

REPORT ON LEGISLATION BY THE ANIMAL LAW COMMITTEE

A. 142 M. of A. L. Rosenthal

AN ACT to amend the Education Law, in relation to animal hatching projects.

THIS LEGISLATION IS APPROVED WITH A RECOMMENDATION

I. SUMMARY OF PROPOSED LAW

Assembly Bill No. 142¹ would amend the Education Law to add a new paragraph 5 to subdivision c of section 809 to prohibit school districts, school principals, administrators, and teachers from requiring, permitting, or conducting a lesson or experimental study "using an animal in a hatching project in any such school or during any activity conducted under the auspices of such school whether or not the activity takes place on the premises of such school."

II. BACKGROUND

A "hatching project" refers to an educational lesson in which fertilized chicken or duckling eggs are kept by students, usually in classroom incubators, to be hatched within one to four weeks. Teachers use school hatching projects as a way to teach students about life cycles of birds and embryonic development.²

Fertilized eggs for school hatching projects are sold, rented, or donated to schools from various sources, including some local offices of Cornell Cooperative Extension in New York,³

About the Association

The mission of the New York City Bar Association, which was founded in 1870 and has 25,000 members, is to equip and mobilize a diverse legal profession to practice with excellence, promote reform of the law, and uphold the rule of law and access to justice in support of a fair society and the public interest in our community, our nation, and throughout the world.

¹ The full text of the bill, with accompanying memorandum, is available at https://assembly.state.ny.us/leg/?default_fld=&leg_video=&bn=A00142&term=&Summary=Y&Memo=Y&Text=Y. (All websites last February 15, 2021.)

² Cornell Cooperative Extension of Westchester County, Incubation & Embryology, http://westchester.cce.cornell.edu/4-h-youth-development/incubation-embryology.

³ *E.g.*, Cornell Cooperative Extension of Suffolk County, Incubation & Embryology (Jan. 19, 2021), http://ccesuffolk.org/suffolk-county-farm/chick-incubation-for-the-classroom.

non-profits in other states,⁴ and from for-profit companies, which will mail fertile eggs and, in some cases, an incubator to schools in New York.⁵

In 2001, 415,000 children participated in hatching projects in New York State.⁶ In 2019, Cornell Cooperative Extension of Westchester County provided chick and duck eggs to 383 classrooms.⁷ In 2020, due to the COVID-19 pandemic, many school hatching projects in New York City and urban areas were cancelled due to the uncertainty of in-school education and potential for cleaning chemicals to harm chicks.⁸

III. JUSTIFICATION

The Animal Law Committee supports the bill because hatching projects (A) teach children an inhumane lesson; (B) expose birds to harm in schools; (C) expose children to potential health risks; and (D) often result in the abandonment and/or death of unwanted birds. We describe several good alternatives to school hatching projects below.

A. Hatching projects teach children an inhumane lesson.

The Animal Law Committee objects to school hatching projects because they teach children an inhumane lesson: Students learn that their responsibility to care for an animal is over as soon as the school project ends. Students also learn the perverse lesson that baby birds do not have a need for their parents.

⁴ E.g., Quiver Farm, Chick and Duck Hatching, https://www.quiverfarm.com/programs.

⁵ *E.g.*, RentACoop, Hatching, https://www.rentacoop.com/hatching/; My Pet Chicken, Hatching Eggs: Eggs for Education, https://www.mypetchicken.com/catalog/Private-Breeder-Hatching-Eggs/Hatching-Eggs-Eggs-for-Education-p911.aspx.

⁶ Lisa W. Foderaro, *The Duckling Diaries*, N.Y. Times (Jun. 9, 2002), http://www.nytimes.com/2002/06/09/nyregion/the-duckling-diaries.html.

⁷ Cornell Cooperative Extension of Westchester County, 2019 Annual Report 8, https://s3.amazonaws.com/assets.cce.cornell.edu/attachments/44644/Annual Report 2019.pdf?1589285256.

⁸ *E.g.*, Cornell Cooperative Extension of Westchester County, Incubation & Embryology, http://westchester.cce.cornell.edu/4-h-youth-development/incubation-embryology.

For this reason, and the other animal welfare reasons explained below, United Poultry Concerns, Farm Sanctuary, Wild Bird Fund, Voters for Animal Rights, and All Creatures support this bill.

B. Hatching projects expose birds to harm in schools.

In nature, feral chicken hens turn their eggs approximately 96 times per day, a number considered optimal for the chicks. Hegg-turning affects "gas exchange and heat transfer between the eggs and the external environment, egg water loss, adhesion of the embryo to the extraembryonic membrane structures . . . and nutrient availability." Chickens communicate to the chicks while they are still in their shells and chicks peep back at them. The act of egg turning itself is more complicated than it seems; plane of rotation, tilt angle of the eggs, and position all affect the chick's development. The act of eggs turning itself is more complicated than it seems; plane of rotation, tilt angle of the eggs, and position all affect the chick's development.

Chicks must be routinely and properly turned during incubation¹⁸ and if they are not, the chicks may die¹⁹ or be born with deformities.²⁰ Some suppliers of fertilized eggs rent or sell egg

[A]t my daughter's public elementary school many years ago, several of the chicks were born deformed because they were left at school one weekend and no one was told the eggs had to be

⁹ United Poultry Concerns, New York Lawmaker Seeks to Ban Chick-Hatching Projects (Jan. 5, 2019), https://www.upc-online.org/hatching/190105_new_york_lawmaker_seeks_to_ban_chick-hatching_projects.html.

¹⁰ Farm Sanctuary, Action Alert, http://action.farmsanctuary.org/site/MessageViewer?em_id=43493.0&dlv_id=0&printer_friendly=1.

 $^{^{11}\} Wild\ Bird\ Fund,\ Facebook\ (Jul.\ 1,\ 2019),\ \underline{https://www.facebook.com/wildbirdfund/photos/the-only-one-of-30-eggs-that-hatched-in-a-school-project-tater-was-about-to-be-r/10156744267998731.$

¹² Voters for Animal Rights, 2021 Agenda, https://vfar.org/2021animalrights.

¹³ All Creatures, Action Alert, https://www.all-creatures.org/alert/alert-20190105.html.

¹⁴ Gabrielda S. Oliveira, et al., Effects of Different Egg Turning Frequencies on Incubation Efficiency Parameters, 99 Poultry Science 4417-20 (Sept. 2020), https://doi.org/10.1016/j.psj.2020.05.045; IC Bolei et al., Poultry Egg Incubation: Integrating and Optimizing Production Efficiency, 18 Brazilian J. Poultry Science 7-8 (2016), http://www.scielo.br/pdf/rbca/v18nspe2/1516-635X-rbca-18-spe2-00001.pdf; Okan Elibol & John Brake, Turning Frequency During Incubation, Poultry World (May 26, 2017), http://www.poultryworld.net/Eggs/Articles/2017/5/Turning-frequency-during-incubation-137498E. Many of the articles written by animal advocacy organizations state that chickens turn their eggs 30 times per day, but we have been unable to find a reliable scientific source for this conservative number.

¹⁵ IC Bolei, note 14 above, at 7-8.

¹⁶ Brian Barth, *The Inner Lives of Chickens: 5 Things You Never Knew About Your Beloved Birds*, Modern Farmer (Mar. 14, 2016), https://modernfarmer.com/2016/03/chicken-facts.

¹⁷ IC Bolei, note 14 above, at 7-8; O. Elibol & J. Blake, *Effect of Egg Turning Angle and Frequency During Incubation on Hatchability and Incidence of Unhatched Broiler Embryos with Head in the Small End of the Egg*, 85 Poultry Science 1433 (Aug. 1, 2006), https://academic.oup.com/ps/article/85/8/1433/1524893.

¹⁸ IC Bolei, note 14 above, at 7.

¹⁹ Gabrielda S. Oliveira, note 14 above, at 4419.

²⁰ One New York City parent wrote about the deformed chicks hatched in her daughter's classroom:

turners to teachers,²¹ but not all do.²² And many instructions fail to explain proper egg turning — many state that eggs need to be turned only three times per day.²³

Not surprisingly, sanctuaries and animal welfare organizations report receiving birds from hatching projects who are deformed or sick.²⁴

C. Hatching projects expose children to potential health risks.

Chicks and eggs carry disease that can cause serious illness in children if proper handwashing is not practiced. Guidance from the U.S. Centers for Disease Control (CDC) warns, "Do not bring chicks, ducklings and other live poultry to schools, childcare centers, or nursing homes," and notes that young "children and other groups of people have a greater chance of illness from handling live poultry or anything in the area where they live and roam." The CDC also states: "Disease outbreaks also have resulted from hatching eggs and chicks in the classroom, and from contaminated animal products used for hands-on learning, such as owl pellets for dissection." In 2020, the CDC recorded a record-number of illnesses connected to poultry, including contact with chicks and ducklings. In 2019, the CDC traced 75% of *salmonella* infections to contact with chicks or ducklings. In 2016, the CDC was able to link some chicken-related outbreaks to contact with live poultry in school settings and 28% of such ill patients

turned every so often, like the mother hen would do if the eggs were in a nest. When the deformed and crippled babies hatched, the children were horrified, and the birds suffered terribly.

Emily A. Fano, *Letter to the Editor: Classrooms Hatch Insensitivity*, New York Press (Mar. 2, 2015), http://www.nypress.com/classrooms-hatch-insensitivity; *see also* IC Bolei, note 14 above.

²¹ E.g., Abma's Farm, Egg Incubators, https://www.abmasfarm.com/rent-an-egg-incubator.

²² E.g., RentACoop, Hatching, https://www.rentacoop.com/hatching.

²³ E.g., Nat'l 4-H Curriculum, Hatching Classroom Projects 2, https://www.canr.msu.edu/uploads/234/60606/Emb_Help_Guide_Beginner.pdf; Quiver Farm Projects, Inc., The Chick and Duck Hatching, https://tinyurl.com/liejrqma; Jennifer Sartel, A Guide to Hatching Chicks in the Classroom, Community Chickens (Feb. 8, 2019), https://www.communitychickens.com/a-guide-to-hatching-chicks-in-the-classroom-part-1.

²⁴ E.g., MSCPA, Classroom Chick Hatching Projects are Old News!, https://www.mspca.org/cruelty prevention/pledge-not-to-hatch-campaign-2; Humane Society of Missouri, Classroom Hatching Projects, hstmo.org/cducation-old/hatching.

²⁵ CDC, Healthy Families and Flocks, https://www.cdc.gov/healthypets/resources/salmonella-baby-poultry.pdf.

²⁶ CDC, Keeping Backyard Poultry, https://www.cdc.gov/features/salmonellapoultry/index.html.

²⁷ CDC, Animals in Schools and Daycare Centers, http://medbox.iiab.me/modules/en-cdc/www.cdc.gov/features/animalsinschools/index.html.

²⁸ CDC, Outbreaks of *Salmonella* Infections Linked to Backyard Poultry, 2020 (Dec. 17, 2020), https://www.cdc.gov/salmonella/backyardpoultry-05-20/index.html.

²⁹ Joseph A. Bocchini Jr., *Kids Largely Affected in Backyard Poultry Salmonella Outbreak*, Healio (Jul. 31, 2019), healio.com/news/pediatrics/20190730/kids-largely-affected-in-backyard-poultry-salmonella-outbreak.

reported to the CDC were children under the age of five.³⁰ Many cases of salmonella infections in humans that are connected to contact with live poultry come as the result of holding baby chicks or ducklings.³¹ Indeed, the CDC devoted a podcast to discouraging parents from buying chicks and ducklings for their children.³²

Some organizations claim that the health risks are overstated and can be minimized by ensuring the incubator is sanitized and children wash their hands.³³ The CDC recommends that to prevent illness, children wash their hands for "as long as it takes to sing the 'Happy Birthday' song twice" after contact with a chick or duckling.³⁴

But it is common knowledge that "[k]ids don't always listen when parents tell them to wash their hands before eating, after using the bathroom, or when they come inside from playing."³⁵ Children do not wash their hands in school enough either; causes for that range from inadequate time, lack of cleaning supplies like soap and paper towels, dislike of school bathrooms, and "disgusting" facilities.³⁶ That is likely why the CDC was able to trace some chicken-related outbreaks to contact with live poultry in school settings, as discussed above. Some schools have ended hatching projects due to health concerns.³⁷

Despite the serious health risks, marketing materials of some egg suppliers actually show very young children cuddling with chicks next to their faces.³⁸ On the Internet, there are numerous

³⁰ CDC, Eight Multistate Outbreaks of Human *Salmonella* Infections Linked to Live Poultry in Backyard Flocks (Oct. 6, 2016), https://www.cdc.gov/salmonella/live-poultry-05-16/index.html.

³¹ *E.g.*, CDC, Four Multistate Outbreaks of Human Salmonella Infections Linked to Live Poultry in Backyard Flocks (Sept. 24, 2015), https://www.cdc.gov/salmonella/live-poultry-07-15/index.html.

³² CDC, Podcast, Why Parents Should Think Twice Before Giving Baby Birds to Young Children for Easter (Apr. 7, 2009), https://www2c.cdc.gov/podcasts/player.asp?f=11117. A transcript of the podcast is available at https://tools.cdc.gov/podcasts/media/pdf/Kidtastics_SalmonellaBabyBirds.pdf.

³³ *E.g.*, PennState Extension, Don't Chicken Out Due to Unnecessary Health Concerns, https://extension.psu.edu/programs/4-h/projects/poultry/embryology/teacher-resources/dont-chicken-out-due-to-unnecessary-health-concerns. PennState Extension argues, "Very few things in life are completely risk-free and the many health risks that children face each day are far greater than the extremely small risk associated with a well-controlled chick embryology project."

³⁴ CDC, Podcast, Why Parents Should Think Twice Before Giving Baby Birds to Young Children for Easter, note 31 above; *see also* Washington State Department of Health, After You Touch a Duck or Chick, Wash Your Hands so You Don't Get Sick, https://www.doh.wa.gov/Portals/1/Documents/Pubs/334-072.pdf.

³⁵ Michelle M. Karten, Why is Hand Washing So Important?, CHOC Children's (Sept. 2018), https://kidshealth.org/CHOC/en/parents/hand-washing.html.

³⁶ Kids Admit They Don't Wash Hands Enough, Education World, http://www.educationworld.com/a curr/kids-hand-washing.shtml.

³⁷ Keith Ervin, *Chick-Hatching Expelled; Schools Cite Health Concerns in Dropping Chicken-From-Egg Studies*, Seattle Times (Dec. 22, 1999), http://community.seattletimes.nwsource.com/archive/?date=19991222&slug=A19991223010038.

³⁸ E.g., RentACoop, Hatching, https://www.rentacoop.com/hatching.

pictures of young children holding chicks and ducklings in classrooms, in spite of the CDC's guidance.³⁹

D. Chick hatching projects often result in the abandonment and/or death of unwanted birds.

Suppliers typically sell fertilized eggs to teachers in cartons of eight, ten or twelve. When chicks are grown, they are usually unwanted by schools. Some suppliers of fertilized eggs are willing to take back chicks and some others will find homes. But in some cases, teachers are stuck figuring out what to do with unwanted birds.

Local laws make it difficult for teachers and parents to adopt school chicks after hatching. For example, New York City, 42 the City of Albany, 43 the City of Syracuse, 44 the City of Buffalo, 45 and the Town of Huntington 46 prohibit the possession of roosters. And some jurisdictions impose requirements on the possession of hens, with which it would be difficult for schools to comply. For example, the City of Albany allows the keeping of hens with a permit and requires that the hens be kept in a pen provided with adequate ventilation that is located at least fifteen feet away from a building capable of being used for human habitation. 47 And even where local laws are not an obstacle, many parents and teachers would not want the burden of providing care to a bird for many years.

Hence, chicks and ducklings are often dumped at non-profit organizations, which take responsibility for funding the birds' care and housing for the remainder of their lives. For example, on March 6, 2018, a New York City school relinquished about 10 hatching-project chicks to the

³⁹ E.g., Baby Chicks Help Minetto Kindergartners Learn About Life Cycle, Oswego County Today (May 29, 2019), https://oswegocountytoday.com/baby-chicks-help-minetto-kindergartners-learn-about-life-cycle/community; (@PS232Q, Twitter, (Nov. 5, 2020), https://twitter.com/PS232Q/status/1324402490570350594/photo/2; Fun-A-Day, Hatching Chicks with Children, https://fun-a-day.com/hatching-chicks-with-children/; Holy Trinity School, Hatching Chicks in Kindergarten!, https://holytrinitypa.com/news/hatching-chicks-in-kindergarten.

⁴⁰ E.g., Cornell Cooperative Extension of Suffolk County, Chick Incubation for the Classroom (Jan. 19, 2021), http://ccesuffolk.org/suffolk-county-farm/chick-incubation-for-the-classroom.

⁴¹ *E.g.*, Quiver Farm in Pennsylvania will pick up chicks about two weeks after dropping off the fertilized eggs to schools in New York. Quiver Farm, Chick and Duck Hatching, https://tinyurl.com/liejrqma.

⁴² 24 R.C.N.Y. §§ 161.01(b)(11) & 161.19, available at https://www1.nyc.gov/assets/doh/downloads/pdf/about/healthcode/health-code-article161.pdf.

⁴³ City of Albany Code § 115-31, available at https://ecode360.com/7680992.

⁴⁴ Syracuse Revised General Ordinances, 16-62 & 16-63, *available at* https://library.municode.com/ny/syracuse/codes/code of ordinances?nodeId=REGEOR CH16OFMI ART18WID AAN.

⁴⁵ City of Buffalo Code § 341-11, available at https://ecode360.com/13624725.

⁴⁶ Town of Huntington Code § 78-25(B)(9), available at https://ecode360.com/7221599.

⁴⁷ City of Albany Code § 115-32, available at https://ecode360.com/7680992.

Wild Bird Fund in New York City. 48 Tamerlaine Farm Animal Sanctuary in New Jersey regularly receives chicks from school hatching projects. 49 Nevins Farm in Massachusetts reports receiving "dozens of calls every year from parents and teachers hoping to surrender unwanted chicks from classroom hatching projects," 50 and New York wildlife rehabilitators have reported receiving calls to find homes for unwanted ducklings. 51 Alternatively, chicks and ducklings from school hatching projects often are relinquished to animal shelters, where they are usually killed. 52 Hundreds are simply abandoned in parks. 53

IV. OPPOSING ARGUMENTS

Advocates of school hatching projects argue that such projects are a hands-on way for children to gain "life cycle knowledge about the chicken's egg, its sequence of embryonic development and the incredible nature of birds."⁵⁴ The projects are used to introduce students to the agricultural sciences, biology, technology, as well as planning, responsibility, and caring for living things.⁵⁵

But there are humane educational alternatives to school hatching projects that do not present the risks and problems described above. For example, a plastic, three-dimensional "Chick Life Cycle Exploration Set" is available on loan *for free* from the Science Bank to teach about life cycles (or, as of February 2021, available for purchase for about \$26.00⁵⁶ — which is a fraction of

⁴⁸ Wild Bird Fund, Facebook (March 7, 2018), https://www.facebook.com/wildbirdfund/posts/10155628132608731.

⁴⁹ Rhona Melsky, *Chick Was Going to Be Put Down, but Got a Tiny Cast Instead*, The Dodo (Apr. 12, 2016), https://www.thedodo.com/chick-was-going-to-be-put-down-1725275897.html.

⁵⁰ Massachusetts Society for the Prevention of Cruelty Against Animals, *Nevins Farm Launches "Pledge NOT to Hatch" Campaign*, Companion News 6 (Spring/Summer 2011) (on file with the Animal Law Committee).

⁵¹ For example, in 2017, one New York City school principal called two New York State licensed wildlife rehabilitators to seek assistance in locating homes for 30 ducklings that her school hatched. (Correspondence on file with the Animal Law Committee.)

⁵² Jonathan Balcombe, The Use of Animals in Higher Education 53 (2000), http://www.humanesociety.org/assets/pdfs/parents educators/the use of animals in higher ed.pdf.

⁵³ Hundreds of Classroom Ducks Being Abandoned at New York City Parks, Fox 61 (Jul. 19, 2019), https://www.fox61.com/article/news/local/outreach/awareness-months/hundreds-of-classroom-ducks-being-abandoned-at-new-york-city-parks/520-e9549e8b-5363-4b9e-812e-9238742edebb. Kathleen Culliton, Ducks Left To Die In NYC Parks After School Projects: Rescuers, Patch (Jul. 17, 2019); https://patch.com/new-york/prospectheights/ducks-left-die-city-parks-after-school-projects-rescuers.

⁵⁴ E.g., Cornell Cooperative Extension of Westchester County, Incubation & Embryology, http://westchester.cce.cornell.edu/4-h-youth-development/incubation-embryology; see also Marianne Friers, Farm Side: Overreach Will Not Help Chicks, The Recorder (Aug. 8, 2019), https://www.recordernews.com/opinion/columnist/161016.

⁵⁵ *E.g.*, Cornell Cooperative Extension of Westchester County, What Is 4-H Youth Development, http://westchester.cce.cornell.edu/4-h-youth-development/what-is-4-h-youth-development.

⁵⁶ Check Life Cycle Exploration Set, The Science Bank, http://thesciencebank.org/index.php?route=product/product&product_id=71; Learning Resources Chick Life Cycle

the price of starter chick-hatching kits). The United Federation of Teachers provides alternative lesson plans that involve observing birds in their natural habitats, field trips to wildlife rehabilitation centers, making bird feeders, and bird-related science fair projects.⁵⁷ The New York City Department of Education's website includes a lesson plan for pre-kindergarten children involving the use of plastic eggs to teach children to distinguish between oviparous animals (animals hatched from an egg) and viviparous animals (animals that give birth to live animals).⁵⁸ United Poultry Concerns has also offered a list of books, posters, and other resources that teachers can use.⁵⁹

Several universities and other organizations also provide alternative educational resources: Virginia Tech's "4-H Virtual Farm" chicken embryo development online website includes a video of chick embryo development, still images, and text on the development process; 60 the University of Illinois' "Chickscope" provides diagrams, images, and detailed information on each day of chicken embryo development in the 21-day process; 61 and the NOVA Online Odyssey of Life website includes a video clip of chick embryo development. 62

V. RECOMMENDATION

The bill prohibits any "animal" from being used in a hatching project. Yet based on the sponsor's memorandum, it appears that the intent is to prohibit student hands-on bird hatching projects. 63 Therefore, we recommend that the bill be amended to replace "animal" with "bird" and any additional animals for which there are similar animal welfare concerns. And we recommend that the bill be revised to more narrowly tailor the prohibited activities.

We make this recommendation because some school hatching projects do not implicate the welfare and health concerns above and, in fact, are beneficial to certain species. For example, New York students participate in the Billion Dollar Oyster project, which is an effort to restore the

 $\label{lem:exploration} \begin{tabular}{ll} Exploration Set, Amazon.com, $\underline{https://www.amazon.com/Learning-Resources-Chick-Cycle-Exploration/dp/B001SCA71G}. \end{tabular}$

⁵⁷ United Federation of Teachers, Humane Education Committee, http://www.uft.org/files/attachments/uft-birdwatching.pdf.

⁵⁸ NYC Department of Education, Pre-K For All, Interdisciplinary Unit of Study, Unit Nine: Babies, at 19 ("Hatch from an Egg: Supply small plastic eggs that open. Put various small plastic animal babies or pictures of animal babies (some that hatch from eggs and some that do not) inside and invite children to open the eggs and determine if the animal inside hatches from an egg or not and sort them into two piles accordingly."), https://infohub.nyced.org/docs/default-source/default-document-library/unit-9-babies-explore.pdf.

⁵⁹ United Poultry Concerns, Hatching Good Lessons, https://www.upc-online.org/hatching/alternatives.html.

⁶⁰ 4-H Virtual Farm, http://www.sites.ext.vt.edu/virtualfarm/poultry/poultry/ incubation.html.

⁶¹ Chickscope, Embryology, http://chickscope.beckman.uiuc.edu/explore/embryology.

⁶² PBS, Odyssey of Life, Chicken Embryo, http://www.pbs.org/wgbh/nova/odyssey/clips/movchi.html.

⁶³ See note 1 above (discussing "chick-hatching projects").

ecology of New York Harbor.⁶⁴ As part of this project, students at the Harbor School hatch oysters in the school's hatchery and these oysters are then placed in the harbor.⁶⁵ And some schools watch wild birds hatch through "on-line nest cams" that are designed not to disturb the birds.⁶⁶ The sponsor's memorandum does not suggest that the bill was intended to prohibit these types of lessons and so we recommend that the bill be amended accordingly.

VI. CONCLUSION

For the above reasons, the New York City Bar Association Animal Law Committee supports the proposed legislation.

Animal Law Committee Christopher Wlach, Chair

Reissued February 2021

Contact

Elizabeth Kocienda, Director of Advocacy | 212.382.4788 | ekocienda@nycbar.org Mary Margulis-Ohnuma, Policy Counsel | 212.382.6767 | mmargulis-ohnuma@nycbar.org

⁶⁴ The Urban Assembly New York Harbor School, Aquaculture, https://www.newyorkharborschool.org/aquaculture.html.

⁶⁵ The Urban Assembly New York Harbor School, Billion Oyster Project, https://www.newyorkharborschool.org/billionoysterproject.html.

⁶⁶ E.g., Bird Cams, More Birds, https://morebirds.com/pages/bird-cams.