

Pollinator Vision 2040

A North American Pollinator Protection Campaign (NAPPC) Initiative

Vision: In twenty years we will have a sustainable and equitable world for people and pollinators, with food production, ecosystems and economies thriving.



NAPPC

Steps to reach the future we envision:

1. Engage all stakeholders to join NAPPC to fulfill Vision 2040 and to ensure diverse voices for input and leadership.
2. Analyze, understand and communicate the economics and financial implications of pollinator health and its interconnectedness with climate change, food security, biodiversity and ecosystem sustainability.
3. Increase research/databases/information access on all pollinating species.
4. Promote awareness and education at all levels.
5. Create and restore healthy habitat in every form of landscape.
6. Eliminate or mitigate environmental stressors.
7. Build international cooperation and engagement to create, implement, and enforce relevant policy.
8. Build fundraising capacity and coordinate programs to be balanced and effective to support pollinators.

The following concepts relate to each of the Steps listed above and were suggested by the full NAPPC membership during a brainstorming session held at the 2020 NAPPC International Meeting. Though by no means comprehensive, these ideas provide projects that will help realize the goals of the Vision 2040 project. This is a living document, and while it is not a complete road map, it is a directional start to the production of such a guidance document.

1. Engage all stakeholders to join NAPPC and fulfill Vision 2040.

- A. Inform and engage land managers to take ownership and action in sharing their landscapes with pollinators, especially ag land and federally leased land.
- B. Engage Ag and other groups to participate in NAPPC. Retaining a virtual component could help reach a larger audience
- C. Add one manager to every county in the US for the Bee Friendly Farming and Pollinator Steward Programs.
- D. Engage youth – create a Pollinator Leadership Team
 - a. Exchanges between countries
 - b. Chapters in different areas of the 'hive'
 - c. Use social media and produce content
 - d. Promote program of pollinator gardens in schools
- E. Review collaboration with multiple groups and see how effective this is in streamlining conservation and avoiding multiple groups doing the same work.
 - a. Continue the NAPPC model of being well-organized, a safe place for differing perspectives to come together and hear each other, and having attendees walk away energized

- F. Coordinate industry/commercial targets for habitat/pollinator conservation. Work with Wildlife Habitat Council to accomplish this.

2. Analyze, understand and communicate the economics and financial implications of pollinator health.

- A. Understand, document, and disseminate the economic value of pollinators.
 - a. Monetize land management actions and pollination services.
 - b. Provide economic analysis of lack of action as well as action.

3. Increase research/databases/information access.

- A. Institute research coordination across pollinator initiatives and taxa including monitoring of new threats and regional issues to better guide management.
- B. Fund a follow-up study of status of pollinators in North America after 20 years.
- C. Create a program to track commercial pollinators.
- D. Prepare a statement of facts, analysis of gaps, mechanisms for cooperative/collaborative efforts that engage, energize and inspire stakeholders across North America to take action.
- E. Inventory and develop distribution range maps for pollinators in each state, province, etc.
- F. Identify gaps in information and research on pollinator-plant interactions.
- G. Mechanize the identification of pollinators to the species level to help citizen scientists and other parataxonomists to identify species.
- H. Create long term data on pollinators and other insect populations and trends, including information on non-anthropophila pollinators.
- I. Create a searchable, accessible database that offers baseline species distribution data. Need research to inform the database. Need to find/develop more tools for ID (training, AI, DNA). Focus on further developing DNA ID, non-destructive sampling. Coordinate specimen collections of pollinating animals and plants.
- J. Produce more studies to confirm and verify benefits of pollinators and their habitat – include proof of need and action efficacy.
- K. Add social science to support item #3 (Promote awareness and education) below.
- L. Increase research and understanding of the effectiveness of small pollinator gardens.
- M. Use monarchs as a case study for what other insects might be facing in coming decades.
- N. Identify drivers of change and find the tipping points for pollinators.

4. Promote awareness and education.

- A. Educate people on why pollinators are important to them. Develop specific messages that we can repeat for the public.
- B. Increase education and involvement using social media and other available tools. Continue to educate and involve the public using accurate information in adaptable formats to reach diverse audiences and encourage stewardship.
- C. Increase general awareness for pollinators in wild systems; Teach younger generations about how useful and diverse pollinators are and not to be afraid of bees.
- D. Recruit teams to reach out to more schools; Feature different species on the pollinator posters for education.
- E. Create media toolkits to increase coverage for pollinator week where people see the events happening; Get every county to do one event during Pollinator Week.
- F. Dispel idea that choice is between healthy economy and healthy environment. Jobs depend on healthy environments.

- G. Stress the connectivity of everything (plants, pollinators, climate, etc.) and increase awareness of interconnectedness of nature.
- H. Put more focus on micro-species and not just the large pollinators that people can easily see; Educate on pollinator diversity, life history, role in the ecosystems, photos, etc.
- I. Increase education on the importance of native plants in habitat creation and restoration.
 - a. Solve the problem of demand being greater than supply.
 - b. Get native plants into more hands as cheaper (less water, pesticides, fertilizers) alternative for landscaping at the large and small scale.
- J. Improve communication tools
 - a. Translate science into vernacular for specific audiences. Emphasize the action you are asking for in the message.
 - b. Identify target audiences and make communications that address their ability to support pollinators.
 - c. Identify trusted spokespersons to deliver the message to key audiences.
- K. Tie pollination to food security.
- L. Develop a high-profile champion.
- M. Identify barriers and create solutions to adoption of education programs in all sectors including Agriculture, Land Managers, Homeowners, and more.
- N. Develop homeowner/municipal/school policies on wild-scaping/nature-scaping.
- O. Overcome the lack of understanding how to help (e.g. managed vs native bees).
- P. Use pollinators as ambassadors for paradigm shift in how we see our interactions/connections with the planet. Expand outreach/education to actual experience to help shift internal belief system. ID specific ambassador pollinators that resonate with communities.
- Q. Get every State/Province legislature to recognize a representative symbolic pollinator of its State/Province (similar to state flowers, state birds, and state rocks) and get each State/Province to offer pollinator state license plates; increase the number of pollinator stamps.
- R. Encourage appropriate behavior around:
 - a. Encourage the planting of the right plants, in the right places, with the right goals
 - b. Encourage responsible hobby beekeeping that follows best practices
 - c. Increase educational outreach (e.g. rearing monarchs and how to do it properly, plants for specialist pollinators)
- S. Do a better job of stressing the importance of all pollinators including hummingbirds, beetles, hover flies, bats, and more.
- T. Increase widespread understanding of habitat complexity and structural complexity of pollinators - more than just about flowers and forage.
- U. Shift from identifying threats to pollinators to prioritizing solutions. Identify a baseline. Support more research on how to make different land use areas, especially agricultural, more sustainable for pollinators.
- V. Resolve competition issue between native and managed bees, and antagonism between groups; understand interactions include understanding of disease transmission.
- W. Unify wild, agricultural and urban interface; expand protected areas.
- X. Reach out to non-traditional communities (e.g. religious, indigenous, inner city, etc.) and invest time to build science credibility. There is a lack of knowledge of pollinators (e.g. flies) even in protected areas.

5. Create and restore healthy habitat.

- A. Increase pollinator habitat restoration and mitigation for adverse impacts on public and private lands (assurances) and improve connectivity.
- B. Identify and protect wild plant relatives of all crop plants and their pollinators.
- C. Increase habitat connectivity.
- D. Ensure that pollinator health is embedded in all habitat restoration projects.
- E. Communicate pollinator goals early in all habitat restoration projects.
- F. Include focused effort on restoring habitat for the specialist pollinators and learn more about their plant/pollinator interactions.
- G. Create habitats for pollinator nutrition and reproduction.
 - a. Incentivize people to create pollinator habitats
 - b. Protect migratory pathways
 - c. Broaden multiple use of landscapes to include habitat
 - d. Focus on keystone native species, specialist organisms
 - e. Research to identify native plants which can be included as cover crops
- H. In managed pollination, encourage native pollinators. Partner with conventional honey beekeepers and expand their offerings.
- I. Create targets for amounts of private and public lands (e.g. 50% by 2050), specific to a sector, that provide quality habitat for pollinators and other organisms. Build off of existing targets.
- J. Celebrate benchmarks. Use easy to understand/visualize targets and campaigns; localize targets or make them crop-specific.
- K. Make multipurpose landscape habitat to provide conservation, education, demonstration and interactive experience.

6. Eliminate or mitigate environmental stressors.

- A. Address the effects of climate change on pollinators
 - a. Identify where greenhouse gas emissions can be reduced in the pollinator world (and beyond)
 - b. Identify intelligent mitigations to the effect of climate change on pollinators
 - c. Use strategically the two motivators of economics and crises (e.g. wildfires)
 - d. Increase soil sequesters: Cover crops for soil/water, connect with pollinator food source
 - e. Increase the collaboration between pollinator and soil scientists to address carbon sequestration
 - f. Increase the research into the responses of plants/pollinators to climate change and changing interactions
 - g. Stabilize and reduce the increase in temperature across North America
- B. Reduce or eliminate non-target impacts of pesticide use.

7. Build international cooperation and engagement to create, implement and enforce relevant policy.

- A. Increase the involvement of tribes and native peoples.
- B. Engage more people in Mexico. NGOs, government, etc.
- C. Hold NAPPC conferences in Mexico and Canada as well as Washington DC.
- D. Encourage the renegotiation of EMEC [new NAFTA]/lack of cooperation between USA/Canada/Mexico.
- E. Engage and recognize of other nations on the continent: Caribbean, First Nations, etc.
- F. Create a Pollinator Nation Strategy for each country.
 - a. Discuss legal protections

- b. Be careful not to pit entities against each other.
 - c. Continue being fair and productive.
- G. Create new regulations and education to safeguard pollinators by eliminating the misuse of pesticides and misguided restoration techniques. Develop a cohesive policy approach to implement these regulations. Continue discourse with policy makers and Congress about these issues to secure support and regulation.
- H. Include the management of pollinator stressors in best practice guidelines. Policy making around stressors shouldn't be linked to political administrations. Consistent education and messaging - keep it apolitical.
- I. Address sustainable development (habitat fragmentation, native landscaping, etc.).
- J. Engage Federal Government Agencies in North America - each should have policy for pollinator conservation, support for pollinator habitat (financial, resources).
 - a. Reignite the Obama-era Interagency Fed Task Force in the U.S. that can push for policy within agencies. Assess pollinator practice standards within agencies in US/Mexico/Canada
 - b. Provide more federal government coordination among agencies-- knowledge of players in these countries needs to be assembled and disseminated.
- K. Acknowledge that emerging environmental issues require large-scale/effective response requires to establish inter-agency agreements/avenues that can quickly respond to environmental/wildlife issues as they emerge (FEMA model for wildlife/environmental issues).
- L. Encourage ethical behavior in decision making to:
 - a. Encompass needs of the environment and the economy
 - b. Be fair, equitable and socially just
 - c. Encourage collaborative efforts that promote the needs of imperiled species by expanding cooperative behaviors; understand why they are declining.

8. Build fundraising capacity to be balanced and effective to support pollinators.

- A. Establish fundraising goals and tie to specific problems/solutions/programs.
- B. Seek funding opportunities for Pollinator Partnership to fuel more on-the-ground work and partner facilitation.
 - a. Allow for more research funding.
 - b. Allow for on-the-ground work.
 - c. Allow for more facilitation such as NAPPC.
 - d. Alternatively, have NAPPC endorse projects vs. fundraise.