

Written Testimony on HB43 for 032222.pdf

Uploaded by: Aaron Heinsman

Position: FAV



HB43 Maryland Sustainable Buildings Act of 2022
Senate Education, Health & Environmental Affairs Committee
March 22, 2022

www.lightsoutbaltimore.org

Lights Out Baltimore is a volunteer project of the Baltimore Bird Club, a chapter of the Maryland Ornithological Society. We ask you to support HB43, the Maryland Sustainable Buildings Act of 2022, sponsored by Del. Hill. This bill will require state buildings to adopt sustainable building standards that ensure energy efficient practices, cost-saving installations, and ultimately reduce glass collisions that kill up to one billion federally protected migratory birds per year. I am asking you to support this bill, because these same building standards have already been legislated in many other states and cities and proven to be effective with lasting benefits to communities, the environment, and wildlife.

The dozens of volunteers to make up Lights Out Baltimore have seen first-hand the negative impact that poorly designed buildings have on the local community. Birds found dead or injured from building collisions in downtown Baltimore inspired the formation 15 years ago of Lights Out Baltimore (LOB), which rescues birds that have suffered glass collisions during spring and fall migration (April/May and September/October). Many local businesses, too—disheartened by finding dead or injured birds on their premises—have started monitoring their own buildings and installing retrofits that provide a safe environment for migratory birds. As LOB works with the community, there is a need for state support in ensuring surrounding environment next to bird habitats that is, in fact, safe for birds. HB43 will do exactly that—mandate the incorporation of truly sustainable design that considers both light-efficient practices and bird-safe elements to reduce glass collisions.

Since 2008, LOB has found more than 5,500 dead birds in downtown Baltimore, rescued 1,800+ birds and bats (which are also susceptible to glass collisions and injury), and reported 107 species, 66 which are listed on the Department of Natural Resources Maryland Species of Greatest Conservation Need. One such rescued bird—found after a collision with a pane of ground-level glass at 7 St. Paul Street—was a Yellow Rail, last documented in Baltimore City in 1893. On average, 450 birds are found dead in downtown Baltimore annually during monitoring of 20 buildings during just four months of the year. Can you imagine how high the average number is across the entire state year-round? With an increase of glass features in development, abundance of exposed lighting fixtures, the annual number of bird mortality will see a significant and alarming increase.

Voting in favor of this bill is an example of Maryland's leadership in serving the community, conserving energy, saving energy costs, and conserving native wildlife. A 2010 US Fish & Wildlife Service survey showed that bird enjoyment activities are taken up by 934,000 Marylanders—and 150,000 non-residents who visit the state—spurring an enormous level of economic activity. Lights Out Baltimore urges you to support this important bill to ensure a vital future for migratory birds and the communities that enjoy them.

Alexi Boado Testimony in Support of HB43 Maryland

Uploaded by: Alexi Boado

Position: FAV

Maryland General Assembly
– Senate EHEA Committee –
March 22, 2022

HB0043, Energy-Conserving Standard, Maryland Sustainable Buildings Act of 2022

As a Hispanic American and Hispanic resident of Maryland I support this effort wholeheartedly.

One billion birds die in the U.S. every year colliding with transparent or reflective building glass (and the number of glass-dominated buildings is growing exponentially)

- People walk into glass when they don't see the frame; birds never recognize a frame
- Nearly all species are affected; even the best and brightest birds collide and die
- Declining populations of migratory songbirds are significantly attributable to this non-sustainable loss
- Birds are both an ecological mainstay and an economic driver through factors such as pest control
- Maryland receives \$333 million in revenue from bird watching each year)

Building design and treated glass are an existing solution

- Flight tunnel tests have demonstrated the degree of safety provided by different kinds of glass
- Green Business Council LEED program has codified a bird-friendly building pilot credit 55
- Building façade, screens, and shades work
- Glass with UV or visible patterns of narrow lines or dots in 2x4" arrangement work
- Bird-friendly design is generally cost neutral at the design phase
- Bird-friendly designs and glass are energy efficient and saves dollars over time

Bird Safe Building designs and retrofits are already being implemented

- Many beautiful glass buildings are bird friendly such as Anchorage Museum and the Inuit Headquarters in Mountainview CA
- Expansive Jacob Javits Conference Center in NYC was retrofitted to be bird friendly and has reduced bird deaths by 90% and energy consumption by 25%
- Locally the Maryland DNR Tawes Building, National Aquarium, universities, nature centers and others are retrofitting their glass to be bird friendly

Bird Safe Building laws are already being implemented

- States of Illinois (2021) and Minnesota (2013) have mandatory bird safe building laws and Howard County MD passed a comprehensive law in July 2020

- Mandatory laws are also in place in New York City, San Francisco, Oakland, Toronto, Ontario Province, and many other cities in US and Canada, with voluntary laws in other places
- Federal General Services Administration has instituted bird-safe standards, following passage in US House of a bi-partisan bill Bird-Safe Buildings Act earlier

Sincerely,

A handwritten signature in blue ink, appearing to read 'Alexi Sanchez de Boado', written in a cursive style.

Alexi Sanchez de Boado
Hyattsville, MD

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Uploaded by: Anne Lewis

Position: FAV

Testimony of
Anne Lewis, FAIA
President, City Wildlife, Inc.
in support of the
Maryland Sustainable Buildings Act of 2022 - HB 43
MD General Assembly
March 22, 2022

City Wildlife is pleased to have this opportunity to submit favorable testimony to support passage of the Maryland Sustainable Buildings Act of 2022.

City Wildlife is a non-profit organization in the District of Columbia that has run the city's *Lights Out DC* program for twelve years. Volunteers for this program monitor glass buildings in the Union Station/Chinatown area and collect the dead and injured birds they find at these buildings. Since 2010, we have documented more than 4,400 bird strikes in this small downtown area, 84% of which were fatal, and these numbers are increasing every year as more glass buildings are built.

The goal of *Lights Out DC* is to prevent these tragic collisions through awareness, education, research, and policy action.



Some victims of bird/glass collisions
City Wildlife, Inc.

Nationally, up to one billion birds are killed each year by colliding with glass.

The victims of these collisions are all neo-tropical migrants -- beautiful birds -- many of whose populations are in serious decline. In fact, since 1970, North America has lost 29% of its breeding birds, and bird/glass collisions are one of the most significant sources of fatality for these valued and dwindling species. Places like DC and Maryland are on the Atlantic Flyway for

migrating birds, so our buildings need to be especially bird-safe. But unfortunately, they are not, and thousands of birds are being killed in our region every year.

These bird strikes take a human toll, too. Several years ago at a DC elementary school, 53 Cedar Waxwings collided with glass along a corridor over a period of several days during their spring migration. The teachers said the children were so traumatized that they had to be kept away from the corridor because it upset them too much to see the birds hitting the glass and dying on the ground. Many adults, too, have described how disturbing it is to see a bird hit a window -- an all-too-common experience that can make people dread coming to work.

The techniques to prevent these collisions are now well-known. There are simple and effective means of reducing bird/glass collisions through design, and -- especially if included during the initial construction phase -- need not add any additional cost to the project.

Many jurisdictions have now passed laws mandating bird-safe design, including New York City, San Francisco, Portland, Toronto, the states of Illinois and Minnesota, and others. Locally, the District of Columbia has added two optional bird-safe building credits to its Green Construction Code, and Howard County passed bird-safe legislation in 2020. In addition, the US House of Representatives has introduced a law requiring GSA's federal buildings to be bird-safe.

Bird Safe design is effective. In 2016, one of DC's problem buildings, the Washington Convention Center, installed bird-safe film at its L Street glass overpass, a feature that was killing many birds. The results have been dramatic: to date, we have seen an 85% reduction in bird strikes at this overpass. What's more, the film is nearly invisible. But it is always less expensive to construct a bird-safe building at the outset than to retrofit one.

In addition to reducing collisions, bird-safe measures can significantly reduce energy costs. The DC Court of Appeals, which now dims its atrium lights during migratory seasons, has reduced its atrium lighting costs by 15%. And the Thurgood Marshall Judiciary Building now dims its atrium lights at night all year, for a lighting cost reduction of 28%. Many buildings will find that dimming the lights all year can produce substantial savings with no loss of safety or functionality. And bird-safe glass design can also reduce heating and cooling costs.

We are thrilled that Maryland is considering this legislation and strongly support its passage. Establishing requirements for state owned or operated buildings will be highly effective, setting an important and highly visible standard for private construction to follow.

I am pleased to have been able to write in support of this legislation and would be glad to provide any information that might be helpful about our bird-collision data or experiences.

Respectfully submitted,
Anne Lewis, FAIA
President, City Wildlife, Inc.
3400 Reservoir Road NW
Washington, DC 20007
anne.lewis@citywildlife.org

HB43_8MergedDocs_FAV.pdf

Uploaded by: Aubrie Zepp

Position: FAV

22 March 2022

Chairman Pinsky
2 West
Miller Senate Office Building
Annapolis, Maryland 21401

Re: Letter of Support for HB 0043
Department of General Services – Energy Conserving Standards (Maryland Sustainable Buildings Act of 2022).

Dear Chairman Pinsky, Vice-chair Kagan, and Committee Members,

I am writing to voice AIA Maryland's support of House Bill 0043. AIA Maryland represents nearly 2,000 architects in the state of Maryland and advocates for the profession and the quality of the built environment. As we work to be good stewards of the built environment, we are equally cognizant of the natural environment that we interact with and we aim to minimize our impact on the natural world. This bill's primary purpose is clearly to reduce the number of bird strikes on buildings and we believe this bill takes practical measures that can help reduce the likelihood of these collisions from happening. This issue is particularly important in Maryland where we are on the Atlantic flyway, a heavily traveled path for migratory birds.

Member firms from our state chapter have tested the tool this bill implements, LEED Sustainable Sites pilot credit 55 on a couple of new 2-story sample projects. The process required for both projects only required a little extra design time. The process enables sufficient flexibility to be able to meet the design criteria without any undue hardship and we do not expect it would have any significant project cost impact. We also acknowledge that there may be energy reduction through window criteria, screening and opacity of materials that may reduce heat gain on buildings in addition to limiting night-time illumination of interior glass-enclosed spaces and exterior lighting. Based on the testing of projects that were completed, we believe such accommodations can be made on new designs, or when existing buildings are being substantially renovated. In either case, the building skins and systems can be designed to respond to the proposed criteria.

Maryland is not acting alone in adopting guidelines like these. Given our geophysical presence along the coast and the Chesapeake Bay, it is particularly important to provide an accommodating migratory path for birds. Other states and jurisdictions have already enacted regulations similar to this bill, those include the state of Minnesota, New York City, San Francisco, Oakland, Chicago, Toronto and others. Howard County passed a law through county council, requiring mandatory bird safe design as a part of the County Green Building standards. Building codes continue to move toward developing buildings with a more efficient building envelope and the bird friendly criteria can be incorporated into the design parameters. Studies have shown that by implementing bird friendly design parameters, bird collision deaths can be reduced by up to 90 percent.

AIA Maryland
86 Maryland Avenue
Annapolis, MD 21401

T (410) 263-0916

aiamd.org

We recommend that the regulations be incorporated in the Maryland Green Building Council's program requirements documents so they are in a location where design professionals will reference criteria they need to meet. Starting with these measures early in the design process enables the design team to incorporate elements in the building design from the beginning where they may have limited to no effect on building cost.

AIA Maryland cares deeply about the quality of Maryland's natural and built environment. Sensible measures that diminish the impact of our built environment on the natural world are valuable to all of us. We therefore respectfully ask your committee to vote in favor of HB 0043 that provides thoughtful, responsible paths to birdfriendly design and may provide some added benefits of diminishing energy use.

Sincerely,

A handwritten signature in black ink, appearing to read 'C. Parts', with a long horizontal line extending to the right from the end of the signature.

Chris Parts, AIA
Director, Past President, AIA Maryland

AIA Maryland Board of Directors



HB43 – Department of General Services – Energy-Conserving Standards (Maryland Sustainable Buildings Act of 2022)

Testimony before

Education, Health, and Environmental Affairs Committee

March 22, 2022

Position: Favorable

Madame Chair, Madame Vice Chair and members of the committee, my name is Richard Deutschmann, and I represent the 750+ members of Indivisible Howard County. We are providing written testimony today in **support of HB43**, to increase energy efficiency in State buildings while protecting a bio-diverse bird population. Indivisible Howard County is an active member of the Maryland Legislative Coalition (with 30,000+ members).

This bill will require state of Maryland, for any buildings constructed, renovated, or acquired, to apply more stringent energy efficient standards, principally by utilizing bird-safe design. HB43 follows Howard County CB11-2020, which passed in 2020 and was signed into law by the County Executive. It also follows other states like New York, which has passed similar legislation with much success. Besides the obvious benefits of building more energy efficient structures and the associated positive effects to our contribution to climate change, this bill will reduce bird collisions with buildings, improve biodiversity, and support eco-tourism in the state.

Thank you for your consideration of this important legislation.

We respectfully urge a favorable report.

Richard Deutschmann
Columbia, MD 21045

Larry Hogan
Governor

Boyd K. Rutherford
Lt Governor



Ellington E. Churchill, Jr.
Secretary

Nelson E. Reichart
Deputy Secretary

OFFICE OF DESIGN, CONSTRUCTION & ENERGY

BILL: **House Bill 43**
Department of General Services – Energy-Conserving Standards
(Maryland Sustainable Buildings Act of 2022)

COMMITTEE: Education, Health, and Environmental Affairs
Senate

DATE: March 22, 2022

POSITION: Letter of Information

Upon review of House Bill 43 – Department of General Services – Energy-Conserving Standards, the Department of General Services (DGS) provides these comments for informational purposes. The bill would require DGS to establish guidelines to minimize adverse impacts to birds on State buildings constructed, substantially altered, or acquired by DGS, to the extent practicable. House Bill 43 requires lighting to be reduced in existing buildings to the extent practicable. A few State buildings would have to implement this, by using automatic control technologies. The requirement to reduce lighting on existing buildings may cause a significant cost, however this is left to DGS to determine the appropriateness and could be included when lighting projects are considered at existing facilities.

For additional information, contact Ellen Robertson at 410-260-2908.



Testimony of
Anne Lewis, FAIA
President, City Wildlife, Inc.
in support of the
Maryland Sustainable Buildings Act of 2022 - HB 43
MD General Assembly
March 22, 2022

Dear Chairman Pinsky, Vice-chair Kagan, and Committee Members,

City Wildlife is pleased to have this opportunity to support passage of the Maryland Sustainable Buildings Act of 2022. As a non-profit organization in the District of Columbia, our mission is to protect wildlife and wildlife habitat in our region. We run the District's *Lights Out DC* program, which documents bird/glass collisions in downtown DC. **Since 2010, our we have documented more than 3,700 bird strikes in a small downtown area, 84% of which were fatal.** After picking up the dead birds, we then photograph them and donate their carcasses to the Smithsonian Migratory Bird Center for research. **But our goal is not to provide dead birds for research, but to prevent live ones from dying.**



annual bird collision count City Wildlife, Inc.
Washington, DC

Part of an

The birds we find are almost all neo-tropical migrants -- beautiful birds -- many of whose populations are in serious decline. In fact, since 1970, North America has lost 29% of its birds, and bird/glass collisions are one of the most significant sources of fatality for these valued and dwindling species. **Nationally, up to one billion birds are killed each year by colliding with glass.**

These strikes take a human toll, too. Several years ago at a DC elementary school, 53 Cedar Waxwings collided with glass along a corridor over a period of several days during their spring migration. The teachers said the children were so traumatized that they had to be kept away from the corridor because it upset them too much to see the birds hitting the glass and dying on the ground. Many adults, too, have described how disturbing it is to see a bird hit a window -- an all-too-common experience that can disrupt a work environment.

The techniques to prevent these collisions are now well-known. There are simple and effective means of reducing bird/glass collisions through design, and -- especially if included during the initial construction phase - - need not add any additional cost to the project.

Many jurisdictions have now passed laws mandating bird-safe design, including New York City, San Francisco, Portland, Toronto, the states of Illinois and Minnesota, and others. Locally, the District of Columbia has added two optional bird-safe building credits to its Green Construction Code, and Howard County passed bird-safe legislation in 2020. In addition, the US House of Representatives has passed a law requiring all GSA's federal buildings to be bird-safe.

Bird Safe design is effective. In 2016, one of DC's problem buildings, the Washington Convention Center, installed bird-safe film at its L Street glass overpass, a feature that was killing many birds. The results have been dramatic: to date, we have seen an 85% reduction in bird strikes at this overpass. What's more, the film is nearly invisible. But it is always less expensive to construct a bird-safe building at the outset than to retrofit one.

In addition to reducing collisions, bird-safe measures can significantly reduce energy costs. The DC Court of Appeals, which now dims its atrium lights during migratory seasons, has reduced its atrium lighting costs by 15%. And the Thurgood Marshall Judiciary Building now dims its atrium lights at night all year, for a lighting cost reduction of 28%. **Many buildings will find that dimming the lights all year can produce substantial savings with no loss of safety or functionality. And bird-safe glass design can also reduce heating and cooling costs.**

We are thrilled that Maryland is considering this legislation and strongly support its passage. Establishing requirements for state owned or operated buildings will be highly effective, setting an important and highly visible standard for private construction to follow.

I am pleased to have been able to write in support of this legislation and would be glad to provide any information that might be helpful about our bird-collision data or experiences.

Respectfully submitted,
Anne Lewis, FAIA
President, City Wildlife, Inc.
3400 Reservoir Road NW Washington,
DC 20007 anne.lewis@citywildlife.org

March 22, 2022

Dear Chairman Pinsky, Vice-chair Kagan, and Committee Members,

HB0043, Energy-Conserving Standard, Maryland Sustainable Buildings Act of 2022

One billion birds die in the U.S. every year colliding with transparent or reflective building glass (and the number of glass-dominated buildings is growing exponentially)

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- Mandatory laws are also in place in New York City, San Francisco, Oakland, Toronto, Ontario Province, and many other cities in US and Canada, with voluntary laws in other places
- Federal General Services Administration has instituted bird-safe standards, following passage in US House of a bi-partisan bill Bird-Safe Buildings Act earlier

March 22, 2022

Dear Chairman Pinsky, Vice-chair Kagan, and Committee Members,

My name is Benjamin Gantz, I am representing the Audubon Society of Central Maryland and testifying as a volunteer with the Phoenix Wildlife Center and speaking in favor of passing bill HB0043 – Department of General Services – Energy – Conserving Standards (Maryland Sustainable Buildings Act of 2022). This bill would require new Leadership in Energy and Environmental Design (LEED) buildings in the state to implement specified bird friendly design features to prevent window collisions. I am a board member of Audubon Society of Central Maryland, which is a 501 (c)3 non-profit organization with members throughout Howard, Frederick, and Carroll counties in Maryland. Window collisions are a leading factor in the decline of North American bird populations. Birds have numerous benefits to both the environment and economy. A few of their important services include pest control, seed dispersal, and providing opportunities for outdoor recreation. Birds are also an important part of tourism in the state. The diversity of unique species found across Maryland's geography draws in birders and photographers.

I have been very fortunate in being able to volunteer with the Phoenix Wildlife Center, which is also a 501 (c)3 non-profit based in Baltimore County dedicated to the rehabilitation and release of Maryland's wildlife. We receive a wide variety of wildlife species throughout the year that need help from different situations. One issue in particular, window collisions, is responsible for a large majority of the birds brought in. This problem is at its highest during Spring and Fall migration, when birds are making their way from wintering grounds to their summer breeding sites. Many of the birds we receive during these times are found in Baltimore City. Volunteers with an organization called Lights out Baltimore (LOB) walk around the city regularly, picking up any birds that fall victim to window collisions. Unfortunately, many are killed. Those that aren't are brought in to the wildlife center where they are treated appropriately.

During Spring and Fall, downed birds are put into brown paper bags for transport and to help them recover. It is not uncommon to see these bags filling incubators in the clinic. Although these birds are alive, not all of them can be saved. Their injuries from the collision are too severe. Many of them can be released, but are injured and require treatment. One of the most common injuries is brain trauma, and the birds must be medicated properly to heal them. Many of the birds only suffer from shock and after being allowed to stabilize and rest in the bag for several hours, they can be released. Some of the migratory bird species that we receive include American Redstarts, Common Yellowthroats, Ovenbirds, and American Woodcocks. Some species suffer from higher mortality from window collisions than others. Woodcocks are an example. This species is also one of the more common brought to us, and at times many have come in within just a few days. I remember at one point, in less than a weeks' time, around 10 individuals were brought to us.

Although the majority of window-struck birds brought to us are from Baltimore City during migration, we also receive calls from people who have had birds hit their window from many other places throughout the year. Window collisions occur throughout the state and are more likely to occur in urban areas with large buildings. However, they can also occur in less populated areas. Passing bill HB0043 would save the lives of many birds by preventing them from colliding with windows of new LEED buildings. This would be especially important for migratory birds making their way through Maryland, and it would also make a difference for our resident bird species. Not only would the window design standards in HB0043 benefit birds, they would also increase the cooling efficiency of the buildings during summer. Since window collisions are a major contributor to bird declines, passing this bill would make a big difference. Different places in Maryland, such as Howard County have already retrofitted certain buildings to make them bird friendly, and there are new buildings planned that will also eliminate the risk of window collisions. Passing HB0043 would further protect our birds. I ask that you support bill HB0043 – Department of General Services – Energy – Conserving Standards (Maryland Sustainable Buildings Act of 2022).

Thank you,

Benjamin Gantz



Bringing back the birds

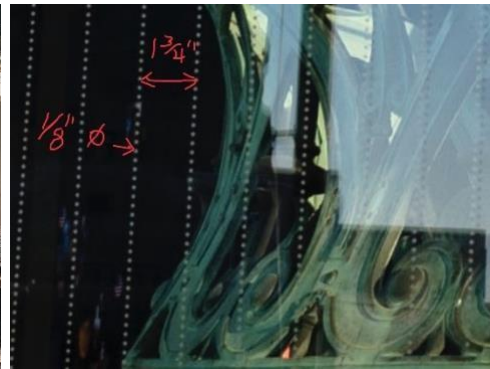
March 22, 2022

Dear Chairman Pinsky, Vice-chair Kagan, and Committee Members,

I'm Doctor Christine Sheppard, director of American Bird Conservancy's Glass Collisions Program. Thank you for allowing me to contribute my testimony. I've been working on this issue for over 20 years. People have been designing bird-friendly buildings as long as they have been building structures – it is only recently that the expanded use of glass has begun to threaten the existence of birds, with hundreds of millions of fatal collisions every year. Luckily, it is possible to retain the advantages of glass, providing clarity of view, insulation and structure, while significantly reducing the risk of collisions by birds. For humans, this is self-serving – birds provide billions of dollars to us in services we often don't notice, bringing seeds so that habitat can regrow after fires, eating insects that can spread diseases, or ruin our crops and forests. Birdfriendly design should not be considered an extra or an add on. It uses the same strategies and materials used to control heat and glare, so there is usually no incremental cost. Almost any style of architecture can be safe for birds, using well tested techniques. Two examples are shown below. New York City Local Law 15, in effect as of January 11, 2021, requires bird-friendly design for all new structures and major retrofits in all five boroughs. I hope that Maryland will become only the second state to pass legislation requiring bird-friendly design.



Statue of Liberty Museum, NYC



Museum glass close up, with vertical lines



Intuit Headquarters, Mountainview, CA



Interior view of glass with horizontal stripes

ABC is a 501(c)(3), non-profit organization dedicated to the conservation of wild native birds and their habitats throughout the Americas. Founded in 1994, ABC has long been a leader in Partners in Flight and the North American Bird Conservation Initiative, and is the only U.S.-based group dedicated solely to overcoming the greatest threats facing native birds in the Western Hemisphere. ABC is also the leading force in ongoing efforts to protect birds from collisions with the only national bird collisions program. 4301 Connecticut Avenue, N.W., Suite 451 ● Washington, D.C. 20008

March 22, 2022

Energy-Conserving Standards (Maryland Sustainable Buildings Act of 2022) – HB0043

TESTIMONY OF DR. MARK SOUTHERLAND -- SUPPORT

Dear Chairman Pinsky, Vice-chair Kagan, and Committee Members,

I am a professional ecologist who has served on the boards of Maryland Academy of Sciences' Science Council, Maryland Water Monitoring Council, Howard County Environmental Sustainability Board, Howard County Conservancy, Patapsco Heritage Greenway, and Safe Skies Maryland.

Two events brought me to conceiving and advocating for this bill:

1. Glass Buildings as Energy Sinks. As a scientist working in the fields of energy conservation and green buildings, I was struck by the exponential growth of buildings with extensive glass facades. I realized that these majority glass buildings would be an energy sink and erode the energy conservation gains from decades of green building policies. While the extensive use of glass was originally considered green, because it reduced the need for artificial lighting, technological advances in LED lighting meant that the heat gain from windows and the need for additional air conditioning far outweighed the benefits. If future building was dominated by extensive glass facades, then we were setting up society for increasing energy costs and greenhouse gas emissions for decades.

2. Glass Buildings as Killers of Birds. As a consultant to Maryland DNR on the licensing of windpower turbines, I learned that, while we could avoid major bird mortality at windpower turbines (with proper lighting and siting), building glass was a thousand times much larger killer of birds. Then I witnessed the construction of the first of several new large glass buildings being built in Downtown Columbia and realized that we were creating a deathtrap for birds migrating through our community. I realized that, as the number of glass buildings statewide and nationwide was growing rapidly, bird deaths from building collisions was about to become much worse. Then, in September 2019, scientists reported that we have lost 29% of all birds in North America since 1970, confirming the dire state of this treasured resource.

Win-Win Solution. Most importantly, I learned that both problems were easily solvable. The building standards embodied in this bill would both conserve energy and reduce bird mortality by 90%. So, I was compelled to act and, working with Senator Guzzone and others, began efforts to solve this problem at the local and state level.

I leave it to the national expert, Dr. Chris Shepard, and others to provide the technical details, but here is a summary of the problem and the solution:

This is an important problem with existing solutions and a diverse concerned citizenry

1. The number of majority glass buildings is increasing exponentially, setting up society for long-term energy costs as building envelopes will be in place or at least 50 years.

- There are no daylighting or energy benefits with window-to-wall ratios over 60 percent, and in most cases an area of 25-40 percent is optimum, i.e., lowest energy consumption
- When glass treated to be bird friendly is used, energy loss is much reduced

2. 1 billion birds die in the U.S. every year colliding with transparent or reflective building glass (and the number of glass-dominated buildings is growing exponentially)
 - People walk into glass when they don't see the frame; birds never recognize a frame
 - Nearly all species are affected; even the best and brightest birds collide and die
 - Declining populations of migratory songbirds are significantly attributable to this unsustainable loss
 - Birds are both an ecological mainstay and an economic driver through factors such as pest control and tourism (Maryland receives \$333 million in revenue from bird watching each year)
3. Building design and treated glass are an existing solution
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 - Federal General Services Administration has instituted bird-safe standards, following passage in US House of a bi-partisan bill Bird-Safe Buildings Act earlier

Maryland has a chance to act locally to save money, fight climate change, and reduce the unsustainable deaths of economically important birds. Waiting even one year will see more glass buildings built and more money lost, more greenhouse gas emissions, and more birds dying.

HB43_DeHill_FAV.pdf

Uploaded by: Aubrie Zepp

Position: FAV

TERRI L. HILL, M.D.
Legislative District 12
Baltimore and Howard Counties

Health and Government Operations
Committee

Subcommittees

Government Operations
and Estates and Trusts

Public Health and
Minority Health Disparities



THE MARYLAND HOUSE OF DELEGATES
ANNAPOLIS, MARYLAND 21401

Annapolis Office
The Maryland House of Delegates
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Terri.Hill@house.state.md.us

District Office
410-884-4380
Fax 410-884-5481

March 22, 2022

SUPPORT

House Bill 43

Department of General Services – Energy – Conserving Standards
(Maryland Sustainable Buildings Act of 2022)

Dear Chairman Pinsky, Vice-chair Kagan, and Committee Members,

House Bill 43 is our opportunity, as legislators, to address a significant ecologic, economic, and environmental problem while simultaneously saving money. By modifying our building construction and operation standards, we can reduce energy costs to the state and decrease the up to a billion U.S. annual bird building-strike deaths. A complement to the 2030 Greenhouse Gas Emissions Reduction Act Plan, **HB43** would modify the State’s High Performance Green Building Program. As in years past, **HB43** passed the House with bipartisan support, 101-33.

HB43 requires the

- Department of General Services to establish LEED 55 standards, periodically updated, for newly constructed, acquired, or substantially altered state buildings. The LEED 55 standards incorporate “bird-safe” designs for cladding, thus conserving energy **and** minimizing adverse impacts on birds;
- Maryland Green Building Council to include the standards in any requirements that the Council establishes for participation in a higher-performance building program;
- shielding from dusk to dawn, and minimization by use of automated technologies of building lighting, to the extent practicable and within budgetary constraints.

Incorporation of such architectural elements in the design and planning stage is cost-neutral and will reduce energy consumption substantially. The prevalent use of large amounts of glass/Plexiglas™ in building facades, particularly in tall buildings and skyscrapers, while architecturally and artistically appealing, when unthoughtfully done undermines energy conservation and climate change mitigation efforts, increases operational energy costs, and contributes to climate change. The buildings also become death traps as birds which, unable to detect the glass, strike it at high velocities. Next to predation by cats, building strikes are the second-highest cause of U.S. bird deaths.

The **economic contribution of birding and other avian-related industries** and activities to Maryland’s **Total Industrial Output** is calculated by the Maryland Ornithological Society as over **\$909 million annually**, generating **10,807 full and part-time jobs**, and producing **\$88.4 million in state and local revenue**. Birds enhance our quality of life, control insect and other vermin populations, are key players in seed dispersal and pollination, serve as nourishment, and provide comfort, companionship, entertainment, protection and employment. The substitution of bird-safe glass/ Plexiglas™ in facades has been shown to **reduce bird strikes on buildings by more than 90%**.

Plus, because transparent glass/Plexiglas™ is energy inefficient, and the allowable designs and materials - including secondary facades and physical elements such as ultraviolet patterned, matte, opaque, etched, stained, or frosted glass/Plexiglas™ - measurably increase energy efficiency, incorporation of LEED Silver 55 credit standards and bird-safe designs in construction **reduces energy maintenance costs**. Required adjustments around the use of lighting additively results in **significant net building operational savings**.

Talking about bird-safe buildings may seem featherbrained, but the huge ecologic, economic, and sociologic contributions made by our avian associates is why, as a signatory to the Migratory Bird Treaty Act of 1918, Maryland has committed to protecting against, and our agencies are obligated to minimize, adverse effects on migratory birds.

Passing **HB43**, The Maryland Sustainable Buildings Act of 2022, is a win-win-win-win: saving tax payer dollars, mitigating climate change, decreasing the number of deadly bird strikes, and enhancing architectural aesthetics. I respectfully urge a favorable report.

A handwritten signature in black ink, appearing to be 'Terri Hill'.

HB43_NatlAquarium_FAV.pdf

Uploaded by: Aubrie Zepp

Position: FAV



March 22, 2022

Bill: HB 43 – Department of General Services – Energy- Conserving Standards (Maryland Sustainable Buildings Act of 2022)

Position: Support

Dear Chairman Pinsky, Vice-chair Kagan, and Committee Members,

The National Aquarium respectfully requests a favorable report for **House Bill 43, Maryland Sustainable Buildings Act of 2022**, which will help minimize fatal bird strikes across Maryland.

It is estimated that window strikes are a leading cause of bird population decline, second only to habitat loss. Baltimore and much of Maryland lie within a major migratory pathway for birds, some flying from as far away as South America. Thankfully, steps can be taken to dramatically limit fatal bird strikes and preserve bird populations through building design, installation of bird-safe glass and films, and limits to interior lighting at night.

In recent years, the National Aquarium has worked with our animal care experts to cover over 3,000 sq. ft of existing glass with bird-safe dot patterns. This includes the 1,300 sq. ft “wing wall”, pictured here, that was responsible for over 70 percent of all bird strikes at the Aquarium. The wing wall film serves a dual purpose by using the bird dot patterns to display the National Aquarium’s name on the building. This simple approach created new, highly visible signage and has significantly reduced bird strikes on the building. Since installing the patterns in 2018, the average number of bird strikes per year dropped 74%.



National Aquarium “wing wall”. Design credit: Ayers Saint Gross

Additionally, thanks to the state’s support, the Aquarium is in the process of replacing the failed glass pyramid above the *Upland Tropical Rain Forest*. The new glass pyramid will be made of entirely bird safe glass and increase energy efficiency within the exhibit. Incorporating bird safe glass into the design will also save money compared to retrofitting the pyramid with bird safe dots and films.

HB 43 would help mitigate bird strikes across the state by requiring similar strategies be utilized on state buildings or that bird-safe building and design standards be considered from the start of new projects. Our experience shows that many of the methods used to prevent bird strikes not only make a significant difference but also have several benefits beyond decreasing bird fatalities. **We urge the Committee to issue a favorable report on HB 43.**

Contact:

Ryan Fredriksson

Vice President, Government Affairs

410-385-8276

rfredriksson@aquarium.org

HB43_SafeSkies_FAV.pdf

Uploaded by: Aubrie Zepp

Position: FAV

March 22, 2022

Energy-Conserving Standards (Maryland Sustainable Buildings Act of 2022) – HB0043

TESTIMONY OF DR. MARK SOUTHERLAND -- SUPPORT

Dear Chairman Pinsky, Vice-chair Kagan, and Committee Members,

I am a professional ecologist who has served on the boards of Maryland Academy of Sciences' Science Council, Maryland Water Monitoring Council, Howard County Environmental Sustainability Board, Howard County Conservancy, Patapsco Heritage Greenway, and Safe Skies Maryland.

Two events brought me to conceiving and advocating for this bill:

1. Glass Buildings as Energy Sinks. As a scientist working in the fields of energy conservation and green buildings, I was struck by the exponential growth of buildings with extensive glass facades. I realized that these majority glass buildings would be an energy sink and erode the energy conservation gains from decades of green building policies. While the extensive use of glass was originally considered green, because it reduced the need for artificial lighting, technological advances in LED lighting meant that the heat gain from windows and the need for additional air conditioning far outweighed the benefits. If future building was dominated by extensive glass facades, then we were setting up society for increasing energy costs and greenhouse gas emissions for decades.
2. Glass Buildings as Killers of Birds. As a consultant to Maryland DNR on the licensing of windpower turbines, I learned that, while we could avoid major bird mortality at windpower turbines (with proper lighting and siting), building glass was a thousand times much larger killer of birds. Then I witnessed the construction of the first of several new large glass buildings being built in Downtown Columbia and realized that we were creating a deathtrap for birds migrating through our community. I realized that, as the number of glass buildings statewide and nationwide was growing rapidly, bird deaths from building collisions was about to become much worse. Then, in September 2019, scientists reported that we have lost 29% of all birds in North America since 1970, confirming the dire state of this treasured resource.

Win-Win Solution. Most importantly, I learned that both problems were easily solvable. The building standards embodied in this bill would both conserve energy and reduce bird mortality by 90%. So, I was compelled to act and, working with Senator Guzzone and others, began efforts to solve this problem at the local and state level.

I leave it to the national expert, Dr. Chris Shepard, and others to provide the technical details, but here is a summary of the problem and the solution:

This is an important problem with existing solutions and a diverse concerned citizenry

1. The number of majority glass buildings is increasing exponentially, setting up society for long-term energy costs as building envelopes will be in place or at least 50 years.

- There are no daylighting or energy benefits with window-to-wall ratios over 60 percent, and in most cases an area of 25-40 percent is optimum, i.e., lowest energy consumption • When glass treated to be bird friendly is used, energy loss is much reduced
2. 1 billion birds die in the U.S. every year colliding with transparent or reflective building glass (and the number of glass-dominated buildings is growing exponentially)
 - People walk into glass when they don't see the frame; birds never recognize a frame
 - Nearly all species are affected; even the best and brightest birds collide and die
 - Declining populations of migratory songbirds are significantly attributable to this unsustainable loss
 - Birds are both an ecological mainstay and an economic driver through factors such as pest control and tourism (Maryland receives \$333 million in revenue from bird watching each year)
 3. Building design and treated glass are an existing solution
 - Flight tunnel tests have demonstrated the degree of safety provided by different kinds of glass
 - Green Business Council LEED program has codified a bird-friendly building pilot credit 55
 - Building façade, screens, and shades work
 - Glass with UV or visible patterns of narrow lines or dots in 2x4" arrangement work
 - Bird-friendly design is generally cost neutral at the design phase
 - Bird-friendly designs and glass are energy efficient and saves dollars over time
 4. Bird Safe Building designs and retrofits are being implemented
 - Many beautiful glass buildings are bird friendly such as Anchorage Museum and the Inuit Headquarters in Mountainview CA
 - Expansive Jacob Javits Conference Center in NYC was retrofitted to be bird friendly and has reduced bird deaths by 90% and energy consumption by 25%
 - Locally the Maryland DNR Tawes Building, National Aquarium, universities, nature centers and others are retrofitting their glass to be bird friendly
 5. Bird Safe Building laws are being implemented
 - States of Illinois (2021) and Minnesota (2013) have mandatory bird safe building laws and Howard County MD passed a comprehensive law in July 2020

- Mandatory laws are also in place in New York City, San Francisco, Oakland, Toronto, Ontario Province, and many other cities in US and Canada, with voluntary laws in other places
- Federal General Services Administration has instituted bird-safe standards, following passage in US House of a bi-partisan bill Bird-Safe Buildings Act earlier

Maryland has a chance to act locally to save money, fight climate change, and reduce the unsustainable deaths of economically important birds. Waiting even one year will see more glass buildings built and more money lost, more greenhouse gas emissions, and more birds dying.

Top Threats to Birds.docx.pdf

Uploaded by: Aubrie Zepp

Position: FAV

Top Threats to Birds (U.S. only. Ordered by Median Estimate of Bird Mortality Annually. As of 2017.)

Hazard/Type	Min Range	Max Range	Median/Avg. Estimated
Habitat Loss/Conversion	N/A	N/A	N/A
Cats Loss et al. 2013a	1,400,000,000	3,700,000,000	2,400,000,000
Collision - Building Glass Loss et al. 2014a	365,000,000	988,000,000	599,000,000
Collisions - Communication towers Longcore et al. 2012			6,600,000
Collisions - Electrical lines Loss et al. 2014c	8,000,000	57,300,000	25,500,000
Collision - Vehicles Loss et al. 2014b	89,000,000	340,000,000	214,500,000
Collisions - Land-based Wind Turbines Loss et al. 2013b	140,438	327,586	234,012
Collisions - Offshore Wind Turbines	N/A	N/A	N/A
Collisions - Solar Panels	N/A	N/A	N/A
Electrocutions Loss et al. 2014c	900,000	11,600,000	5,600,000
Burning -Solar Towers	N/A	N/A	N/A
Poison			72,000,000
Oil Pits Trail 2006	500,000	1,000,000	750,000
All	1,863,540,438	4,758,227,586	3,324,184,012
All (excluding cats)	463,540,438	1,058,227,586	924,184,012
Industry only (excludes cats and vehicles)	374,540,438	718,227,586	709,684,012

HB0043 MD Sustainable Buildings Act - Senate EHEA

Uploaded by: Chris Parts

Position: FAV



AIA
Maryland

Promoting Maryland Architecture Since 1965

21 March, 2022

The Honorable Paul G. Pinsky
Chair of the Education Health and Environmental Affairs Committee
2 West
Miller Senate Office Building
Annapolis, Maryland 21401

Re: Letter of Support for HB 0043
Department of General Services – Energy Conserving Standards
(Maryland Sustainable Buildings Act of 2022).

Dear Chairman Pinsky and members of the Education Health and Environmental Affairs Committee:

I am writing to voice AIA Maryland's support of House Bill 0043. AIA Maryland represents nearly 2,000 architects in the state of Maryland and advocates for the profession and the quality of the built environment. As we work to be good stewards of the built environment, we are equally cognizant of the natural environment that we interact with and we aim to minimize our impact on the natural world. This bill's primary purpose is clearly to reduce the number of bird strikes on buildings and we believe this bill takes practical measures that can help reduce the likelihood of these collisions from happening. This issue is particularly important in Maryland where we are on the Atlantic flyway, a heavily traveled path for migratory birds.

Member firms from our state chapter have tested the tool this bill implements, LEED Sustainable Sites pilot credit 55 on a couple of new 2-story sample projects. The process required for both projects only required a little extra design time. The process enables sufficient flexibility to be able to meet the design criteria without any undue hardship and we do not expect it would have any significant project cost impact. We also acknowledge that there may be energy reduction through window criteria, screening and opacity of materials that may reduce heat gain on buildings in addition to limiting night-time illumination of interior glass-enclosed spaces and exterior lighting. Based on the testing of projects that were completed, we believe such accommodations can be made on new designs, or when existing buildings are being substantially renovated. In either case, the building skins and systems can be designed to respond to the proposed criteria.

Maryland is not acting alone in adopting guidelines like these. Given our geophysical presence along the coast and the Chesapeake Bay, it is particularly important to provide an accommodating migratory path for birds. Other states and jurisdictions have already enacted regulations similar to this bill, those include the state of Minnesota, New York City, San Francisco, Oakland, Chicago, Toronto and others. Howard County passed a law through county council, requiring mandatory bird safe design as a part of the County Green Building standards. Building codes continue to move toward developing buildings with a more efficient building envelope and the bird friendly criteria can be incorporated into the design parameters. Studies have shown that by implementing bird friendly design parameters, bird collision deaths can be reduced by up to 90 percent.

[The American Institute of Architects](http://www.theia.org)

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www.aiaMaryland.org

We recommend that the regulations be incorporated in the Maryland Green Building Council's program requirements documents so they are in a location where design professionals will reference criteria they need to meet. Starting with these measures early in the design process enables the design team to incorporate elements in the building design from the beginning where they may have limited to no effect on building cost. Locally, we know these design parameters have been implemented on new buildings on the Johns Hopkins Hospital campus and one of our members is including these design principles on new Math and Athletics facilities at Howard County Community College.

AIA Maryland cares deeply about the quality of Maryland's natural and built environment. Sensible measures that diminish the impact of our built environment on the natural world are valuable to all of us. We therefore respectfully ask your committee to vote in favor of HB 0043 that provides thoughtful, responsible paths to bird-friendly design and may provide some added benefits of diminishing energy use.

Sincerely,

A handwritten signature in black ink, appearing to read 'C. P.' with a long horizontal line extending from the end of the 'P'.

Chris Parts, AIA
Director, Past President, AIA Maryland

cc: AIA Maryland Board of Directors

[The American Institute of Architects](#)

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HB43_AudubonMidAtlantic_fav.pdf

Uploaded by: Jim Brown

Position: FAV



Maryland Office
2901 East Baltimore Street
Baltimore, MD 21224
Tel: 410-558-2473
md.audubon.org

March 21, 2022

The Maryland Senate - Education, Health and Environmental Affairs Committee

Subject: HB 43 Department of General Services – Energy Conserving Standards (Maryland Sustainable Building Act of 2022)

Position: Favorable

Honorable Members of the Health, Education and Environmental Affairs Committee:

Audubon Mid-Atlantic enthusiastically supports the Senate version of HB 43 - Maryland Sustainable Buildings Act of 2022 as a method of reducing energy consumption and better protecting birds. Audubon Mid-Atlantic is the regional office of the National Audubon Society representing over 35,000 Marylanders who wish to protect birds and the places they call home today and tomorrow, using science, advocacy, education, and on-the-ground conservation. The practices required by HB 43 for state funded projects include energy-conserving features that are also bird-safe features by lowering the cost of heating and cooling, and also protecting Maryland's unique resident and migratory birds from building-strikes. The practices, like requiring motion-sensor and/or down-shielded lights also limit unnecessary nighttime light pollution and reduce energy consumption as well. We appreciate the hard work that both the House and Senate put into this legislation and Audubon asks for a favorable vote for HB 43 to both reduce energy consumption/carbon emissions and reduce the number of bird collisions with buildings.

Nearly 1 billion fatal bird collisions occur every year. It is possible to retain the advantages of glass, by simply treating the glass in the manufacturing phase or with low-cost building design solutions, while significantly reducing the risk of collisions by birds. Preventing Bird collisions is good for people too. As we know, birds provide billions of dollars in services through pollinating crops and transporting seeds, supporting both habitat growth and agriculture. Birds eat insects that spread diseases, or ruin crops and forests. Bird friendly design is not an add on. It uses the same strategies and materials used to regulate building temperature and reduce glare making this legislation a common sense victory for both birds and for the building industry. With HB 43 Maryland will become a national leader by passing legislation requiring bird-friendly design. This will be good for birds and for the people and economy of Maryland.

Thank you,

Jim Brown
Audubon Mid-Atlantic
Policy Director

HB43_MDSierraClub_fav - EHEA - 22Mar2022.pdf

Uploaded by: Josh Tulkin

Position: FAV



P.O. Box 278
Riverdale, MD 20738

Committee: Education, Health and Environmental Affairs

Testimony on: HB43 “Energy-Conserving Standards (Maryland Sustainable Buildings Act of 2022)”

Position: Support

Hearing Date: March 22, 2022

The Maryland Chapter of the Sierra Club urges support for this legislation, which will require the Department of General Services to promulgate standards for state buildings to better protect our bird population and promote energy efficiency. In 2020, Howard County became the first county in Maryland to pass legislation addressing this issue, CB11-2020. Two states, Minnesota (2013) and Illinois (2021) have passed legislation. The latter is most similar to HB43 which requires bird safe building design in new and renovated state owned buildings.¹ Many other localities had previously passed legislation including, New York City, Madison, WI, Minneapolis, MN, Portland, OR, Washington, DC, as well as many cities in California and Canada.²

Maryland has a rich diversity of birds with 436 documented species, which is over half of the birds documented in the United States; 72 of these species are rare, threatened, or endangered. Maryland is located along the Atlantic flyway, where billions of birds migrate seasonally north to south and back again. Some birds are especially vulnerable and have been identified by the Audubon Society as priority birds to protect. These include the Golden-Winged Warbler, the Wood Thrush, the Black-Throated Blue Warbler, and many others.

As good stewards of our natural world, it is our responsibility to preserve biodiversity. It is estimated that up to one billion birds die by collision with glass in America, and we also know through research and practice that these deaths are preventable. The buildings we construct (or significantly renovate) can and should use bird-friendly design.

Importantly, with this bill, buildings become more energy efficient. While well-placed windows are critical to a building design, and allow for natural lighting, making windows increasingly bigger is detrimental to overall energy efficiency. Windows are the weakest link in the building envelope, therefore the greater the surface area of windows in a building, the more energy is needed to keep it cool in the summer and warm in the winter. In state-owned buildings, the taxpayers are paying for extra heating and cooling costs. This extra energy use also comes at a cost to the environment by contributing to climate change when it relies on fossil fuels.

In sum, incorporating bird-friendly design will save energy and protect birds. Maryland should take this first step to lead the way by adopting this legislation. We ask for a favorable report.

Lily Fountain
Chair, Natural Places Committee
Lily.Fountain@MDSierra.org

Josh Tulkin
Chapter Director
Josh.Tulkin@MDSierra.org

¹ <https://gl.audubon.org/news/new-law-will-protect-illinois-birds-deadly-building-collisions>

² <https://abcbirds.org/glass-collisions/existing-ordinances/>

Founded in 1892, the Sierra Club is America’s oldest and largest grassroots environmental organization. The Maryland Chapter has over 75,000 members and supporters, and the Sierra Club nationwide has over 800,000 members and nearly four million supporters.

ASCM HB43 Testimony21March2022.pdf

Uploaded by: Julie Dunlap

Position: FAV

HB0043 Testimony

My name is Benjamin Gantz, I am representing the Audubon Society of Central Maryland and testifying as a volunteer with the Phoenix Wildlife Center and speaking in favor of passing bill HB0043 – Department of General Services – Energy – Conserving Standards (Maryland Sustainable Buildings Act of 2022). This bill would require new Leadership in Energy and Environmental Design (LEED) buildings in the state to implement specified bird friendly design features to prevent window collisions. I am a board member of Audubon Society of Central Maryland, which is a 501 (c)3 non-profit organization with members throughout Howard, Frederick, and Carroll counties in Maryland. Window collisions are a leading factor in the decline of North American bird populations. Birds have numerous benefits to both the environment and economy. A few of their important services include pest control, seed dispersal, and providing opportunities for outdoor recreation. Birds are also an important part of tourism in the state. The diversity of unique species found across Maryland's geography draws in birders and photographers.

I have been very fortunate in being able to volunteer with the Phoenix Wildlife Center, which is also a 501 (c)3 non-profit based in Baltimore County dedicated to the rehabilitation and release of Maryland's wildlife. We receive a wide variety of wildlife species throughout the year that need help from different situations. One issue in particular, window collisions, is responsible for a large majority of the birds brought in. This problem is at its highest during Spring and Fall migration, when birds are making their way from wintering grounds to their summer breeding sites. Many of the birds we receive during these times are found in Baltimore City. Volunteers with an organization called Lights out Baltimore (LOB) walk around the city regularly, picking up any birds that fall victim to window collisions. Unfortunately, many are killed. Those that aren't are brought in to the wildlife center where they are treated appropriately.

During Spring and Fall, downed birds are put into brown paper bags for transport and to help them recover. It is not uncommon to see these bags filling incubators in the clinic. Although these birds are alive, not all of them can be saved. Their injuries from the collision are too severe. Many of them can be released, but are injured and require treatment. One of the most common injuries is brain trauma, and the birds must be medicated properly to heal them. Many of the birds only suffer from shock and after being allowed to stabilize and rest in the bag for several hours, they can be released. Some of the migratory bird species that we receive include American Redstarts, Common Yellowthroats, Ovenbirds, and American Woodcocks. Some species suffer from higher mortality from window collisions than others. Woodcocks are an example. This species is also one of the more common brought to us, and at times many have come in within just a few days. I remember at one point, in less than a weeks' time, around 10 individuals were brought to us.

Although the majority of window-struck birds brought to us are from Baltimore City during migration, we also receive calls from people who have had birds hit their window from many other places throughout the year. Window collisions occur throughout the state and are more likely to occur in urban areas with large buildings. However, they can also occur in less populated areas. Passing bill HB0043 would save the lives of many birds by preventing them from colliding with windows of new LEED buildings. This would be especially important for migratory birds making their way through Maryland, and it would also make a difference for our resident bird species. Not only would the window design standards in HB0043 benefit birds, they would also increase the cooling efficiency of the buildings during summer. Since window collisions are a major contributor to bird declines, passing this bill would make a big difference. Different places in Maryland, such as Howard County have already retrofitted certain buildings to make them bird friendly, and there are new buildings planned that will also eliminate the risk of window collisions. Passing HB0043 would further protect our birds. I ask that you support bill HB0043 – Department of General Services – Energy – Conserving Standards (Maryland Sustainable Buildings Act of 2022).

Thank you,

Benjamin Gantz

MOS HB0043 Sustainable Bldg Senate EHEA March 2022

Uploaded by: Kurt Schwarz

Position: FAV



March 22, 2022

**HB0043: Department of General Services - Energy-Conserving Standards
(Maryland Sustainable Buildings Act of 2022)**

Position: Support: HB0043

The Maryland Ornithological Society (MOS) asks that the Senate Education, Health and Environmental Affairs Committee give a favorable report of HB0043 and move it to the full Senate.

As you are aware, it is estimated that up to a billion birds a year die in collisions with glass on buildings and other structures.¹ While birds face many threats to their survival, the dramatic increase in the use of glass as a building material need not pose the unsustainable threat to birdlife that it currently does. We can use glass and still help our migrating and resident birds be able to navigate safely in and through our state.

Maryland sits in a vital position along one of the four major migration flyways, Maryland, the Atlantic Flyway, and billions of migrating birds pass through our state each migration season. Our State bird, the Baltimore Oriole, is one such migrant that returns yearly to breed and departs in Fall for wintering grounds in Central and South America. It is also a frequent victim of collisions with the glass that has become increasingly and more widely used in our state. Many otherwise successful fledgling young of the year will also perish in what would have been their first migration when they become confused by glass. Indeed, according to the Maryland Bird Conservation Partnership (MBCP), "Maryland (has) features that support an impressive diversity of ecosystems, habitats, and species...(and) due to a variety of threats, some 143 species of birds have been recognized as 'Species of Greatest Conservation Need'". The MBCP further notes that, "Over 200 species of birds breed in Maryland, more than half of which are considered to be Species of Greatest Conservation Need. Many species that breed in the state migrate to other areas outside of breeding season, (and) given the mobility of birds, planning at the landscape level and considering species needs during their full life cycle is important. (Further), working with a variety of partners will be critical to minimize mortality due to collisions."

While many man-made factors challenge birds, perhaps none is as immediately fatal and artificial as a collision with glass. Birds have evolved to make decisions at flight speed and given the chance to avoid an object they can see, make quick decisions to

¹ Loss, Scott et al, Bird-building collisions in the United States: Estimates of annual mortality and species vulnerability, *The Condor*, Volume 116, Issue 1, February 2014, <https://academic.oup.com/condor/article/116/1/8/5153098>

do so. The air is their habitat, and the lightweight frames of birds enable them to fly that also makes them horrifyingly vulnerable to collision with glass. It is noteworthy that people cannot see glass and frequently walk into glass doors and other objects unless an added feature alerts them to its presence. We can also alert birds to the presence of glass and for many reasons, it is incumbent upon us to do so.

The diversity of bird species and their habitats is under increasing threat. Unless concerted efforts are taken in the near future Maryland will lose some of its greatest assets – healthy natural systems and the wide range of birds, plants, and other wildlife that they support. Maryland risks economic impact as well as a decrease in quality of life. An estimated 900,000 residents and non-residents enjoy birding in the state. While Marylanders generated \$483 million from wildlife-watching activities in 2011, the Total Industrial Output (TIO), which includes, direct, indirect, and induced effects, totaled over \$909 million, produced 10,807 full- and part-time jobs, and generated \$88.4 million in state and local tax revenue. Nationally, Americans who watch and feed birds contribute \$41 billion to the nation’s economy every year.²

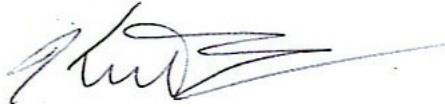
Birds provide invaluable ecological services in areas of pest control, seed dispersal, and pollination. The immediate threats to their survival and a disruption to our symbiotic relationship with them are matters of great importance for a variety of reasons. It wasn’t that long ago that people were shooting birds out of the sky at a faster rate than they could reproduce. In our modern times the same affect will be achieved by continuing to erect glass buildings without incorporating reasonable measures to help the bird see the glass and avoid collisions with it. Both scenarios are directly responsible for removing birds at a faster rate than be sustained by reproduction.

Sustainable growth in Maryland is very important and incorporating reasonable features to prevent unsustainable loss of bird life benefits current and future residents of our state. We therefore ask you to support and pass the Maryland Sustainable Building Act of 2022 (HB0043).

MOS is a Maryland-based volunteer organization of some 1800 members, with 15 chapters in Maryland. We are devoted to the study and preservation of birds and their habitat.

Sincerely,

² US Fish and Wildlife Service, Economic Impact: Birds, Birdwatching and the U.S. Economy, November 16, 2017, <https://www.fws.gov/birds/bird-enthusiasts/bird-watching/valuing-birds.php>



Kurt R. Schwarz
Conservation Chair
Maryland Ornithological Society
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7329 Wildwood Ct.
Columbia, MD 21046
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Dr Mark Southerland Testimony in Support of HB43 M

Uploaded by: Mark Southerland

Position: FAV

Energy-Conserving Standards (Maryland Sustainable Buildings Act of 2022) – HB 43

TESTIMONY OF DR. MARK SOUTHERLAND -- **SUPPORT**

I am a professional ecologist who has served on the boards of Maryland Science Council, Maryland Water Monitoring Council, Howard County Environmental Sustainability Board, Howard County Conservancy, and Patapsco Heritage Greenway. I represent **Safe Skies Maryland**, a statewide organization dedicated to saving birds, wildlife, and people.

Two events brought me to advocating for this bill:

1. Glass Buildings as Energy Sinks. As a scientist working in the fields of energy conservation and green buildings, I was struck by the exponential growth of buildings with extensive glass facades. I realized that these majority glass buildings would be an energy sink and erode the energy conservation gains from decades of green building policies. While the extensive use of glass was originally considered green, because it reduced the need for artificial lighting, technological advances in LED lighting meant that the heat gain from windows and the need for additional air conditioning far outweighed the benefits. If future building was dominated by extensive glass facades, then we were setting up society for increasing energy costs and greenhouse gas emissions for decades.

2. Glass Buildings as Killers of Birds. As a consultant to Maryland DNR on the licensing of windpower turbines, I learned that, while we could avoid major bird mortality at windpower turbines (with proper lighting and siting), building glass was a thousand times much larger killer of birds. Then I witnessed the construction of the first of several new, large glass buildings being built in Downtown Columbia and realized that we were creating a deathtrap for birds migrating through our community. I realized that, as the number of glass buildings statewide and nationwide was growing rapidly, bird deaths from building collisions was about to become much worse. Then, in September 2019, scientists reported that we have lost 29% of all birds in North America since 1970, confirming the dire state of this treasured resource.

Win-Win Solution. Most importantly, I learned that both problems were easily solvable. The building standards embodied in this bill would both conserve energy and reduce bird mortality by more than 90%. So, I was compelled to act and, working with Delegate Hill, Senators Guzzone and Lam, and others, began efforts to solve this problem at the local and state level.

Here is a summary of the problem and the solution:

This is an important problem with existing solutions and a diverse concerned citizenry

1. The number of majority glass buildings is increasing exponentially, setting up society for long-term energy costs as building envelopes will be in place or at least 50 years.
- There are no daylighting or energy benefits with window-to-wall ratios over 60 percent, and in most cases an area of 25-40 percent is optimum, i.e., lowest energy consumption
 - When glass treated to be bird friendly is used, energy loss is much reduced

2. 1 billion birds die in the U.S. every year colliding with transparent or reflective building glass (and the number of glass-dominated buildings is growing exponentially)
 - People walk into glass when they don't see the frame; birds never recognize a frame
 - Nearly all species are affected; even the best and brightest birds collide and die
 - Declining populations of migratory songbirds are significantly attributable to this non-sustainable loss
 - Birds are both an ecological mainstay and an economic driver through factors such as pest control and tourism (Maryland receives nearly \$1 billion in economic benefit from bird watching each year)

3. Building design and treated glass are an existing solution
 - Flight tunnel tests conducted by academics and the American Bird Conservancy have demonstrated the degree of safety provided by different kinds of glass
 - Green Business Council LEED program has codified the bird-friendly building pilot credit 55 standard in this bill
 - Building façade, screens, and shades work
 - Glass with UV or visible patterns of narrow lines or dots in 2x4" arrangement work
 - Bird-friendly design is cost neutral at the design phase
 - Bird-friendly designs and glass are energy efficient and saves dollars over time

4. Bird Safe Building designs and retrofits are being implemented
 - Many beautiful glass buildings are bird friendly such as Anchorage Museum and the Inuit Headquarters in Mountainview CA
 - Jacob Javits Conference Center in NYC was expanded but used bird friendly glass and has reduced bird deaths by 90% and energy consumption by 25%
 - Locally the Maryland DNR Tawes Building, National Aquarium, universities, nature centers and others are retrofitting their glass to be bird friendly

5. Bird Safe Building laws are being implemented
 - States of Illinois (2021) and Minnesota (2013) have mandatory bird safe building laws and Howard County MD passed a comprehensive law in July 2020
 - Mandatory laws are also in place in New York City, San Francisco, Oakland, Toronto, Ontario Province, and many other cities in US and Canada, with voluntary laws in other places
 - Federal General Services Administration has instituted bird-safe standards, following passage in US House of a bi-partisan bill Bird-Safe Buildings Act earlier

Maryland has a chance to act locally to save money, fight climate change, and reduce the unsustainable deaths of economically important birds. Waiting even one year will see more glass buildings built and more money lost, more greenhouse gas emissions, and more birds dying.

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Uploaded by: Richard Deutschmann

Position: FAV



HB43 – Department of General Services – Energy–Conserving Standards (Maryland Sustainable Buildings Act of 2022)

Testimony before

Senate Education, Health & Environmental Affairs Committee

March 22, 2022

Position: Favorable

Mr. Chair, Madame Vice Chair and members of the committee, my name is Richard Deutschmann, and I represent the 750+ members of Indivisible Howard County. We are providing written testimony today in **support of HB43**, to increase energy efficiency in State buildings while protecting a bio-diverse bird population. Indivisible Howard County is an active member of the Maryland Legislative Coalition (with 30,000+ members).

This bill will require state of Maryland, for any buildings constructed, renovated, or acquired, to apply more stringent energy efficient standards, principally by utilizing bird-safe design. HB43 follows Howard County CB11-2020, which passed in 2020 and was signed into law by the County Executive. It also follows other states like New York, which has passed similar legislation with much success. Besides the obvious benefits of building more energy efficient structures and the associated positive effects to our contribution to climate change, this bill will reduce bird collisions with buildings, improve biodiversity, and support eco-tourism in the state.

Thank you for your consideration of this important legislation.

We respectfully urge a favorable report.

Richard Deutschmann
Columbia, MD 21045

HB43- National Aquarium - MD Sustainable Buildings

Uploaded by: Ryan Fredriksson

Position: FAV

Date: March 22, 2022

Bill: HB 43 – Department of General Services – Energy- Conserving Standards (Maryland Sustainable Buildings Act of 2022)

Position: Support

Dear Chair Pinsky and Members of the Committee:

The National Aquarium respectfully requests a favorable report for **House Bill 43, Maryland Sustainable Buildings Act of 2022**, which will help minimize fatal bird strikes across Maryland.

It is estimated that window strikes are a leading cause of bird population decline, second only to habitat loss. Baltimore and much of Maryland lie within a major migratory pathway for birds, some flying from as far away as South America. Thankfully, steps can be taken to dramatically limit fatal bird strikes and preserve bird populations through building design, installation of bird-safe glass and films, and limits to interior lighting at night.

In recent years, the National Aquarium has worked with our animal care experts to cover over 3,000 sq. ft of existing glass with bird-safe dot patterns. This includes the 1,300 sq. ft “wing wall”, pictured here, that was responsible for over 70 percent of all bird strikes at the Aquarium. The wing wall film serves a dual purpose by using the bird dot patterns to display the National Aquarium’s name on the building. This simple approach created new, highly visible signage and has significantly reduced bird strikes on the building. Since installing the patterns in 2018, the average number of bird strikes per year dropped 74%.



National Aquarium “wing wall”. Design credit: Ayers Saint Gross

Additionally, thanks to the state’s support, the Aquarium is in the process of replacing the failed glass pyramid above the *Upland Tropical Rain Forest*. The new glass pyramid will be made of entirely bird safe glass and increase energy efficiency within the exhibit. Incorporating bird safe glass into the design will also save money compared to retrofitting the pyramid with bird safe dots and films.

HB 43 would help mitigate bird strikes across the state by requiring similar strategies be utilized on state buildings or that bird-safe building and design standards be considered from the start of new projects. Our experience shows that many of the methods used to prevent bird strikes not only make a significant difference but also have several benefits beyond decreasing bird fatalities. **We urge the Committee to issue a favorable report on HB 43.**

Contact:

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HB43 Sponsor EHE Testimony_2022 (1).pdf

Uploaded by: Terri Hill

Position: FAV

March 22, 2022

SUPPORT

House Bill 43

Department of General Services – Energy – Conserving Standards
(Maryland Sustainable Buildings Act of 2022)

Dear Chairman Pinsky, Vice-chair Kagan, and Committee Members,

House Bill 43 is our opportunity, as legislators, to address a significant ecologic, economic, and environmental problem while simultaneously saving money. By modifying our building construction and operation standards, we can reduce energy costs to the state and decrease the up to a billion U.S. annual bird building-strike deaths. A complement to the 2030 Greenhouse Gas Emissions Reduction Act Plan, **HB43** would modify the State’s High Performance Green Building Program. As in years past, **HB43** passed the House with bipartisan support, 101-33.

HB43 requires the

- Department of General Services to establish LEED 55 standards, periodically updated, for newly constructed, acquired, or substantially altered state buildings. The LEED 55 standards incorporate “bird-safe” designs for cladding, thus conserving energy **and** minimizing adverse impacts on birds;
- Maryland Green Building Council to include the standards in any requirements that the Council establishes for participation in a higher-performance building program;
- shielding from dusk to dawn, and minimization by use of automated technologies of building lighting, to the extent practicable and within budgetary constraints.

Incorporation of such architectural elements in the design and planning stage is cost-neutral and will reduce energy consumption substantially. The prevalent use of large amounts of glass/Plexiglas™ in building facades, particularly in tall buildings and skyscrapers, while architecturally and artistically appealing, when unthoughtfully done undermines energy conservation and climate change mitigation efforts, increases operational energy costs, and contributes to climate change. The buildings also become death traps as birds which, unable to detect the glass, strike it at high velocities. Next to predation by cats, building strikes are the second-highest cause of U.S. bird deaths. The **economic contribution of birding and other avian-related industries** and activities to Maryland’s **Total Industrial Output** is calculated by the Maryland Ornithological Society as over **\$909 million annually**, generating **10,807 full and part-time jobs**, and producing **\$88.4 million in state and local revenue**. Birds enhance our quality of life, control insect and other vermin populations, are key players in seed dispersal and pollination, serve as nourishment, and provide comfort, companionship, entertainment, protection and employment. The substitution of bird-safe glass/ Plexiglas™ in facades has been shown to **reduce bird strikes on buildings by more than 90%**. Plus, because transparent glass/Plexiglas™ is energy inefficient, and the allowable designs and materials - including secondary facades and physical elements such as ultraviolet patterned, matte, opaque, etched, stained, or frosted glass/Plexiglas™ - measurably increase energy efficiency, incorporation of LEED Silver 55 credit standards and bird-safe designs in construction **reduces energy maintenance costs**. Required adjustments around the use of lighting additively results in **significant net building operational savings**.

Talking about bird-safe buildings may seem featherbrained, but the huge ecologic, economic, and sociologic contributions made by our avian associates is why, as a signatory to the Migratory Bird Treaty Act of 1918, Maryland has committed to protecting against, and our agencies are obligated to minimize, adverse effects on migratory birds.

Passing **HB43**, The Maryland Sustainable Buildings Act of 2022, is a win-win-win-win: saving tax payer dollars, mitigating climate change, decreasing the number of deadly bird strikes, and enhancing architectural aesthetics. I respectfully urge a favorable report.

[Handwritten signature]