

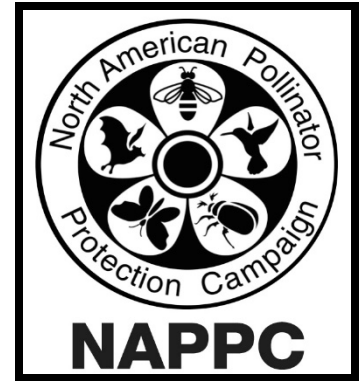
Pollinator Vision 2040

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.

Steps to reach the future we envision:

1. **Increase research/databases/information access.**
2. **Create and restore habitat.**
3. **Promote awareness and education.**
4. **Eliminate or mitigate environmental stressors.**
5. **Engage all stakeholders.**
6. **Build international cooperation and engagement to create and enforce relevant policy.**
7. **Analyze the economics and financial implications of pollinator health.**
8. **Build fundraising capacity 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 living document is still in draft form and while it is not a complete road map, it is a directional start to the production of such a guidance document.

1. 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 program to track commercial pollinators.
- D. Prepare a statement of facts, analysis of gaps, mechanisms for cooperative/collaborative efforts.
- E. Inventories and distribution ranges for pollinators in each state, province, etc.
- F. Identify gaps in information on pollinator-plant interactions. Identify and implement solutions for addressing taxonomic impediments. Long term data on pollinators and other insect populations and trends. Info on non-anthophila pollinators.
- G. Create a searchable, accessible database. 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. Coordination in collections
- H. Produce more studies to confirm and verify benefits of pollinators and their habitat – include proof of need and action efficacy

2. Create and restore habitat.

- A. Increase pollinator habitat restoration and mitigation for adverse impacts on public and private lands (assurances) and improve connectivity.
- B. Know the wild plant relatives of crop plants and their pollinators.

- C. Increase habitat connectivity.
- D. Ensure that pollinator health is embedded in all habitat creation.
- E. Communicate pollinator goals early in all habitat restoration.
- F. Focus on the specialist pollinators and learn about their plant/pollinator interactions.
- G. Habitat increase is one key to pollinator nutrition and reproduction.
 - a. Incentivize people to create
 - b. Protect migratory pathways
 - c. Broaden multiple use of landscapes to include habitat
 - d. Focus on most beneficial of native species, specialist organisms
 - e. Discover if cover crops can potentially include native plants.
- H. In managed pollination, encourage native pollinators. One idea is to 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.

3. Promote awareness and education.

- A. 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.
- B. Educate people on why pollinators are important to them. Develop specific messages that we can repeat for the public.
- 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. Having teams 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; Try to get every county to do one event for 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.).
- H. Put more focus on micro-species and not just the large pollinators that people can easily see.
 - a. Educate on diversity, life history, role in the ecosystems, photos, etc.
- I. Increase education and facilitate the propagation of native plants.
 - a. Demand is 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. Communications
 - a. Translating 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.
- K. Tie into food security.
- L. Need for a high-profile, recognized and respected person to champion pollinators.
- M. Identify barriers and create solutions to adoption of these types of programs. Homeowner/municipal/school policies on wildscaping/naturescaping

- N. Increase awareness of interconnectedness of nature.
- O. Increase research and understanding in effectiveness of small pollinator gardens.
- P. Lack of understanding how to help (eg managed vs native bees).
- Q. 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.
- R. Increase State/Province native pollinators, stamps, license plates
- S. Encourage appropriate behavior around:
 - a. Plantings: appropriate option (right plant, right place, right goal)
 - b. Discourage irresponsible hobby beekeeping
 - c. Increase educational outreach (e.g. rearing monarchs and how to do it properly, plants for specialist pollinators)
- T. Do a better job of stressing the importance of all pollinators including hummingbirds and bats. Increase understanding of habitat complexity and structural complexity of pollinators - more than just about flowers and forage.
- U. Shift to prioritizing solutions to threats to pollinators rather than identifying them. 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; include understanding of disease transmission.
- W. Unify wild, agricultural and urban interface; expand protected areas.
- X. Reach out to other 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.

4. Eliminate or mitigate environmental stressors.

- A. Reduce greenhouse gas emissions and address Climate change
 - a. Where can we reduce emissions in pollinator world (and beyond)?
 - b. Where can we affect intelligent mitigations?
 - c. Two motivators: economics and crisis (e.g. wild fires)
 - d. Soil sequesters: Cover crops for soil/water, connect with pollinator food source
 - e. Collaboration between pollinator and soil scientists to address carbon sequestration
- B. Climate Change
 - a. Research the response of plants/pollinators to climate change and changing interactions
 - b. Monarchs as a case study for what other insects might be facing in coming decades
 - c. Identify drivers and find the tipping points for pollinators
 - d. Stabilize and reduce the increase in temperature across North America
- C. Reduce or eliminate non-target impacts of pesticide use.

5. Engage all stakeholders.

- A. Inform and engage land managers to take ownership and action in sharing their landscapes with pollinators. Especially agricultural land and federally leased land.
- B. Engage Agriculture and other groups to participate in NAPPC. Retaining a virtual component could help reach a larger audience (7-9).
- C. For the Bee Friendly Farming and Pollinator Steward Programs, we need at least one manager in every county in the US.
- 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. NAPPC has been well organized, a safe place for differing perspectives to come together and hear each other, and walk away energized
- F. Coordinate Industry/Commercial targets for habitat/pollinator conservation. Work with Wildlife Habitat Council to accomplish this.

6. Build international cooperation and engagement to create and enforce relevant policy.

- A. Greater 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. Renegotiation of EMEC [new NAFTA]/lack of cooperation between USA/Canada/Mexico
- E. Engagement and recognition of other nations on the continent: Caribbean, First Nations, US Territories, 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. Best practice guidelines need to include managing stressors. Policy making around stressors shouldn't be linked to political administrations. Consistent education and messaging - keep it apolitical.
- I. Address responsible development (habitat fragmentation, native landscaping, etc.)
- J. Engage Federal Government Agencies in developing policy for pollinator conservation, support for pollinator habitat (financial, resources)
 - a. Reignite the Interagency Fed Task Force that can push for policy within agencies (have had in past but not currently active). Assess pollinator practice standards within agencies in US/Mex/Can,
 - b. Provide more fed gov. coordination/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/enviro 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.

7. Analyze the economics and financial implications of pollinator health.

- A. Economic value of pollinators needs to be understood, documented and disseminated.
 - a. Monetize actions
 - b. Provide economic analysis of lack of action as well as action

8. Build fundraising capacity 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. fund-raise.

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