuable wildlife habitat to species that depend on early successional plant communities and

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[207] *See* Curran, M.F.; Robinson, T.J.; Guernsey, P.; Sorenson, J.; Crow, T.M.; Smith, D.I.; Stahl, P.D, *Insect Abundance and Diversity Respond Favorably to Vegetation Communities on Interim Reclamation Sites in a Semi-Arid Natural Gas Field*, LAND, Vol. 11, Iss. 4, 527 (2022); s*ee also* Curran, M.F.; Sorenson, J.R.; Craft, Z.A.; Crow, T.M.; Robinson, T.J.; Stahl, P.D., *Ecological Restoration Practices Within a Semi-Arid Natural Gas Field Improve Insect Abundance and Diversity During Early and Late Growing Season*, ANIMALS, Vol. 13, Iss. 1, 134 (2022).

[208] See CCAA/CCA at 66-67; *see* also Curran, M.F.; Robinson, T.J.; Guernsey, P.; Sorenson, J.; Crow, T.M.; Smith, D.I.; Stahl, P.D, *Insect Abundance and Diversity Respond Favorably to Vegetation Communities on Interim Reclamation Sites in a Semi-Arid Natural Gas Field*, LAND, Vol. 11, Iss. 4, 527 (2022); *see also* Wojcik, VA and S Buchmann. 2012. *Pollinator Conservation and Management on Electrical Transmission and Roadside Rights-of-Way*: A Review. Journal of Pollination Ecology. 7(3). pp 16-26; *see also* Menz M, Phillips R., Winfree R, Kremen C, Aizen M, Johnson S, and Dixon K. 2011. *Reconnecting plants and pollinators: challenges in the restoration of pollination mutualisms. Trends in Plant Science*. Vol. 16, No. 1. 1360-1385; *see also* Champagne N., Bourassa J.P. 2000. *Entomological communities of three landscapes along highway rights-of-way of southern Quebec: effect of mowing frequency on insects abundance and diversity*. 7th International Symposium on Environmental Concerns in Rights-of-Way Management; *see also* Noordijk J, Delille K, Schaffers AP Sýkora KV. 2009. *Optimizing grassland management for flower-visiting insects in roadside verges.* Biological Conservation. 14:2097-2103.

[209] Curran, M.F.; Allison, J.; Robinson, T.J.; Robertson, B.L.; Knudson, A.H.; Bott, B.M.M.; Bower, S.; Saleh, B.M., *Insect Abundance and Richness Response to Ecological Reclamation on Well Pads 5–12 Years into Succession in a Semi-Arid Natural Gas Field*, DIVERSITY, Vol. 16, Iss. 6, 324 (2024).

[210] Curran, M.F.; Allison, J.; Robinson, T.J.; Robertson, B.L.; Knudson, A.H.; Bott, B.M.M.; Bower, S.; Saleh, B.M., *Insect Abundance and Richness Response to Ecological Reclamation on Well Pads 5–12 Years into Succession in a Semi-Arid Natural Gas Field*, DIVERSITY, Vol. 16, Iss. 6, 324 (2024).

[211] Curran, M.F.; Allison, J.; Robinson, T.J.; Robertson, B.L.; Knudson, A.H.; Bott, B.M.M.; Bower, S.; Saleh, B.M., *Insect Abundance and Richness Response to Ecological Reclamation on Well Pads 5–12 Years into Succession in a Semi-Arid Natural Gas Field*, DIVERSITY, Vol. 16, Iss. 6, 324 (2024).

structures,"[212] but that does not mean that oil and natural gas industry operations are considered a significant factor contributing to the monarch's previous declines or future threats. The Service's Proposed Listing and the 2023 SSA both recognize this fact.

As such, regardless whether oil and natural gas projects are reclaimed or reseeded specifically for the purpose of enhancing or creating pollinator habitat, FWS should revise its Proposed 4(d) Rule to ensure that all responsibly conducted and economically important activities undertaken by the oil and natural gas industry are protected from liability for incidental take of monarchs. Even if oil and gas industry operations were viewed as threats to monarchs, FWS has discretion under the ESA to issue 4(d) rules that do not prohibit all activities that may result in "take" or that do not address every possible threat to a species.[213] The Service should exercise that discretion here to ensure that the oil and natural gas industry, which the Proposed Listing does not identify as a major threat yet is increasing contributing to monarch conservation, is allowed to continue to develop and supply critical energy resources without undue risk of incidental take liability.

As such, the Associations urges FWS to revise this proposed Section 4(d) exclusion to also include those oil and natural gas industry habitat disturbing or modifying projects and activities that are responsibly conducted pursuant to existing regulatory, permit, or contractual reclamation requirements. The activities that we believe should be provided Section 4(d) incidental take protection when responsibly conducted pursuant to existing regulatory, permit, or contractual reclamation requirements should, at minimum, include the following upstream and midstream oil and natural gas industry activities:

- General operation and use of the structures, infrastructure, equipment, and materials necessary for site work;

- Construction, maintenance, repair, and use of vehicle and equipment access points, roads, and staging areas;

- Surveys, staking, and inspections, including but not limited to geotechnical survey, seismic surveys, and leak detection and repair ("LDAR") inspections;

- Infrastructure construction, maintenance, modernization, repair, and replacement of all site infrastructure, as well as all ancillary and supporting equipment and infrastructure including guyed wires, poles, power and communication equipment, above and below ground structures, gutters, culverts, bridges, piers, scour aprons, cattle grates, and similar structures;

- Vegetation management and maintenance activities, such as mowing of pipeline corridors, roadsides, or other ROWs, invasive weed control, and tree clearing to ensure safe and reliable operation of infrastructure, allowing access needed for inspections, maintenance, and emergency response, and fulfilling other contractual, landowner, and/or regulatory requirements;

[212] CCAA/CCA at 16.
[213] *See State of Louisiana v. Verity*, 853 F.2d 322 (5th Cir. 1988).

- Use of temporary staging and material storage areas for construction. This may also involve the use of construction matting or other access pads in wetlands, waterway crossings or other environmentally sensitive areas;

- Facility and well pad construction, repairs, upgrades, and replacement associated with new or existing infrastructure, including planned or emergency leak detection repairs as well as other repairs, replacement, and upgrades to facilities. This includes, but is not limited to, construction or rebuilding of structures and pipe segments, re-conductoring, burying lines, adding or modifying overhead lines or pole attachments, demolition and removal of existing structures and pipe segments, construction of tanks, substations, and installation of new structures or pipe. This also includes pavement replacement; roadway repair; bridge and culvert widening, extensions, or replacement; lane and shoulder widening or extension; construction of pathways (bike lanes, sidewalks, trails, or other paths); rail replacement; construction of noise walls or retaining walls; adding or modifying overhead pole attachments; bank stabilization activities that are hard armoring through rip rap, concrete, sheet piling, or similar methods that are unlikely to allow vegetation establishment; and, construction in association with existing roadways/infrastructure, such as rest areas, roundabouts, interchanges, truck escape ramps, weigh stations, spoils disposal or waste management areas, and similar facilities. These activities also include facility/well pad construction and building maintenance, including small buildings, lighting, and storage areas associated with existing infrastructure; stormwater facilities maintenance; grading and excavation; installation and maintenance of erosion control BMPs, site/well pad clean-up and restoration, including grading and reseeding occurring substantially on lands previously used for operations and maintenance purposes.

- Required or voluntary reclamation activities, such as reclamation of well pads, roads, ROWs, or similar surface disturbances or infrastructure when those reclamation activities include measures reasonably expected to enhance habitat for monarchs and other pollinators. These enhancement measures include but are not limited to measures intended to propagate higher densities of milkweed or nectar plants than initially may have been present.

b. Clarify and Expand the Proposed Section 4(d) Exclusion for Implementation of Comprehensive Plans and Programs

The Service's Proposed 4(d) Rule would exempt "incidental take from implementation of a conservation plan or program" if FWS determines that the plan or program:

- "comprehensively addresses the threats affecting the monarch within the plan area;"

- "establishes objective, measurable biological goals and objectives for population and habitat necessary to ensure a net conservation benefit, and provides the mechanisms by which those goals and objectives will be achieved;"

- is overseen by administrators that "demonstrate the capability and funding mechanisms for effectively implementing all elements of the plan;"

- "employs an adaptive management strategy to ensure future program adaptation as necessary and appropriate; and"

- "includes appropriate monitoring of effectiveness and compliance."[214]

The Associations support the Service's decision to set forth the specific elements of the conservation plans and programs that, when implemented, would insulate participants from incidental take liability, but we are concerned that these elements may be unnecessarily restrictive and insufficiently clear.

1. Expand the Proposed Section 4(d) Exclusion for Implementation of Comprehensive Plans and Programs

FWS recognizes that the habitat protections and enhancements necessary to implicate monarch butterflies will require "broad conservation action, from small- to large-scale efforts, throughout its range."[215] Therefore, in light of this recognition, it is important that the Service's Proposed 4(d) Rule broadly provide incidental take protection to a wide range of large and small conservation efforts that, while undeniably beneficial to monarchs, may not share the more formal structure and administrative resources as larger and more comprehensive plans.

For instance, many conservation efforts that enhance or create monarch habitat may not "comprehensively addresses the threats affecting the monarch within the plan area," and those private parties that undertake such efforts may not do so based on extensive consideration of "objective, measurable biological goals" or "adaptive management" strategies.[216] Even though these often smaller-scale efforts may lack the formal structure of larger more comprehensive conservation plans and programs, they unquestionably confer a net benefit to monarchs.

Moreover, in the aggregate, these smaller and less formal conservation efforts have provided and will likely continue to provide a tremendous net conservation benefit to monarchs. Indeed, as FWS recognizes, hundreds of thousands of individual conservation efforts, including private pollinator gardens, landowners improving vegetation management practices their properties, and more than 49,311 monarch waystations, pollinator gardens[217] are collectively creating and enhancing a tremendous amount of monarch habitat. With reasonable assurance that those undertaking these efforts will be protected from liability for any incidental take of monarchs, these smaller scale efforts will continue to expand and further protect and conserve the species.

As such, the Associations urge FWS to revise this aspect of the Proposed 4(d) Rule to more clearly and fully protect all types of private parties' conservation efforts regardless of their size, structure, or administrative resources. We believe that doing so will help the Service' 4(d) Rule more fully

[214] 89 Fed. Reg. at 100,686.
[215] 89 Fed. Reg. at 100,683.
[216] 89 Fed. Reg. at 100,686.
[217] *See* Monarch Waystation Registry, Monarch Waystation Program at MonarchWatch.org (as of Feb. 25, 2025).

facilitate the proliferation of the widespread and diffuse habitat enhancements that are essential to the conservation of monarch butterflies.

2. Clarify the Conservation Plans and Programs Proposed to be Covered by the 4(d) Exclusion

While the Associations agree with FWS's decision to set forth the specific elements of the conservation plans and programs that, when implemented, would insulate participants from incidental take liability, we believe that FWS should also identify the specific plans and programs that the Service believes satisfy the elements as expeditiously as possible. Doing so would provide landowners and other private parties' necessary certainty that any take incidental to their participation in or implementation of various conservation plans and programs will be protected by the Service's Proposed 4(d) Rule. In turn, greater certainty about the conservation actions that will be protected from incidental take liability under the Proposed 4(d) Rule will facilitate increased participation in conservation plans and programs.

As an easy and obvious first step, FWS should expressly state that conservation actions taken pursuant to the MAFWA Plan and WAFWA plan would be exempt from incidental take liability under the Proposed 4(d) Rule. Based on our review of the MAFWA and WAFWA plans, and the Service's favorable characterization of these plans in the Preamble and elsewhere, we believe that FWS intends its Proposed 4(d) Rule to insulate actions taken pursuant to these plans from incidental take liability, but we nonetheless urge the Service to say so expressly so as to remove any doubt among those weighing whether to implement conservation measures pursuant to the MAFWA or WAFWA plans.

The Associations believe FWS should also expressly identify as extensively as possible all other conservation plans and programs that would benefit from incidental take protections under the Service's Proposed 4(d) Rule. For instance, the preamble to the Proposed 4(d) Rule states that:

> State-wide plans developed by or in coordination with States and implemented by State agents and enrolled participants (*e.g.*, private landowners, local governments) are opportunities for large-scale conservation. Likewise, programs developed by Federal agencies in fulfillment of their section 7(a)(1) responsibilities are also opportunities for large-scale conservation.[218]

We agree that conservation plans and programs developed by or in conjunction with states and federal agencies provide important opportunities for creating and enhancing monarch habitat on a widespread scale, and therefore respectfully urge FWS to revise its Proposed 4(d) Rule to: (1) expressly identify the specific state and federal plans and programs that would be covered by its Proposed 4(d) Rule; and (2) expressly expand the scope of the Proposed 4(d) Rule's incidental take protections to all landowner actions taken pursuant to a state or federally issued permit.

As with the MAFWA and WAFWA Plans, we believe that expressly identifying the state and federal plans and programs that meet the requirements of the Service's Proposed 4(d) Rule will

[218] 89 Fed. Reg. at 100,686.

provide landowners' greater assurance that actions taken pursuant to those plans and programs will be protected from incidental take liability. We believe that, in turn, these increased assurances will foster a higher level of landowner participation that will benefit monarchs and their habitat.

Similarly, expanding the scope of the Proposed 4(d) Rule's incidental take protections to all landowner actions taken pursuant to a state or federally issued permit will provide landowners greater certainty that their duly permitted actions are protected from incidental take liability. This approach is also more consistent with ESA Section 6, which requires FWS to cooperate to the maximum extent practicable with the States in carrying out programs authorized by the Act.

As the preamble to the Service's Proposed 4(d) Rule correctly notes:

> State agencies often possess scientific data and valuable expertise on the status and distribution of endangered, threatened, and candidate species of wildlife and plants. State agencies, because of their authorities and their close working relationships with local governments and landowners, are in a unique position to assist us in implementing all aspects of the Act.[219]

This approach is also consistent with ESA Section 7, which directs all federal agencies, in consultation with FWS, to utilize their authorities to carry out programs for the conservation of endangered and threatened species, and to ensure that any actions taken or authorized by federal agencies are not likely to jeopardize the continued existence of listed species or adversely impact their habitat. Given this statutory requirement that federal agencies consult with FWS and consider the impacts on listed species of the actions they authorize through permits or otherwise, FWS can be assured that actions taken pursuant to federally issued permits appropriately address and mitigate the potential incidental take of monarchs.

Therefore, in conformance with ESA Section 7 and in furtherance of the Service's recognition that state conservation partners' often have superior conservation insights and relationships with landowners and local governments, the Associations respectfully urge FWS to expressly expand the scope of the Proposed 4(d) Rule's incidental take protections to all landowner actions taken pursuant to a state or federally issued permit.

VI. THE MONARCH'S EXPANSIVE RANGE AND HABITAT REQUIREMENTS ILLUSTRATE THE NEED FOR MORE HOLISTIC AND COLLABORATIVE APPROACHES TO CONSERVATION

While this comment letter is necessarily focused on responding to the Service's Proposed Listing and Proposed 4(d) Rule, the Associations believe it is also important to herein reiterate how the habitat needs of monarch butterflies and other pollinators as well as other wide-ranging species illustrate a compelling need for more holistic and collaborative approaches to conservation. Given the number of species currently listed and being considered for listing under the ESA and the

[219] 89 Fed. Reg. at 100,684.

expansive range of many of these species, FWS simply cannot achieve its statutory mandate to protect and conserve listed species through continued reliance on a species-by-species approach to conservation. Now more than ever, effectively and efficiently protecting and conserving listed species will require FWS to: (1) adopt more holistic habitat-focused approaches to conservation; and (2) look beyond its own capacity constraints and leverage considerably larger public and private conservation resources through meaningful collaboration. As illustrated by the many industry conservation efforts described in this comment letter, the Associations and their members are eager to partner with FWS in these efforts.

The oil and gas industry operates on and maintains significant acreage across the country. Taken together with other industries such as electric utility, solar, highway, ranching and farming—many of these using far more acreage than oil and gas—these sectors, in the aggregate, provide a significant conservation opportunity to expand pollinator habitat. However, current regulations governing operations in the oil and gas industry as well as other industry sectors have been designed with safety as the primary if not only objective. In response, industry's approach to construction and operation have followed suit.

While attempts to integrate conservation practices throughout industry are being undertaken, that vast majority of this work is being driven through voluntary efforts. Weaving in conservation practices whether simple or complex more broadly into industry practices will require a culture change within industry as well as support and alignment from a broad set of stakeholders including federal and state regulators, community groups and non-profit organizations such as conservation organizations. Efforts are underway to demonstrate across the oil and natural gas and other industries that establishing and maintaining pollinator habitat can be done concurrently without sacrificing or impeding the industry's primary objective of designing and operating its business with a safety focus.

In light of these conservation needs and nascent efforts, the Associations urge FWS to consider the following recommendations as it continues to develop its monarch listing decision and potential 4(d) rule, but also more broadly as the Service evaluates how to effectively protect and conserve an increasing number of species with larger and often shared habitats.

a. Focus on Habitat

Efforts to support the monarch butterfly should be focused on establishing habitat conducive to and supportive of the species rather than on individual actions for this specific species. Focusing on habitat development rather than on individual actions will provide a more holistic and thorough approach to supporting the species.

In many cases and for many industries or sectors, industry assets are maintained through the well-established and broadly used practice of mowing. This has often led to a monoculture habitat of grasses with little attention given to what is actually growing or propagating. As such, industry-maintained assets are often filled with invasive and other incompatible plant species that are detrimental to the surrounding environment and difficult to maintain for the operators. Additionally, these mowing practices can often be unplanned, and as a result, may occur during the flowering season for critical native plants or at critical times for the monarch butterfly (*e.g.* when they are passing through on their migration or during critical stages of their development).

Furthermore, to reduce the need for more frequent maintenance activity, mowing is often done as close to the ground as possible (*e.g*., 2-4 inches).

Transitioning from this more traditional approach to maintaining a habitat that supports the monarch butterfly is possible. Furthermore, these activities can be done while still maintaining if not improving safe operations. As an example, liquid pipeline operators use dead or dying vegetation in a pipeline ROW as an indicator that a subsurface leak has occurred. While traditional grasses have a typical root depth of two to three inches, many native perennials have root systems with root depths for 24 – 36 inches. Considering that many pipelines are frequently buried between 24 and 36 inches, narrative perennials stand to be a much better indicators of leaks as their root systems are much closer to the source of the incident.

These same deeply rooted perennials can also provide a much better deterrent for slips and other geohazards from forming as these deep and intricately webbed root systems hold the soil in place much more effectively than the shallow rooted grasses. As one example, an operator in a mid-Atlantic state is planting native perennials on areas where their pipeline right-of-way traverses very steep terrain specifically for these purposes. The seed mix being used includes plant species such as milkweed that will support the monarch butterfly.

Taking a habitat approach to support the monarch butterfly also provides a critical benefit in that the habitat supports other species *beyond* the monarch butterfly. In sections of the aforementioned project where habitat is being developed for the monarch and other pollinators, grasshopper sparrows (*Ammodramus savannarumare*) are being found with regularity. As it was previously mowed and maintained, this ROW did not provide habitat conducive to this endangered species. The revised vegetation management practices that the operator adopted for the purpose of creating pollinator habitat had a significant and unplanned benefit of supporting the grasshopper sparrow, and more research is being done to determine what other species are potentially being supported by these habitat improvements.

It is critical to recognize that for operators, the current system of addressing threatened and endangered species one species at a time is inefficient and limited in its effectiveness. Broadly speaking operators—oil and natural gas and more broadly—have expertise to run their operations safely and efficiently. They do not have large staff of wildlife biologists, ecologists, or vegetation management experts to manage for the multitude of species that they may be forced to manage. Rather than managing at a species-by-species level, it is much more effective to manage for habitat. Maintaining one plan for a diverse habitat that can attract and support what could be hundreds of species is a much better approach than trying to maintain individual plans and implement associated actions for a handful of individual species.

b. Consider Performance-Based Approaches

When working with the oil and natural gas and other industries, a performance-based approach to conservation, while more difficult, will be much more productive and effective than a prescriptive approach.

When conducting conservation work where multiple parties are involved, there are an enormous amount of variables that have to be considered as any plan is developed, implemented, and

maintained. The sheer diversity of environments and habitats throughout the country alone is enough to justify the need for a performance-based approach over a prescriptive-based approach to conservation. However, when factoring in the variety of communities and stakeholders that may be impacted by or involved with a conservation effort, the idiosyncrasies of each industry, and even the variability among operators in one industry, it becomes clear that a "one-size-fits-all approach to conservation" will be very limited in its effectiveness. As such, we urge FWS to increasingly consider and incorporate performance-based approaches into its protected species decision-making and conservation efforts.

This type of approach will more flexibly allow for conservation efforts that consider and are sensitive to all of the variables that will uniquely exist for each project. Prescriptive and often regulatory approaches frequently become the "ceiling" that operators target when achieving regulatory compliance. Alternatively, and if implemented properly, a performance-based approach can dictate that a plan be developed and implemented but then periodically assessed for effectiveness. If there are improvements to be made, a performance-based approach provides a pathway to then adjust the plan, implement it, and then, at another point in the future, assess it again. And thus, the cycle can continue and evolve.

This "plan-do-check-act" approach, which the oil and natural gas industry has implemented as part of its performance-based approach to advance a culture of safety throughout the industry, has become critical in ensuring that continual process safety improvements, rather than regulatory compliance, remain the focus of our safety efforts. Of course, regulatory compliance is necessarily still a top priority, but this performance-based approach ensures that opportunities for growth and improvement are regularly sought out, identified, and implemented irrespective of what is required by regulation. It is a model that, if implemented properly in the conservation space, could be much more effective in driving continual growth and expansion than a more prescriptive, regulatory approach.

For example, a pipeline company operating in the Pacific Northwest evolved the management of their pipeline ROW from a straight mowing approach to an IVM approach to reduce the quantity of invasive plant species in their ROW. Upon engagement with a local tribe, the company learned that there were native flowering plants of cultural significance in the area and so worked with the tribe to once more change the plan with that sensitivity in mind. Currently, the company takes an integrated habitat management approach to the ROW with a plan that not only reduces invasive plants but also supports the native flower that is important to the local tribe. The company collaborates closely with the local tribe to monitor the implementation of the program and coordinates with the tribe to cultivate the flower at the appropriate time of the season.

Should a more prescriptive approach be forced on the industry, these types of engagements/collaboration and the subsequent learning and plan refinement would not occur. This performance-based approach allowed for one plan of mowing to evolve into a plan of managing invasive plants and then evolve once more into a plan that supports the growth of plants of cultural significance and then evolve yet again into a plan for harvesting the plant.

c. Collaboration and Partnership will be Essential to the Protection, Enhancement, Creation, and Maintenance of Pollinator Habitat

As stated previously, industry operators are filled with individuals that can maximize the efforts of that specific industry in as safe and efficient a manner as possible. Industries and operators throughout the country simply do not have the broad skillset they will need to manage for multiple species. Additionally, due to perceived or real credibility challenges associated with many industries, believability of an individual company or private sector entity, should it even have the needed expertise, it would likely be challenged and questioned.

FWS has the skillset and expertise to educate and inform industry operations on how to support, enhance, and create habitat for pollinators like the monarch butterfly as well as other species. However, there often exists between the Service and industry a lack of communication, trust, and a willingness to collaborate. To fully harness the knowledge that broadly exists within our community this must change. Parties must prioritize developing a relationship among stakeholders so that trust can be established and information shared. While FWS will always have, by statute, a role as a regulator, the Associations strongly encourage the Service to expand its capacity and position itself to be a resource and a collaborator to operators.

To illustrate how this shift can be beneficial consider that pipeline operators can and, in fact, must, conduct maintenance operations that require disturbance of a ROW. As discussed previously, this often can take the form of mowing, and without proper planning, this may mean mowing critical plant resources within a window that is critical to the development of pollinators like the monarch butterfly. With a positive relationship and partnership with FWS, the operator may contact and coordinate with the Service prior to conducting the activity to potentially: (1) move the timing for the mowing outside of the seasonal window critical to the monarch butterfly; and/or (2) collaborate in the development of a management technique that could mitigate habitat impacts.

Of course, there are many stakeholders that can also provide insight and perspective that may be used by operators as they maintain their assets. These could include community groups or leaders, conservation organizations, academia, and others who, through partnership, are focused on conducting actual conservation work. But FWS can and should still play a critical role as a convener or even partner to help bring these historically disparate parties together.

As an example of the need for FWS to facilitate collaboration and partnership, in the Midwest, an operator is working with a state and two separate tribes to manage a ROW in a manner that removes invasive plant species and supports the re-establishment of the native elk population. The surrounding community of farmers is skeptical and concerned about increasing the local elk population. As such, there is heightened interest from all parties to develop the habitat in a manner that attracts and keeps the elk herd on the reservation lands. To do this successfully, the company is partnering with a conservation organization, multiple state agencies, and the two tribes. It has been a difficult and delicate collaboration process, and FWS could play a vital role in engaging with all of the stakeholders and act as a partner in their efforts. This project continues to face risks and obstacles for completion and implementation, and undoubtedly new challenges will arise throughout maintenance of the project, but if successfully implemented through an enduring

partnership, the chances for the long-term establishment of habitat for pollinators and other species will increase significantly.

d. Reward Success Rather than Penalize Failure

Effective collaboration and therefore effective conservation require an approach that rewards success rather than a punitive approach that penalizes failure. Integration of conservation work into existing business models will be challenging as this work is new and unfamiliar to a well-established and deeply embedded management system that does not regularly contemplate conservation efforts. As these new approaches are implemented by oil and gas industry members as well as operators in other sectors, there will undoubtedly be successes and failures along the way. If operators believe that they will be penalized for a lack of success or if good is never good enough, there will be little incentive to undertake conservation efforts beyond what is minimally required. From the operators' perspective, the risks would outweigh the benefits.

Similarly, if operators undertake efforts to improve or create habitat, and they achieve greater success than anticipated, they could be penalized or perceive greater risk exposure for their increased success. Consider the example presented in Subsection a above where the operator in a Mid-Atlantic state has launched a pilot project to support monarch butterflies and other pollinators. In the short time that their pilot has been underway, they have already witnessed the arrival of a grasshopper sparrow in the same habitat. While this is positive development from the perspective of grasshopper sparrow conservation, to many companies, this may be viewed as potentially problematic as they may now have to navigate management issues for an entirely different listed species.

These types of concerns will be particularly acute with respect to the monarch butterfly because the enhancement and improvement of pollinator habitat will likely also benefit and attract multiple other species, some of which may be threatened or endangered. We therefore encourage FWS to implement its protected species program in a manner that rewards efforts such as these and reduces any perceived or real risks that may occur through a system designed to penalize progress or potential failures. Simply put, companies should not be penalized or even discouraged for trying to do "good" and doing "better."

It is important to recognize, in the context of the monarch butterflies as well as other species, that operators are on a spectrum of sophistication and willingness to conduct conservation efforts. Many operators will come into this work at the most basic level of conservation experience and insight. FWS should take steps to ensure that these less sophisticated and experienced operators are not deterred. In fact, the Service should encourage and support their growth along the maturity curve to do more complicated and expansive conservation work.

As an example of how the benefits of positive collaboration, a company in a Southeast state has maintained its assets through traditional mowing practices. After much work and internal discussions, the company agreed to do conservation mowing, effectively mowing outside key breeding and pollinating seasons for the area. In addition, the company was also encouraged to raise the deck heights of their mowers from three inches to 14+ inches to minimize disturbances to ground nesting birds and other pollinator species. After a period of time, the company decided to begin to try more selective and targeted use of herbicides, and now is in its first year of assessing

the results of this work. If the company had been criticized for *only* shifting to conservation mowing, their growth to IVM approaches would have been hindered. Conversely, supporting the company with the successful implementation of their conservation mowing efforts has been a key component of their acceptance of conservation work as a whole and fostered a greater interest into trying more complicated conservation methods.

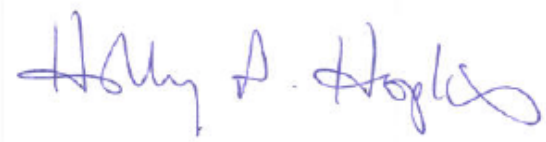
VII. CONCLUSION

The Associations appreciate the opportunity to provide these comments. As explained above, the Associations believes that the monarch butterfly does not satisfy the ESA's definition of an "endangered species," and that the best scientific and commercial information available demonstrates that monarch populations are likely to persist and not be driven to the brink of extinction at any point in the foreseeable future. Thus, given the substantial existing efforts to protect and conserve monarchs and their habitat throughout their extensive global range, the Associations do not believe that the monarch butterfly meets even the ESA's definition of a "threatened species." The best scientific and commercial information available demonstrates that monarchs are highly adaptable and resilient, that monarch's expansive range-wide populations currently have sufficient suitable habitat, that a large proportion of the monarch's most important breeding, migratory, and overwintering habitat areas are protected through various conservation mechanisms, and that any ongoing or future loss or degradation of monarch habitat will be limited and potentially offset to such a degree that the monarch butterfly faces no meaningful risk of extinction within the foreseeable future.

An unprecedented number of habitat protections and enhancement measures, research and survey efforts, and funding mechanisms are being implemented internationally, across multiple federal agencies, in state and local governments throughout the monarch's range, and by legions of private citizens, industries, and conservation groups. API's members alone have voluntarily committed to protect and improve vast areas of breeding and migratory habitat, and contributed millions of dollars in monarch conservation funding and research. And our industry's efforts stand alongside similarly expansive habitat enhancement efforts in the utility, electrical transmission, renewable energy, agriculture, and transportation sectors.

The Associations therefore respectfully urges FWS to refrain from finalizing this proposed determination that the monarch butterfly is a threatened species under the ESA, and instead finalize a determination that listing monarchs under the ESA as either endangered or threatened is not warranted. To the extent that FWS is intent on finalizing a "threatened" listing for the monarch butterfly, the Associations' urges the Service to finalize a revised version of its Proposed 4(d) Rule that more comprehensively protects important and responsibly conducted economic activities from incidental take liability. The rule should also further incentivize participation in the many conservation plans and programs that are critical to the creation and enhancement of the habitat resources necessary to ensure monarch butterflies not only persist, but thrive, far into the foreseeable future.

Thank you again for your consideration of these comments. If you have any questions or would like to discuss these comments, please contact the Associations' representatives below.



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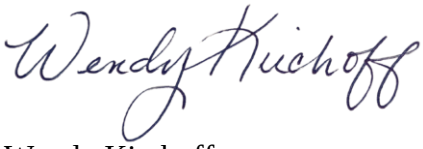

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