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ASLA-NY POSITION PAPER on PROTECTING POLLINATORS

September 18, 2015

Summary

The American Society of Landscape Architects - New York Chapter (ASLA-NY), represents nearly 600 professional practitioners, academics and affiliates. We promote long-term ecological health and fitness of the environment including protection of pollinators, which are keystone ecosystem species that provide vital ecosystem services to agricultural, ornamental and natural landscapes. It is part of the society's mission to share knowledge and encourage communication between public officials and community leaders to improve policies and practices. The White House issued a directive in April, 2015 to Federal agencies, crafted with ASLA assistance, to develop a coordinated approach to protecting pollinators.⁽¹⁾

In that spirit, we offer this ASLA-NY position paper to inform our members and the public about the issues, especially in regards to New York landscapes. Our goal is to help redirect a suite of human actions which have long-term adverse impacts on pollinators to favor practices which support these very beneficial species.

Pollinators in trouble

Pollinators include managed and wild bees, moths, wasps, butterflies, hummingbirds, bats, hornets, flies, beetles and other insects which visit flowering plants, spread pollen from flower to flower, and enable fruits, nuts, acorns, seeds and vegetables to develop. There are another 4,000 species of bees in the US in addition to the honey bee⁽²⁾ and they play a critical role in pollinating ornamental plants, forests, grassland and wetland species, and food crops.

Populations of many, though not all, managed and wild pollinators are in decline worldwide, resulting in a large and growing body of scientific studies documenting pollinator numbers, causes of decline and the results of strategies intended to help. New research is rapidly adding to the knowledge base for helping pollinators to recover. After reviewing some of the recent research, consulting with scientists and other advocates for pollinator-protection actions, ASLA-NY joins a number of concerned organizations⁽³⁾ which have issued papers and guidelines for reversing the trend, and helping these populations recover. As additional information becomes available, ASLA-NY's position may be revised in response to new evidence.

Across the U.S. the number of pollinators has dropped significantly over the last 50 years. Declines in managed honey bee populations have been monitored most closely, with U.S. beekeepers losing an average of 30% of their colonies each winter. Several species of wild pollinator populations, which are more difficult to monitor, also show evidence of widespread loss. For example, approximately half of U. S. and European bumble bee species studied have reduced populations, though a smaller percentage show increases.⁽⁴⁾

Causes

Research indicates that many of these losses are caused by a combination of interacting factors including poor nutrition, loss of foraging and nesting habitat, parasites, pesticides, pathogens, lack of genetic diversity and poor land management practices. Global warming and weather extremes is changing the available range of bumblebees and butterflies, and likely has other, complex effects on pollinator behavior and health. While factors influencing pollinator population decline including pesticides have been clearly established, the complexity of the problem is not fully understood and some of the evidence conflicts.



Landscape Architects' Participation in Sustaining Pollinators

While pollinator participation in agriculture is critical, and agribusiness practices are an important cause of both problems and solutions with respect to pollinators, we focus here on issues of pertinence to our membership in the fields of landscape architecture, ecological restoration, landscape maintenance, plant nursery management, and land use planning. Our position on protecting pollinators is supported by the American Society of Landscape Architects' national policies on Wildlife Habitat, Agriculture, Urban and Local Agriculture and Environmental Sustainability, although those policies are not specifically about pollinators. These policies are included in an appendix and are available at www.asla.org.

In addition to plant nursery and ornamental garden insect pest control applications, many green spaces along transportation corridors, green infrastructure sites, parks, green roofs, roof top agriculture and sports fields bring pesticides into direct contact with non-target species including humans. Landscape professionals responsible for the design and maintenance of such green spaces can play an important role in shifting to low-impact landscape maintenance methods with reduced pesticide use.

Protecting People and the Environment

Protecting the public health, safety and welfare, for which landscape architects are licensed, is a primary part of our profession. We promote healthy environments that support humans, food crops and human activities. The presence of diverse, healthy pollinator populations in New York and the rest of the world, is critical to our welfare.

We promote conservation of whole ecosystems, not just the parts which support a particular economic and/or charismatic species. In addressing protection of the environment, it is necessary to consider more than just one species at a time, or one particular kind of habitat, and to look at the interconnections of pollinators with other plants and animals as whole systems.

What ASLA-NY members, and the public, can do

- 1. Ensure that essential resources are widely available to pollinators in horticultural, recreational, roadside, rooftops, urban green spaces, natural and restored landscapes.** Healthy bees require a diversity of natural pollen. Providing abundant and diverse flora, some sources of fresh water, and sites free from pesticides⁽⁵⁾ can help them recover while creating beautiful, colorful and healthy landscapes.

- 2. Phase out neonicotinoid (compounds derived from nicotine) insecticides**

We can choose non-toxic methods of controlling pests, recognizing that they may not always be instantaneous or as effective at killing pests as chemical insecticides but they are far less harmful to the non-pest species. We can ask our legislators and DEC to restrict and ultimately phase out pesticides with active ingredients which make the entire plant including pollen highly toxic to non-target pollinators and/or are passed up the food chain. For example, the neonicotinoid Sulfoxaflor was recently restricted in California.⁽⁶⁾

- 3. Promote Integrated Pollinator Pest Management (IPPM)**

Recommendations for which pesticides are relatively safe to use, and when to use them, is complicated and specific both to the pest and the plant intended to be protected. ASLA-NY recommends that landscape managers consult with organizations focused on this topic, such as Xerces and Penn State Extension Service, err on the side of pollinator conservation while waiting for further research on specific products, and use the most recently updated best management practices to coordinate pest control with pollinator protection.

In 2013 an integrated approach was the outcome of a workshop of scientists, stakeholders, and government representatives at the International Pollinator Conference at Penn State University. It



is a hybrid idea addressing some agricultural practices which are detrimental to pollinators without decreasing food-production efficiency. IPPM involves adjusting integrated pest management (IPM) recommendations to incorporate knowledge about pollinators, to both protect plants from specific pests and diseases while also protecting pollinator health. It has been successfully applied to orchard crops in the Northeast. We advocate applying IPPM to the landscape industry.

For example, the mode of action of many fungicides in terms of toxicity to bees is unknown. Some are known to synergize with insecticides, and together these can be more toxic to bees. Landscape managers can avoid the application of the more toxic fungicides on blooming plants when bees are active, from Spring through Fall.

For more information on IPPM and toxicity, see the Resources section below.

4. Convert portions of lawns to wildflower meadows

One way to ensure whole systems benefit from pollinator protection initiatives is to conserve connective corridors between patches. Highway verges could be a very useful way to do this, reducing the effects of fragmentation of natural systems- hydrology, ecological communities and corridors of dispersal- by urban development and roads.

We can plan and implement maintenance strategies to sustain long-term pollinator habitats while addressing safety concerns about fire-prone tall, dry grasses, such as by mowing strips; monitor dead trees or trees with dead branches near roads and sidewalks; and learn to appreciate the ungroomed appearance of some types of habitat.

5. Consider plants and pollinators together.

Some pollinators are dependent on only one or two species of plant, while others make use of a wide variety of species including exotic ornamental and “weedy” species, as well as those native to a particular region. Looking at the entirety of plant-pollinator-soil interactions will contribute to solving the problem of limited habitat resources.

We can consider pollinators’ whole life cycle when planting “pollinator gardens.” Beyond planting flowering species for adult bees and butterflies, we can plant species which butterfly and moth caterpillars eat, conserve dead trees and other natural cavities for hives, provide patches of open bare earth for ground-nesting insects, and nesting conditions for a variety of wild pollinators including butterflies, moths, flies, wasps, bats and hummingbirds.

We can also think about the potential for pollinators to use any open spaces with plants -- parks, plazas, public housing properties, playgrounds, beaches, etc. Wherever and whenever working on a project, using at least some native plants and planning features useful to pollinators will collectively improve conditions. Cumulatively, even small patches can make a big difference when they form “stepping stone” habitat corridors.

6. Be an information resource for the public and fellow landscape professionals

Partnering with other organizations specializing in insects and pollinator health, we can share science-supported information on steps needed to conserve the great value of pollinators to our world with our membership and the public.

Conclusion

Bees and other pollinators are critical to the function of healthy, beautiful and functional landscapes. They demonstrate the role of healthy ecosystems in supporting a sustainable future. We can all take measures to help reverse their decline.



REFERENCES

1. White House press release May 19, 2015. <https://www.whitehouse.gov/blog/2015/05/19/announcing-new-steps-promote-pollinator-health>
2. Pollinators and Pesticide Sprays during Bloom in Fruit Plantings, Penn State Extension, April 30, 2014. <http://extension.psu.edu/plants/tree-fruit/news/2014/pollinators-and-pesticide-sprays-during-bloom-in-fruit-plantings>
3. Xerces Society, Entomological Society, Ladybird Johnson Wildflower Center, Lepidoptera Society, Audubon Society- various state chapters including CN and NJ. Friends of the Earth
4. Entomological Society of America, Position Statement on Pollinator Health, Approved on July 24, 2015 Valid through July 24, 2019 <http://www.entsoc.org/PDF/2015/ESA-PolicyStatement-PollinatorHealth.pdf>
5. Heinz, C., Ribotto, M., Ellis, M., and K.S Delaplane. Best Management Practices (BMPs) For Beekeepers Pollinating California's Agricultural Crops <http://www.extension.org/pages/33379/best-management-practices-for-beekeepers-and-growers#.VZOTzqblnbk>
6. http://www.nytimes.com/2015/09/11/business/energy-environment/big-win-for-beekeepers-as-court-voids-insecticide.html?_r=0

The Agriculture Department said this year that losses of managed honeybee colonies hit 42.1 percent from April 2014 through April 2015, up from 34.2 percent for 2013-14 and the second-highest annual loss to date. Agrochemical companies that sell neonicotinoid products say mite infestations and other factors are the cause of the bees' demise.



ASLA POLICIES

www.asla.org

WILDLIFE AND WILDLIFE HABITAT (1988, R2000, R2001, R2007)

Policy Statement

The American Society of Landscape Architects supports the protection of wildlife and wildlife habitats. Stewardship of the land through the integration of the principles of land use planning and design with the principles of wildlife and wildlife habitat protection promotes ecosystem biodiversity. Landscape architecture, allied design professions and wildlife management apply similar principles to planning for the beneficial use of the land and support an awareness of and appreciation for wildlife, wildlife habitat and their value to the planet. The Society therefore urges the identification and application of planning and design principles that promote the enhancement, protection and management of landscapes that support wildlife.

...The long-term ecological health and fitness of the growing mosaic created by landscape changes should be considered. Biodiversity of local ecosystems has the most realistic chance for positive change.

AGRICULTURE (2014)

Policy Statement

The American Society of Landscape Architects places high value on farms at all scales and their important role in providing us with food, fiber, fuel, and plant-based products. ASLA believes that our nation's farms are a national resource and we support sustainable practices in agriculture, silviculture, and animal husbandry that: protect air and water quality; promote biodiversity; and balance the conservation of soil, native habitats and wetlands with the provision of fresh, healthy food and other agricultural products. ASLA supports policies that promote sustainable agricultural practices, support agrarian communities and economies, and protect agricultural areas from incompatible or encroaching development.

...the environmental hazards found on farms extend beyond the people who work there; the hazards can affect people who live in the vicinity as well. Many farm-related hazards have been exacerbated in recent years with the adoption of industrial-scale farming. Large farms that grow single crops require increased use of pesticides and chemical fertilizers, which can run off into the surroundings.

ENVIRONMENTAL SUSTAINABILITY (B205, 206, R2001, R2007)

Policy Statement

The American Society of Landscape Architects believes that both human civilizations and the natural ecosystems represent integral parts of our environment, and therefore must be protected, restored, and perpetuated. In order to provide a healthy, productive, and socially enriching life for all, the Society urges public and private decision makers to employ sustainable design policies and practices, minimize environmental degradation, avoid excessive consumption, and respect the needs of future generations.

Landscape architects, as planners, designers and managers, should share knowledge and encourage communication between colleagues, professionals from other disciplines and fields, public officials and community leaders, manufacturers and suppliers to enhance the understanding of and strengthen the integral relationship between natural processes and human activity.



URBAN AND LOCAL AGRICULTURE (2012)

Policy Statement

The American Society of Landscape Architects (ASLA) believes that urban and local farming contributes to the sustainable and practical use of urban and suburban land. When people raise their own food, know where their food comes from, and have relationships with the people who grow their food it can increase their self-reliance, social connectivity and their community's resilience. ASLA urges implementation of land use policies at the local, state, and federal levels that enable and encourage local agriculture.

Primary purpose of this policy is to point out the social and community benefits of local and urban agriculture as a viable land use.

Incorporating urban farms, school gardens, community gardens, and farmers markets into the urban fabric can provide direct and indirect benefits to the community in terms of health, safety and welfare through increased socialization, revitalization of underused or derelict sites, increased physical activity, and better nutrition.

School Gardens have been shown as an effective tool to teach children responsibility, teamwork, and self-reliance. The gardens can be incorporated into many areas of the curriculum, including math, science, social studies, history, and the language arts. School gardens can also be used as a way to increase socialization and self-confidence, increase physical activity and to teach better nutrition and eating habits.



RESOURCES

The links below are a few of the many excellent starting points for learning about protecting pollinators.

Best Management Practices for Roadsides and Rights of Way. [http://www.mda.state.mn.us/protecting/bmps/~media/Files/protecting/bmps/pollinators/pollinatorbmpsroad.pdf](http://www.mda.state.mn.us/protecting/bmps/~/media/Files/protecting/bmps/pollinators/pollinatorbmpsroad.pdf)

Importance of Pollinators (USDA) http://www.nrcs.usda.gov/wps/portal/nrcs/detail/pa/technical/?cid=nrcs142p2_018171

Pollinator Conservation <http://www.northeastipm.org/neipm/assets/File/Resources/Pollinator-Conservation-Short-Course-Slides.pdf>

Table of Highly Toxic Pesticides, Purdue University:

<http://extension.entm.purdue.edu/publications/E-53.pdf>

<http://www.fs.fed.us/wildflowers/pollinators/> Celebrating Pollinators (USDA Forest Service)

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/plantsanimals/pollinate/gardeners/>

Natural Resources Conservation Service (NRCS)

Others (clickable links):

[How Farmers Can Help Pollinators](#) - Natural Resources Conservation Service (NRCS)

[North American Pollinator Protection Campaign](#)  (NPPH)

[Pollinators](#) - NRCS Documents for Pollinator Conservation and Enhancement

[Pollinators](#)  - U.S. Fish and Wildlife Service (USFWS)

[Pollinator Friendly Planting Guides](#)  - Pollinator Partnership

[Pollinators Project](#)  - National Biological Information Infrastructure (NBII)

[The Buzz on Native Pollinators](#)  - National Wildlife Federation (NWF)

[Xerces Society for Invertebrate Conservation](#)  (Xerces.org)

[Why Pollinators are Important](#)  (US Fish & Wildlife)

[Xerces Society Pollinator Conservation Program](#) 

[Fact Sheets for Landowners and Growers from Xerces](#) 