



TO: Parks and Recreation Advisory Board

FROM: Jeff Dillon, Director, Parks and Recreation Department
Yvette Bowden, Deputy Director, Parks and Recreation Department

SUBJECT: Matters from the Department

DATE: March 23, 2015

A. Bee Safe Boulder Resolution: Analysis and Options (Attachment A)

**CITY OF BOULDER
PARKS AND RECREATION ADVISORY BOARD AGENDA ITEM**

MEETING DATE: March 23, 2015

AGENDA TITLE: Bee Safe Boulder Resolution: Analysis and Options

PRESENTERS:

Jeff Dillon, Interim Director, Parks and Recreation
Yvette Bowden, Deputy Director, Parks and Recreation
Rella Abernathy, IPM Coordinator, Community Planning & Sustainability
Kathleen Alexander, City Forester, Parks and Recreation
Lisa Martin, Urban Parks Manager, Parks and Recreation

EXECUTIVE SUMMARY:

Bee Safe Boulder presented city council with a resolution on January 20, 2015 that declares Boulder a Bee Safe City (see attachment).

The resolution requires that:

- the city does not use neonicotinoids (neonics) products on city properties;
- the city urges all levels of government to suspend the use of neonics until they have been properly reviewed and found safe;
- the city urges all businesses, homeowners and HOAs to take immediate steps to ensure that plants and seeds that are sold and used in the city do not contain neonicotinoids; and
- the city supports and actively engages in education efforts and encourages others to adopt similar policies.

Staff has analyzed the resolution to determine if current city practices support the requirements of the resolution. The majority of city actions are in line with the resolution language and staff agrees with Bee Safe Boulder and members of city council that the resolution should be adopted with some minor adjustments. Staff recommends that a well-defined exemption process for trees is developed to ensure the long-term success of the resolution. Staff is collaborating with research scientists and national nonprofit organizations to refine this process and is working with Bee Safe Boulder members on the final draft of the resolution.

Staff requests PRAB consideration of this matter by addressing the following questions:

1. Do the members of PRAB support city council in adopting a Bee Safe Boulder Resolution?
2. Does PRAB agree with the preliminary staff recommendation for amending the resolution?
3. Does PRAB have any suggestions for better engaging the community in this discussion to protect pollinators?

CITY COUNCIL, BOARD AND COMMISSION FEEDBACK:

City council members were supportive of the resolution when it was presented to them by Bee Safe Boulder and have requested that the city moves forward in adopting a resolution. Staff will present options, the preliminary staff recommendation and request feedback for council from the Environmental Advisory Board on April 1, 2015 in addition to PRAB feedback.

COUNCIL FILTER IMPACTS

Economic: Pollinators provide essential services for agriculture, provide fruit and vegetables in urban gardens and produce seeds and fruits in natural areas that support native wildlife that attract tourists. Aquatic invertebrates provide ecosystem services by filtering and cleaning surface waters and providing food for fish and birds. Trees and green spaces increase residential and business property values and the tax base, attract visitors, businesses and new residents to an area and increase occupancy and rental rates of apartments and offices. Shading from trees can defer maintenance longer for materials that are degraded by heat and lower utility bills.

Environmental: Hundreds of peer-reviewed studies have implicated neonicotinoid insecticides as one of the factors contributing to the decline of honeybees, native bees, soil organisms, birds and other animals. Studies are beginning to emerge suggesting that neonic exposure to humans may be associated with health issues. Trees and other plant material provide many environmental benefits to the community. Urban trees and green spaces help to reduce carbon dioxide and other pollutants, improve water quality, reduce storm water runoff and save energy.

Social: Social scientists have shown that trees and green spaces within cities provide social and psychological benefits and improve the quality of life for residents. Connection to both trees and wildlife, such as birds and butterflies, affects moods, activities and emotional health. It can reduce stress, enhance health and increase recreational opportunities. The urban forest is usually the first impression a community projects to its visitors. The city also provides a healthy environment for people and animals from the reduction or elimination of pesticides on public properties that puts people at ease when their children or pets visit city parks and facilities.

OTHER IMPACTS:

Fiscal: Sources of plant materials, seeds and trees that have not been treated with neonicotinoid pesticides are limited and may cost significantly more than materials that have been treated or where the treatment history of the materials is known. Additional staff resources will be required to ensure bee safe plant material is used.

Staff time: Education of vendors, interviewing vendors to determine pest control practices of nursery stock, searching for new vendors and developing new procurement procedures all take significant staff time.

PUBLIC FEEDBACK:

Approximately 20 people provided comments during the January 20 city council meeting in support of the resolution. City council has received emails from 24 people supporting the resolution and emails from two individuals who have criticized the resolution and the city's approach to pesticide reduction. One person who is against the resolution has sent multiple emails.

BACKGROUND:

Neonicotinoid insecticides are a class of relatively new pesticides that began being used in the early 1990's. Today, neonics are widely used in urban applications to turf, trees and ornamental plants. They're commonly used in greenhouses, in termite treatments and in flea collars for pets. They are applied as foliar sprays in agriculture and as seed coatings in most agricultural seed, making them one of the most commonly and widely used pesticides in the world. Neonics are highly toxic to insects at tiny doses, are water soluble and extremely persistent in soil and water. They tend to leach and are often detected in surface and ground water. Systemic pesticides are taken up by plants and distributed throughout the plant. All parts of plants treated with neonics contain the pesticide, including leaves, seeds, pollen, nectar and dew drops. Due to their persistence, annual plants can contain the pesticide for an entire season and neonics have been detected in excess of a year after treatment in woody plants. This provides protection from pest insects, but also may impact non-targets, such as bees and soil organisms. Neonics that leach into surface water are highly toxic to aquatic insects, such as dragonflies and mayflies. Hundreds of studies have implicated neonics as one of the stressors that are contributing to the decline of bees, aquatic invertebrates and birds. In response, several communities have started restricting their use. The European Union has banned some agricultural uses and some individual European countries have additional restrictions.

Several members of the community, including Fairview High School students from the NetZero Club spoke during the public comment period of the January 20, 2015 city council meeting to support the local community group Bee Safe Boulder's resolution, "A Resolution Concerning the Use of Neonicotinoid Pesticides, Which Are Toxic to Honeybees, Other Pollinators and Many Other Species" (attachment).

City Council responded favorably to the resolution. The City Manager directed staff to review the resolution and return to council with a report.

ANALYSIS:

The majority of the resolution requirements are already in place through current city policy and practices. The city has been actively involved through legislative activities in urging county, state and federal authorities to suspend problematic uses of neonics until their safety is established and has been involved in education efforts within the community and at all levels of government. These actions are addressed in Sections 2 and 4 of the resolution.

Procurement of Neonicotinoid-Free Plant Materials: Section 3 of the resolution addresses plants and seeds that may contain neonics. Neonics are commonly used in the nursery industry and reports through the environmental nonprofit, Friends of the Earth, have found that flowers of bee-friendly plants sold at big box retailers contain one or more neonics more than 50 percent of the time. Over the last year, staff has been working across departments to determine if plants and landscaping materials purchased by the city are pre-treated with neonics. A consultant, Conservation Impact, has been working with the city to develop a procurement plan to transition to neonic-free plant materials. As demand grows from retail consumers and purchasers of wholesale nursery plants, more options are becoming available. There are two categories of purchases made by the city, “direct” and “indirect.”

Direct purchases are made mostly by Open Space and Mountain Parks Department and the Parks Operations and Urban Forestry divisions within the Parks and Recreation Department. Staff has made significant progress in purchasing neonic-free materials for the upcoming season. Indirect purchases are part of larger construction contracts, such as Parks Planning and Public Works capital projects. As part of larger contracts that include multiple components, landscaping subcontractors purchase plants from nursery vendors. These types of projects are more problematic for sourcing neonic-free materials and will involve a long-term effort of departmental staff, purchasing staff and the consultant.

The following issues have been identified in the procurement of neonic-free materials:

- Neonicotinoids are the most commonly used and favored pesticide in the nursery industry. An analysis of 2014 city purchases estimates that 12 percent were neonic-free;
- Some growers are changing practices due to public pressure/education campaigns. Parks Operations will be able to purchase products without neonic-pretreatment in 2015; overall city purchases should increase to approximately 27% neonic-free this season;
- Park Operations staff is working with local businesses to develop a partnership that will provide neonic-free plants to the 33 park flower bed volunteers at a discounted rate.
- Some of the region’s largest wholesale growers will not consider providing neonic-free plants, which can be an issue for indirect purchases through landscaping contracts. Although there are pesticides other than neonics available, most are not systemic, which requires more applications and some have human

- health risks for workers. In addition, non-chemical pest control methods can greatly increase overhead costs for growers and increase the price of plants significantly;
- In many cases, it can be nearly impossible to track the pesticide treatment history of plants, since nursery purchasing patterns often involve chains of multiple vendors. This is particularly true of trees. Local nurseries often purchase from out-of-state. Part of the city's plan to protect the tree canopy relies on purchasing a variety of tree species to increase diversity to avoid large losses in the future from invasive pests, which complicates tracking pesticide treatments even further; and
 - State law requires plant materials to be pest-free. Some pests (i.e. Japanese beetle) require specific insecticide treatments; neonicotinoids are among the options and are most likely to be used by growers.

The city has the following points of leverage, which are being explored further by staff and the consultant:

- Focusing direct purchasing dollars on vendors with neonic-free options;
- Increasing purchasing power through coordinating and consolidating purchases with a smaller number of vendors;
- Changing contractor RFPs and/or annual contracts to incentivize or require neonic-free plant materials; and
- Reinforcing changes through new or updated purchasing policies and mechanisms for staff accountability.

Three options have been developed for a neonic-free material transition plan. This requires both short and long term planning.

1. Voluntary – Status quo. Educate staff with purchasing authority to direct purchases towards neonic-free materials;
2. Formal preference – Change certain purchasing policies to explicitly favor neonic-free materials with specific goals for transition; and
3. Formal requirement – Set standards and actively verify that vendors supply plant materials that meet these standards. Departments pool funds to make longer-term, bulk purchasing decisions. Policies would require specific goals for percentage of plant purchases that are neonic-free.

With input from city departments and the consultant's analysis, the most feasible approach is a combination of Options 1 and 2. Some staff (OSMP natural lands and Parks Operations) have been able to purchase all neonic-free materials for this season. Option 2 will be explored more in depth as more information is gathered about city purchasing patterns and as industry practices change, due to increased education and demand for neonic-free materials.

Some cities and counties have banned neonic applications, but staff isn't aware of any that are taking action on the issue of plant materials pretreated with neonics, putting the City of Boulder on the leading edge of environmental stewardship and charting a course for other municipalities that will tackle the issue in the future. The nursery industry is

beginning to shift and neonic-free offerings are starting to expand. Through its purchasing, the city can support some of these “early adopters” and play a leadership role that could have ripple effects beyond Boulder.

Application of Neonicotinoid Pesticides:

The majority of all pesticides are banned on city properties. Only those on the city’s Approved Pesticide List can be applied and then, only for specific uses and under certain conditions. The only neonic currently on the city’s list is imidacloprid. It may only be used under rigorous criteria for insect pests of valuable trees when the life or health of a tree is threatened. Only trees that are wind-pollinated can be considered for treatment and additional safeguards are in place to protect pollinators that might collect pollen by timing applications after flowering has occurred. Over the last 10 years, an average of 28 of the city’s 38,000 public trees have been treated with imidacloprid each year. Most of these applications would no longer happen today, due to imidacloprid becoming less and less effective for the specific pests the city used it for in the past.

Although imidacloprid is recommended by the state as a treatment option for emerald ash borer, the city does not use it. Imidacloprid has shown inconsistent results in studies for emerald ash borer, the environmental risks outweigh the potential benefit and alternatives are available. The city manager banned imidacloprid for emerald ash borer treatment on all city properties, including street trees in public rights-of-way in March of 2014.

Although staff supports the prohibition of neonics on city properties, there are instances where large, valuable trees could become infested with insects and the trees will be lost without treatment. There may be cases where imidacloprid or other neonics are the only products available to save a tree. Staff have been working with research scientists and the leading environmental nonprofit organizations, who are the leaders in pollinator protection programs, to formalize a rigorous exemption process for tree treatment within the broader context of a neonicotinoid ban or bee protection program. This will be a transparent process vetted by these groups and will be presented to city council for approval.

Staff is also working with researchers from Colorado State University to test the efficacy and environmental impacts of dinotefuran, another neonicotinoid insecticide, for specific pests. This work is also being discussed with scientists from other institutions and with leading organizations with expertise on neonics and their environmental impacts.

Options for Resolution:

The following options are being considered:

1. Adopt the Bee Safe Boulder Resolution as presented to city council with a complete ban of neonicotinoids on city properties with no exemptions.
2. Adopt the Bee Safe Boulder Resolution supporting a ban of neonicotinoids on city properties with a rigorous, tightly-bounded, transparent exemption process when the life or health of a significant or valuable tree is at risk. Include an exemption

for research studies. Partner with Bee Safe Boulder to collaborate on the final draft for city council.

3. Do not adopt the Bee Safe Boulder Resolution.

PRELIMINARY STAFF RECOMMENDATION:

The initial staff recommendation is that city council adopts the Bee Safe Boulder Resolution with an exemption process included to preserve significant trees. Staff has met with Bee Safe Boulder and NetZero to explore this option and both groups are supportive. Due to the environmental, social and economic benefits of trees, governments that institute pesticide bans either develop exemption processes for trees or have to take emergency action if a situation arises that requires pesticide application. The process that staff is currently in the process of developing is far more rigorous than other tree exemption examples, and having a process in place that has been vetted by scientists, environmental groups, Bee Safe Boulder and other local stakeholders, interdepartmental staff and approved by city council in advance, ensures a thoughtful, collaborative approach to potential tree pest issues involving pesticides. Without an exemption process, the city could find itself in a reactive position if a pest problem arises that could impact large, valuable trees and requires immediate action.

Board input and public feedback is needed as staff further refines and develops these options. Public outreach will occur through multiple manners in March, April and May. A public meeting is currently being planned and input will also be gathered online through Inspire Boulder.

Next Steps:

1. Continue working with stakeholders to refine options. Gather board input and public feedback.
2. Present City Council with the staff analysis and options, board and public feedback as an item under Matters from the City Manager on April 7.
3. Present the draft of the final resolution with staff recommendation at a public hearing during the May 5 city council meeting.

ATTACHMENT:

Attachment: Original Bee Safe Boulder Resolution: “A Resolution Concerning the Use of Neonicotinoid Pesticides, Which Are Toxic to Honeybees, Other Pollinators and Many Other Species”

City of Boulder

A Resolution Concerning the Use of Neonicotinoid Pesticides, Which Are Toxic to Honeybees, Other Pollinators and Many Other Species

WHEREAS, neonicotinoids, one of the most widely used classes of insecticides, are systemic, persistent neurotoxins that translocate throughout all parts of plants to remain in leaves, pollen and nectar; and neonicotinoids are poisonous, and

WHEREAS, an independent review of more than 800 scientific studies concluded that neonicotinoids contaminate soil, adversely impact beneficial soil, invertebrates and avian and aquatic organisms, contaminate water resources and soils, and spread throughout a treated plant, including to the pollen that is gathered by pollinators; and this reality is independently supported, and

WHEREAS, studies have also shown that neonicotinoids are responsible for the death or the weakening of immune defenses in pollinators, causing them to succumb to other threats, such as parasites, bacterial/viral diseases and weather events, and

WHEREAS, the loss of pollinators is alarmingly high, with commercial honeybee colonies experiencing as much as 50 percent over-winter losses each year since 2006, and with a dramatic decline in populations of wild bees, butterflies, birds and other pollinators; and

WHEREAS, threats to pollinators concern the entire food system, where pollination services provided by honeybees and other essential pollinators account for one in every three bites of food; and

WHEREAS, municipal, residential and commercial use of neonicotinoid and other systemic pesticides on home gardens, public parks, school grounds and other local and municipal areas pose unacceptable risks to bees and other pollinators; and,

WHEREAS, this same municipal, residential and commercial use of neonicotinoid and other systemic pesticides on home gardens, public parks, school grounds and other local and municipal areas poses health risks to human residents; and

WHEREAS, the use of hazardous and persistent pesticides, including systemic neonicotinoids, is not necessary to create and maintain green lawns and landscapes, home or public gardens or open spaces, given the availability of viable alternative practices and products; and

WHEREAS, responding to scientific concern over the impact of neonicotinoids on pollinators, the European Union in 2013 instituted a two-year moratorium on the use of neonicotinoids, while US cities and counties, including Eugene, OR, Thurston County and Spokane and Seattle, WA, Shorewood, MI and Denver, CO, have instituted resolutions and/or bans against municipal use of neonicotinoids, while the US Fish and Wildlife Service has banned the use of neonicotinoids on all 150 million acres of its National Wildlife Refuge System, and

WHEREAS, two neighborhoods, two churches and over 500 households in the City of Boulder and Boulder County have already demonstrated the feasibility of neighbors coming together to improve the habitat of bees and other pollinators, and

WHEREAS, in response to local citizen lobbying, fourteen retailers in both Boulder City and County have already pledged to offer and label Bee Safe garden products, everything from organic pesticides and fertilizers to plants and landscaping materials,

NOW THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF BOULDER:

Section 1: That the city will not procure nor use neonicotinoid products, or products containing neonicotinoid-active ingredients, for any purpose on its parks, playing fields, rights of way, along watersheds and ditches, open space lands either solely or jointly owned, public landscaping, public trees and landscapes or in its buildings or other areas under its ownership and jurisdiction.

Section 2: That the city hereby urges all related parties, both public and private, at the county, state and federal levels to suspend use of all neonicotinoids until a proper scientific, legal and regulatory review of their impacts on honeybees and other pollinators, and a full public health and environmental assessment, prove their safety for humans as well.

Section 3: That the city hereby urges all businesses, homeowners, HOAs and pest service companies operating within the city to take immediate steps to ensure no plants, seeds or products containing neonicotinoids are purchased, sold or used within the city.

Section 4: That the city recognizes the importance of pollinators and their services, and will support and actively engage in efforts to educate the broader community about the actions it is taking; and, furthermore, the city will encourage other entities, businesses, schools, neighborhoods and households, and also the county, state and the federal governments to adopt similar policies.