

THE RATS DON'T RUN THIS CITY, WE DO: HOW FEDERAL AND STATE AGENCY COLLABORATION CAN AID IN THE 'WAR ON RATS' IN PUBLIC HOUSING DEVELOPMENTS

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INTRODUCTION

Surging rat populations in major cities and municipalities across the United States pose an increasingly severe threat to people, especially those

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living in public housing, because of the rats' proximity to humans, their ability to spread diseases, and their role in creating unsafe living conditions.¹ State and city agencies have made concerted efforts to control and eradicate rat populations, but none of the methods employed have provided a completely effective, widespread, and long-term solution to the rat infestation problem.²

The brown rat, also known as the Norway rat, is a highly invasive species with a global presence, excluding Antarctica.³ Originating in northern China and Mongolia, the brown rat spread to Europe in the 1500s through ships traveling along the maritime trade routes.⁴ The species' further expansion to North America, South America, western Africa, and Australia mirrored the colonial expansion routes traveled by European ships during the period between the 1600s and 1800s.⁵

The brown rat, a commensal species, closely associates with humans, taking advantage of the food, water, and shelter humans offer.⁶ Its high invasiveness, territoriality, and adaptability enable it to survive in diverse habitats, such as rural, agricultural, and urban areas.⁷ Consequently, rats have jeopardized native biodiversity, human health, and economic development for centuries.⁸

Rats persist as an ongoing issue in both agricultural and urban areas,

1. Anthony Almedia, Robert Corrigan & Ronald Sarno, *The Economic Impact of Commensal Rodents on Small Businesses in Manhattan's Chinatown: Trends and Possible Causes*, SUBURBAN SUSTAINABILITY 1 (2013) [hereinafter *Economic Impact of Commensal Rodents*]; see Molly Parker, "Pretty Much a Failure": HUD Inspections Pass Dangerous Apartments Filled with Rats, Roaches, and Toxic Mold, PROPUBLICA (Nov. 16, 2018, 11:00 AM), <https://www.propublica.org/article/hud-inspections-pass-dangerous-apartments-with-rats-roaches-toxic-mold> (explaining that rats pose an increasingly severe threat to individuals living in public housing).

2. Christophe Diagne, Liliana Ballesteros-Mejia, Ross N. Cuthbert, Thomas W. Bodey, Jean Fantle-Lepczyk, Elena Angulo, et al., *Economic Costs of Invasive Rodents Worldwide: The Tip of the Iceberg*, PEERJ 3 (2023) [hereinafter *Economic Costs of Invasive Rodents*] (demonstrating that management efforts to effectively mitigate the adverse impact of rats are "limited in scope" and "patchily distributed").

3. *Norway Rat*, SMITHSONIAN'S NAT'L ZOO & CONSERVATION BIOLOGY INST., <https://nationalzoo.si.edu/animals/norway-rat> (last visited May 10, 2024).

4. Emily E. Puckett & Jason Munshi-South, *Brown Rat Demography Reveals Pre-Commensal Structure in Eastern Asia Before Expansion into Southeast Asia*, 5 GENOME RSCH. 762, 762-63 (2019).

5. *Id.* at 763.

6. *Rat Fact Sheet*, PBS (May 21, 2021), <https://www.pbs.org/wnet/nature/blog/rat-fact-sheet/>.

7. *Id.*

8. *Economic Costs of Invasive Rodents*, *supra* note 2, at 2.

causing property damage, posing safety hazards, and depleting food sources.⁹ Their tendency to gnaw through electrical wires not only results in costly damage but also elevates the risk of fires, as exposed wires can generate heat and ignite when they come into contact with flammable materials commonly found in American homes, such as insulation and wood.¹⁰ Approximately twenty- to twenty-five percent of unexplained fires are attributed to rats,¹¹ causing around 171 deaths annually.¹² Furthermore, rats consume and contaminate food resources.¹³ The United Nations estimates that they have destroyed over forty-two million tons of food sources worldwide, which translates into significant economic and social losses.¹⁴ Conservative estimates put the annual cost of rat damage in the United States at upwards of nineteen billion dollars,¹⁵ accounting for one-sixth of the total estimated annual cost of damage caused by all invasive species, which is approximately \$120 billion.¹⁶

Rats pose a significant public health concern due to their role in spreading infectious diseases.¹⁷ Each year, more than nine thousand people end up in emergency rooms after rat bites,¹⁸ which can lead to various diseases as well as asthma attacks and severe allergic reactions.¹⁹ Rats are also associated with forty percent of known zoonotic diseases²⁰ and cause 400 million cases

9. *Economic Costs of Invasive Rodents*, *supra* note 2, at 2–3.

10. *How Rats Can Cause Electrical Fires*, AM. RAT CONTROL, <https://americanratcontrol.com/how-rats-cause-electrical-fires> (last visited May 10, 2024).

11. Missy Henrikson, *Pests Under Fire: Best Practices for Pest-Proofing Your Community*, UNITS MAG., Oct. 2012, at 64.

12. S. Colombe, M. Jancloes, A. Rivière & E. Bertherat, *A New Approach to Rodent Control to Better Protect Human Health: First International Meeting of Experts Under the Auspices of WHO and the Pan American Health Organization*, WORLD HEALTH ORG. 197, 201 (2019) [hereinafter *New Approach to Rodent Control*] <https://iris.who.int/handle/10665/312103?locale-attribute=ru>.

13. *Id.* at 199–200.

14. *Economic Impact of Commensal Rodents*, *supra* note 1, at 1.

15. David Pimentel, Lori Lach, Rodolfo Zuniga & Doug Morrison, *Environmental and Economic Costs Associated with Non-Indigenous Species in the United States*, 50 BIOSCIENCE 53, 55 (2000) [hereinafter *Environmental and Economic Costs*].

16. Philippa Fogarty, *How These Cities Became Rat-Free Zones*, BBC (May 20, 2019), <https://www.bbc.com/worklife/article/20190517-how-these-cities-became-rat-free-zones>.

17. *Economic Costs of Invasive Rodents*, *supra* note 2, at 2.

18. *Rodent Control After a Disaster*, CTRS. FOR DISEASE CONTROL & PREVENTION (Nov. 8, 2012), <https://www.cdc.gov/disasters/rodents.html>.

19. *Id.*

20. Zoonotic diseases are diseases that spread between animals and humans. See *Zoonoses*, WORLD HEALTH ORG. (July 29, 2020), <https://www.who.int/news-room/fact-sheets/detail/zoonoses>.

of disease worldwide annually.²¹

Municipalities and urban areas employ various rat management methods to control rat populations and address the associated issues.²² The common eradication and control strategies show limited long-term efficacy despite technological advancements, and the methods have stood largely unchanged since the 1950s.²³

At a federal level, the Environmental Protection Agency (EPA) works with the Centers for Disease Control and Prevention (CDC) to provide information on rat management methods and associated health risks through various state and local agencies.²⁴ However, beyond the dissemination of information, no regulatory structure exists at the federal level to establish a standardized rat management plan, nor is there a structure in place to coordinate action between federal and state agencies.²⁵ Compounding the issues, the Department of Housing and Urban Development (HUD) and many state housing authority agencies employ inefficient and ineffective rodent control methods, exposing residents in public housing to numerous health risks and safety issues associated with high rat populations.²⁶

In 2019, HUD, in conjunction with the U.S. Attorney's Office for the Southern District of New York (SDNY) and EPA, established a formal agreement (Agreement) with the New York City Housing Authority (NYCHA) aimed at rectifying the deplorable living conditions faced by its residents.²⁷ One notable commitment within this Agreement is to reduce the rat populations in and around public housing units by fifty-one percent within three years.²⁸ Despite federal oversight, NYCHA has regrettably fallen short of fulfilling this commitment.²⁹

21. *New Approach to Rodent Control*, *supra* note 12, at 199.

22. *Which Government Agencies Are Involved in Rat and Mouse Control?*, U.S. ENV'T PROT. AGENCY (Nov. 22, 2023), <https://www.epa.gov/rodenticides/which-governmental-agencies-are-involved-rat-and-mouse-control>.

23. *New Approach to Rodent Control*, *supra* note 12, at 201 (explaining that many traditional methods of rat removal harm ecosystems and lead to zoonotic disease breakouts).

24. *See Which Government Agencies are Involved in Rat and Mouse Control?*, *supra* note 22.

25. *Id.*

26. Parker, *supra* note 1.

27. Press Release, U.S. Atty's Off., S. Dist. N.Y., Manhattan U.S. Attorney Announces New Agreement for Fundamental Reform at NYCHA (Jan. 31, 2019), <https://www.justice.gov/usao-sdny/pr/manhattan-us-attorney-announces-new-agreement-fundamental-reform-nycha>.

28. Greg B. Smith, *NYCHA's Rodent Eviction Campaign Shows Tough Road Ahead for Rat Czar*, THE CITY (April 24, 2023, 5:03 AM), <https://www.thecity.nyc/2023/4/24/23693523/rat-czar-nycha>.

29. *Id.*

Part I of this Comment provides a brief survey of the federal- and state-level agency rat eradication methods and explores the current variations in the legal landscape surrounding federal- and state-level agency rat control procedures. The section examines different approaches to eradication and control, using examples of a coordinated agency response model, data-driven response models, and a hybrid response model. Part II discusses the applicable landlord-tenant laws and highlights cases brought against NYCHA public housing authority to illustrate the impact of surging rat populations on individuals living in public housing developments. Part III explores the governance structure between federal and state agencies created by the Agreement, specifically addressing reasons for its failure to reduce rat populations and pinpointing possible areas for improvement. Finally, Part IV recommends expanding the governance structure outlined in the Agreement nationally to create a standardized approach for effective rat control in public housing developments throughout the United States.

I. FEDERAL- AND STATE-LEVEL RAT CONTROL PROCEDURES

A. *Survey of Rat Eradication and Control Methods*

Rats pose health and safety issues to anyone they encounter.³⁰ However, individuals living in public housing face a disproportionately higher incidence of rat-related issues compared to those in more affluent areas.³¹ Although most state-level housing authorities have established Integrated Pest Management (IPM)³² plans to address rat infestations, the strategies are often poorly executed and fall short in effectiveness and efficiency.³³ Inconsistent application of control measures leads to inadequate eradication outcomes,

30. *New Approach to Rodent Control*, *supra* note 12, at 199–201.

31. James M. Clinton, *Rats in Urban America*, 84 PUB. HEALTH REPS. 1, 4 (1969) (stating “[i]n cities, rat-inflicted injuries are most common (a) under crowded conditions, (b) in substandard housing, (c) in areas with poor environmental sanitation, or (d) in neighborhoods where rat-infested property is being eliminated”).

32. *Integrated Pest Management (IPM) Principles*, U.S. ENV'T PROT. AGENCY (Sept. 20, 2023), <https://www.epa.gov/safepestcontrol/integrated-pest-management-ipm-principles> (defining Integrated Pest Management (IPM) as “a series of pest management evaluations, decisions and controls”).

33. See BART M. SCHWARTZ, MONITOR'S FIRST QUARTERLY REPORT FOR THE NEW YORK CITY HOUSING AUTHORITY 60–61 (2019), https://www.nyc.gov/assets/nycha/downloads/pdf/NYCHA_Monitor_Report_1_and_appendices%201-7.pdf (finding that New York City Housing Authority's (NYCHA) “lack of IPM-trained pest inspectors poses a fundamental practice deficiency”).

leaving residents vulnerable to a multitude of health and safety hazards.³⁴

While each IPM plan has its unique feature,³⁵ the majority of rat eradication and control strategies employ a three-pronged approach: nonchemical, physical, and chemical control methods.³⁶ Nonchemical control methods center on nonlethal control tactics, such as exclusion and sanitation efforts.³⁷ Exclusionary methods involve sealing entry points into homes, filling inactive burrows with concrete, and using rat-proof trash cans.³⁸ Sanitation efforts stress the importance of cleanliness both inside and around the home and emphasize proper food storage and disposal.³⁹ Physical control methods focus on traps, including snap traps, which are baited and deliver a quick death to the rats, and live traps, which bait, capture, and release the rats in a different location.⁴⁰ Chemical control methods employ various rodenticides to eliminate rat populations.⁴¹

B. Variations in the Legal Landscape

The current state of the ‘War on Rats’ has left local-, city-, and state-level agencies to grapple with the fight against rats on their own.⁴² This situation reveals a clear gap in the regulatory framework.⁴³ Federal-level agencies like

34. See Lisa M. Brown & Joe Laco, *Rodent Control and Public Health: A Description of Local Rodent Control Programs*, 78 J. ENV'T HEALTH 28–29 (2015) (finding that current rat control programs are underfunded and disjointed, making it difficult to sustain long-term population reduction).

35. Linda Poon, *Will Cities Ever Outsmart Rats?*, BLOOMBERG (Aug. 9, 2017, 12:42 PM), <https://www.bloomberg.com/news/articles/2017-08-09/how-smart-cities-fight-rats> (stating “[n]ot all abatement methods are created equal.”).

36. *IPM Action Plan for Rodents*, TEX. A&M AGRILIFE EXTENSION, <https://schoolipm.tamu.edu/forms/pest-management-plans/ipm-action-plan-for-rodents> (last visited May 10, 2024).

37. *Id.*

38. *Id.*

39. *Id.*

40. *Glue Traps vs Snap Traps: How Are They Different?*, MIDWAY PEST MGMT., <https://www.midwaypestmanagement.com/glue-traps-vs-snap-traps/> (last visited May 10, 2024) (describing how to properly bait snap traps); *Live Trapping*, SOLS. PEST & LAWN, <https://www.solutionsstores.com/live-trapping> (last visited May 10, 2024) (explaining the purpose and appropriate use of live traps).

41. *IPM Action Plan for Rodents*, *supra* note 36.

42. See *Which Government Agencies are Involved in Rat and Mouse Control?*, *supra* note 22 (stating that rat control is usually “community- or locally-based” and that “[e]ach state and locality has a unique system for pest management”).

43. *Strengthening Federal-State Coordination*, INVASIVE SPECIES ADVISORY COMM. 1, 9 (2017),

EPA and CDC primarily function as providers of general information, leaving state agencies to create and execute individualized plans for rat eradication.⁴⁴ The key flaw in the existing legal structure is the absence of a standardized procedure for achieving long-term and sustainable rat eradication and control.⁴⁵ For instance, while the use of rodenticides is permitted and regulated under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA),⁴⁶ the decision to use rodenticides varies significantly among states.⁴⁷

Under FIFRA, the Office of Enforcement and Compliance Assurances (OECA) is responsible for monitoring compliance to ensure the protection of the environment and public health.⁴⁸ OECA works alongside the Office of Pesticide Programs to conduct inspections and address compliance issues through regulatory actions.⁴⁹ However, states have the discretion to permit or prohibit rodenticide use.⁵⁰

In May 2023, the California State Assembly passed the California Ecosystems Protection Act of 2023, expanding the 2020 ban on the use of second-generation anticoagulant rodenticides (SGARs)⁵¹ to protect children, domesticated animals, and wildlife.⁵² This legislation, proposed by the

https://www.doi.gov/sites/doi.gov/files/uploads/isac_federal-state_white_paper.pdf (finding that effective federal-state cooperation in managing invasive species is hindered by the “[l]ack of national framework for decision making process”).

44. See *Which Government Agencies are Involved in Rat and Mouse Control?*, *supra* note 22.

45. *Strengthening Federal-State Coordination*, *supra* note 43, at 5.

46. *About Pesticide Regulation*, U.S. ENV'T PROT. AGENCY (Jan. 4, 2024), <https://www.epa.gov/pesticide-registration/about-pesticide-registration>.

47. Brad Harbison, *EPA Denies Comment Extension Request for Rodenticide PIDs*, PEST CONTROL TECH. (Jan. 23, 2023), <https://www.pctonline.com/news/epa-denies-pid-comment-period-extension/>.

48. *Compliance Monitoring Strategy for Federal Insecticide, Fungicide, and Rodenticide Act*, OFF. OF ENF'T & COMPLIANCE ASSURANCE, U.S. ENV'T PROT. AGENCY 4 (2015), <https://www.epa.gov/sites/default/files/2015-09/documents/fifra-cms.pdf>.

49. *Id.*

50. *Which Governmental Agencies are Involved in Rat and Mouse Control?*, *supra* note 22 (stating that rodenticide regulation varies from state to state).

51. *Restrictions on Rodenticide Products*, U.S. ENV'T PROT. AGENCY (Nov. 6, 2023), <https://www.epa.gov/rodenticides/restrictions-rodenticide-products> (describing how second-generation anticoagulant rodenticides were produced after 1970 to target rats that became resistant to first generation anticoagulant rodenticides).

52. California Ecosystems Protection Act of 2023, 2023 Cal Legis. Serv. 836 (West) (Assembly Bill 1322) (as passed by the California Assembly on May 31, 2023); see also Belinda J. Messenger-Sikes & Niamh Quinn, *California Places Further Restrictions on Rodenticides*, U. C. AGRIC. & NAT. RES. (Dec. 10, 2020), <https://ucanr.edu/blogs/blogcore/post>

Center for Biological Diversity, was a response to a decision by the California Court of Appeals, which found that the California Department of Pesticide Regulation (CDPR) had violated the law by not assessing diphacinone's, an anticoagulant rodenticide, impact on wildlife species.⁵³ In 2021, rodenticides unintentionally caused over three thousand cases of human poisonings, with at least 2,300 of those cases involving children.⁵⁴ Additionally, studies by the California Department of Fish and Wildlife found that over half of the wildlife tested in the state have been exposed to rodenticides.⁵⁵

In October 2022, the New York City Council passed legislation introducing a Rat Action Plan that established rat mitigation zones and requires yearly reports from the New York Department of Health on rat populations.⁵⁶ The plan also authorized ethical control methods, such as rat-proof trash bins and time limits on curbside garbage.⁵⁷ In contrast to California, New York City agencies have not hesitated to use rodenticides.⁵⁸ In fact, it has doubled its use of anticoagulant rodenticides between 2015 and 2021, resulting in the application of over sixty thousand pounds of rat poisons in 2021 alone.⁵⁹

Given the environmental and health concerns surrounding the use of

detail.cfm?postnum=44338 (stating that since 2014, California has restricted the use and sale of various rodenticides to limit the negative impact on wildlife and the environment).

53. *Raptors Are The Sol.* v. Superior Court, No. A161787, 2022 WL 4480919, at *9 (Cal. Ct. App. Sept. 27, 2022).

54. Amancai Biraben, *A Moratorium on Rat Poison Hopes to Help Wildlife*, LAIST (Oct. 15, 2023, 2:32 PM), <https://laist.com/news/climate-environment/a-moratorium-on-rat-poison-hopes-to-help-wildlife> (citing David D. Gunmin, James B. Mowry, Michael C. Beuhler, Daniel A. Spyker, Laura J. Rivers, Ryan Feldman, et. al., *2021 Annual Report of the National Poison Data System (NPDS) From America's Poison Centers: 39th Annual Report*, 60 CLINICAL TOXICOLOGY 1381, 1589 (2023)).

55. Press Release, Ctr. For Biological Diversity, California Assembly Approves Expansion of Toxic Rat Poisons Ban, (May 31, 2023), <https://biologicaldiversity.org/w/news/press-releases/california-assembly-approves-expansion-of-toxic-rat-poisons-ban-2023-05-30/> (citing Jaime Rudd, Krysta Rogers & Brandon Munk, *Pesticide Exposures & Mortalities in Non-Target Wildlife*, CAL. DEP'T OF FISH & WILDLIFE 11 (2022)).

56. *New York City Council Passes Rat Action Plan, Stepping Up War on Rodents*, EYEWITNESS NEWS (Oct. 27, 2022), <https://abc7ny.com/nyc-new-york-city-council-rats-rat-action-plan/12384799/>.

57. *Id.*

58. Jason Munshi-South, *I've Studied N.Y.C. Rodents for 12 Years. The Enemy Is Us.*, N.Y. TIMES (Aug. 27, 2023), <https://www.nytimes.com/2023/08/27/opinion/nyc-rats-eric-adams.html>.

59. *Id.*

rodenticides, various legal cases have emerged challenging their legality.⁶⁰ In the case of *Raptors Are The Solution v. Superior Court*,⁶¹ the California Court of Appeals held that the CDPR must adhere to environmental regulations when renewing the registration for diphacinone.⁶² The plaintiffs argued that widespread use of diphacinone had devastating effects on wildlife and the environment, citing a rise in mountain lion deaths linked to the ingestion of rat poison.⁶³ The Court of Appeals reversed the trial court's ruling, which had held that the CDPR met its legal requirements when reevaluating SGARs.⁶⁴ The Court of Appeals noted that the CDPR had failed to reevaluate diphacinone honestly by falsifying records and downplaying evidence of its negative impacts.⁶⁵

In *West Harlem Environmental Action v. EPA*,⁶⁶ the plaintiffs alleged that EPA violated FIFRA⁶⁷ by not participating in the required mitigation process for the proper reregistration of various rodenticides.⁶⁸ While FIFRA allows for the federal regulation of pesticide use, distribution, and sale, EPA is required to register any pesticide before its use or sale.⁶⁹ To be registered by EPA, a pesticide should not cause unreasonably negative environmental effects.⁷⁰

60. See generally *Raptors Are The Sol. v. Superior Court*, No. A161787, 2022 WL 4480919, at *35 (Cal. Ct. App. Sept. 27, 2022) (reversing the trial court's ruling and ordering the department to conduct a full impact analysis of diphacinone); see also *W. Harlem Env't Action v. EPA*, 380 F. Supp. 2d 289, 296 (S.D.N.Y. 2005).

61. *Raptors Are The Sol.*, 2022 WL 4480919, at *1.

62. *Id.* at *5 n.2 (identifying diphacinone as a first-generation anticoagulant rodenticide).

63. Press Release, *Raptors Are The Sol.*, Wildlife Advocates Claim a Victory in Fight Against Toxic Rat Poison in California (Sept. 28, 2022), <https://www.counterpunch.org/2022/09/29/wildlife-advocates-claim-a-victory-in-fight-against-toxic-rat-poison-in-california/>.

64. *Id.*

65. *Id.*

66. *W. Harlem Env't Action v. EPA*, 380 F. Supp. 2d 289 (S.D.N.Y. 2005).

67. *Id.* at 293; see also 7 U.S.C. §§ 136a(c)(5)(C), 136a-1(g)(2)(C), and 136(bb).

68. 7 U.S.C. § 136a-1(g)(2)(C) (quoting registration requirement in 7 U.S.C. § 136a(c)(5)) (stating that reregistration of a pesticide requires that the Environmental Protection Agency (EPA) determines that the pesticide “will perform its intended function without unreasonable adverse effects on the environment . . .”).

69. *Summary of the Federal Insecticide, Fungicide, and Rodenticide Act*, U.S. ENV'T PROT. AGENCY (Sept. 6, 2023), <https://www.epa.gov/laws-regulations/summary-federal-insecticide-fungicide-and-rodenticide-act> (explaining that pesticides must first be registered with EPA before FIFRA regulation).

70. *Id.* (defining “the term ‘unreasonable adverse effects on the environment’ to mean: ‘(1) any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide, or (2) a human dietary risk from residues that result from a use of a pesticide in or on any food inconsistent with the standard under section 408 of the Federal Food, Drug, and Cosmetic Act’”).

To determine whether a violation had occurred, the court analyzed whether EPA's conduct under FIFRA was "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law . . ." ⁷¹ The court ruled in favor of the plaintiffs in part, finding that EPA violated FIFRA when it rescinded a bittering agent ⁷² requirement without sufficient scientific justification. ⁷³

After *West Harlem*, EPA signed the Risk Mitigation Decision for Ten Rodenticides (RMD) in 2008, outlining the agency's decisions regarding the reregistration eligibility of various rodenticides. ⁷⁴ The RMD aims to address major environmental and health concerns associated with widespread rodenticide use to reduce children's exposure and minimize harm to wildlife. ⁷⁵

In some cities, the focus has shifted to implementing more environmentally friendly methods, such as rat contraceptives designed to disrupt the reproductive cycle of both female and male rats. ⁷⁶ Rat contraception is considered less environmentally harmful because the chemicals used break down during digestion, reducing the bioaccumulation of the chemicals on the broader environment. ⁷⁷

71. 5 U.S.C. § 706(2)(A); *see also* Motor Vehicle Mfrs. Ass'n. v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983) (stating that agency action meets this standard when it "has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.").

72. A substance that when added to a product makes it taste bitter and unpleasant. The purpose of adding a bittering agent is to prevent people, especially children, and pets from consuming the product.

73. *W. Harlem Env't Action v. EPA*, 380 F. Supp. 2d 289, 296 (S.D.N.Y. 2005).

74. Rodenticides Final Risk Mitigation Decision; Notice of Availability, 73 Fed. Reg. 31,868, 31,869 (June 4, 2008); U.S. ENV'T PROT. AGENCY, REVISED RISK MITIGATION DECISION FOR TEN RODENTICIDES 1-2 (2008), <https://www.regulations.gov/document/EPA-HQ-OPP-2006-0955-0764>.

75. REVISED RISK MITIGATION DECISION FOR TEN RODENTICIDES, *supra* note 74.

76. *See, e.g.*, Press Release, SenesTech, Inc., Newton, Massachusetts Joins Cities Across the U.S. Using ContraPest to Control Soaring Rat Populations (Oct. 26, 2021), <https://www.prnewswire.com/news-releases/newton-massachusetts-joins-cities-across-the-us-using-contrapest-to-control-soaring-rat-populations-301409067.html> (claiming that ContraPest is the only EPA approved rat contraceptive that offers a "non-toxic, non-lethal, long-term solution" to mitigating rat populations).

77. *Mission, Vision, and Values*, SENESTECH, <https://senestech.com/pages/about> (last visited May 10, 2024).

C. *Differing Approaches to Modern Rat Eradication Methods*

While rat eradication and control methods have remained relatively unchanged, recent developments in agency coordination and technological advancements show promise in the ongoing battle against rats.⁷⁸ Alberta, a western Canadian province approximately the size of Texas with a population of 4.3 million, stands out as an especially impressive case in which a coordinated agency response model has proven highly effective.⁷⁹ In 1950, Alberta's Agricultural Pests Act⁸⁰ established standardized eradication plans to take effect at the provincial, municipal, and community level.⁸¹ Over time, the implementation of this comprehensive approach wiped out rat infestations in Alberta, earning it a rat-free status.⁸²

At the provincial level, the Department of Health and the Department of Agriculture collaborated to establish the Pest Nuisance and Control Regulation,⁸³ designating an area along the eastern border with Saskatchewan as the Rat Control Zone (RCZ).⁸⁴ At the municipal level, seven municipalities in the RCZ implemented a standardized rat control plan⁸⁵ and appointed pest control officers responsible for regular inspections.⁸⁶ At the community level, public information campaigns educated

78. *New Approach to Rodent Control*, *supra* note 12, at 197–98, 201–02.

79. Fogarty, *supra* note 16.

80. Agricultural Pests Act, R.S.A. 2000, c A-8 (stating the duties of individuals and local authorities in relation to the prevention and destruction of pests, including rats).

81. Fogarty, *supra* note 16.

82. *Id.*; see *Alberta's Rat Control Program*, GOV'T OF ALBERTA, <https://www.alberta.ca/albertas-rat-control-program> (last visited May 10, 2024) (defining an area that is rat-free as one where “there is no resident population of rats and they are not allowed to establish themselves”).

83. *Rat Prevention and Control*, GOV'T OF ALBERTA, <https://www.alberta.ca/rat-control-methods> (last visited May 10, 2024) (declaring the brown rat as a pest and mandating control measures).

84. *History of Rat Control in Alberta*, GOV'T OF ALBERTA, <https://www.alberta.ca/history-of-rat-control-in-alberta> (last visited May 10, 2024) (explaining that the Rat Control Zone is approximately 373 miles long and 18 miles wide, and emphasizing that the municipalities in the zone have the “most responsibility for rat control”).

85. JOHN BOURNE & PHIL MERRILL, ALBERTA AG-INFO CENTRE, AGDEX 682-2, AGRI-FACTS: RAT CONTROL IN ALBERTA 1, 3 (2017), <https://open.alberta.ca/dataset/72d4cf13-6ac2-47e8-9795-0aee48f036e2/resource/3beebb7e-b29e-4b74-80e0-4eb7a80cdb52/download/682-2.pdf> (outlining three rat control methods: “food source removal, rat shelter removal, rat proofing”).

86. See, e.g., *Rat Control Program*, MUN. DIST. OF PROVOST, <http://mdprovost.com/ag-service-board/pest-management/rat-control-program/> (last visited May 10, 2024).

residents on how to identify brown rats and what to do about them.⁸⁷

The combination of Alberta's mountainous terrain and the standardized, coordinated response among agencies led to a dramatic decrease in infestations.⁸⁸ From over 500 infestations in the 1950s, the number dropped to between ten and twenty in the 1990s and finally to zero in 2003.⁸⁹ The success of this effort led provincial agencies in Alberta to collaborate with neighboring agencies in Saskatchewan and implement a similar approach, demonstrating the effectiveness of cross-jurisdictional cooperation.⁹⁰ The combined efforts of provincial, municipal, and community agencies have resulted in significant economic savings,⁹¹ as the control program's annual cost of \$372,000 is far less than the estimated \$31.6 million in annual losses caused by rat damage.⁹²

In contrast, cities like Chicago, New Orleans, and Washington, D.C. have turned to data-driven rat eradication and control methods, hoping that new technologies can provide a solution to this persistent problem.⁹³ These cities have partnered with researchers and computer scientists to use extensive data programs to track rat populations and address the issue that "no one really knows how many rats there are."⁹⁴ Currently, rat population estimates primarily rely on surveys tracking the volume of calls to cities' 311 line, providing limited insights.⁹⁵ Data programs offer the promise that more accurate population estimates will lead to improved large-scale rat control programs.⁹⁶

87. Fogarty, *supra* note 16.

88. *Id.*

89. *Id.*

90. *Id.*

91. *Id.*

92. *Id.*

93. Poon, *supra* note 35.

94. *See id.* (understanding rat population patterns and the "subtleties of what sustains the populations" are important data points that can be helpful in combating the rat issue on a large scale).

95. *See* Munshi-South, *supra* note 58 (explaining that city governments often lack ways to systematically monitor rat population and often rely on 311 calls that are "highly imprecise because they depend on neighborhood norms and self-reported data"); *see also* Michael E. Parsons, Jonathan L. Richardson, Yasushi Kiyokawa, Rafal Stryjek, Robert M. Corrigan, Michael A. Deutsch, et al., *Rats and the Covid-19 Pandemic: Considering the Influence of Social Distancing on a Global Commensal Pest*, J. URBAN ECOLOGY, Sept. 28, 2021, at 2 (stating that since most cities do not have direct forms of surveillance programs to detect changes in rat populations, researchers must rely instead on indirect measures of rat activity such as public service calls).

96. Poon, *supra* note 35.

In 2011, the Chicago 311 call center received over 34,000 rat complaints,⁹⁷ prompting a collaboration with Carnegie Mellon University's Event and Pattern Detection Lab.⁹⁸ The Carnegie Mellon Lab modified its CrimeScan⁹⁹ software to predict rat infestations by incorporating "rat data" from 311 complaints, specifically correlating spikes in calls related to food, shelter, sanitation violations, and debris to potential rat infestations.¹⁰⁰

Meanwhile, since 2013, Tulane University's Michael Blum has studied rat repopulation in New Orleans following Hurricane Katrina.¹⁰¹ His research uses analytical models that incorporate more sophisticated rat-related data to predict rat repopulation and urban movement.¹⁰² Blum emphasizes the need to include economic, social, and environmental data alongside 311 complaints to improve the long-term accuracy of population predictions.¹⁰³

Similarly, Washington, D.C.'s Rodent Control Division developed a machine learning model that predicts rat infestations before they occur.¹⁰⁴ The D.C. model, like those in Chicago and New Orleans, analyzes 311 rat complaints, but it goes a step further to cross-reference them with other urban indicators of rat infestations.¹⁰⁵

In 2023, New York City took a unique approach by appointing Kathleen Corradi to the new position of "Rat Czar."¹⁰⁶ Her position is dedicated to reducing the rat population across the city's five boroughs by employing a combination of coordinated agency responses and data-driven technologies so that every resident, regardless of income or zip code, can live in a city free

97. *Id.*

98. *Id.*

99. Jennie Doris, *Chicago Watch*, CARNEGIE MELLON UNIV. (June 23, 2014), <https://www.cmu.edu/cmtoday/issues/july-2014-issue/news-flash/chicago-watch/index.html> (modeling Chicago's rat prediction tool after CrimeScan, a program which predicts crime hot spots based on 911 call data and refocuses patrol efforts accordingly).

100. *See* Poon, *supra* note 35 (enabling the researchers to use a combination of these factors to accurately predict rat infestations a week before they were reported by community members).

101. *Id.*

102. *See id.* (reporting that in 2017, the project secured funding for an additional six years of research studies).

103. *See id.* (using "very rich GIS and environmental archives of have land cover data, municipal coverages that tell us about the structure of the streetscape and the block sizes, as well as the socioeconomic landscape across the city" allow the researchers to accurately estimate "how the whole city landscape readjusts based on a particular control effort").

104. *Id.*

105. *See id.*

106. *Mayor Adams Anoints Kathleen Corradi as NYC's First-Ever 'Rat Czar,'* N.Y.C. OFF. OF THE MAYOR (Apr. 12, 2023), <https://www.nyc.gov/office-of-the-mayor/news/249-23/>.

of rats.¹⁰⁷ This hybrid model brings together various city agencies and an investment of \$3.5 million to create the Harlem Rat Mitigation Zone, akin to Alberta's RCZ, to reduce rat populations collaboratively.¹⁰⁸ This approach builds on former New York City Mayor Bill de Blasio's 2018 program, which united the efforts of the Department of Health and Mental Hygiene (DOHMH), Department of Sanitation (DSNY), Department of Buildings (DOB), and the Housing Preservation & Development (HPD) to target over fifty NYCHA properties across the city.¹⁰⁹ This type of enhanced coordination among agencies can lower costs, improve decisionmaking by incorporating diverse perspectives and specialized knowledge, and create opportunities for agencies to test ideas together.¹¹⁰

II. PUBLIC HOUSING AUTHORITIES AND RAT CONTROL

A. *Applicable Federal and State Landlord-Tenant Laws*

HUD oversees state public housing authorities to ensure they provide safe, decent, affordable, and accessible housing to more than two million low-income families while also ensuring that the authorities comply with all relevant federal laws and regulations.¹¹¹ However, many hundreds of public housing developments fall far short of the standards and are dilapidated, deteriorating, and unsafe, despite having passed HUD's inspection process.¹¹²

HUD establishes Housing Quality Standards (HQS), a set of thirteen major criteria landlords and tenants must adhere to ensure units meet the

107. *See id.* (stressing the importance of effective rat mitigation programs in New York City, as rats represent more than a quality-of-life issue, they are a "symptom of systemic issues, including sanitation, health, housing, and economic justice").

108. *See id.* (including zones such as twenty-eight NYCHA properties, seventy-three New York City Parks locations, nearly seventy Department of Education (DOE) schools, and over ten thousand private properties).

109. *De Blasio Administration Announces \$32 Million Neighborhood Rat Reduction Plan*, N.Y.C. OFF. OF THE MAYOR (July 12, 2017), <https://www.nyc.gov/office-of-the-mayor/news/472-17/de-blasio-administration-32-million-neighborhood-rat-reduction-plan#/0>; *see* SCHWARTZ, *supra* note 33, at 57.

110. Committee of Collaborative Governance, *Improving Coordination of Related Agency Responsibilities*, ADMIN. CONF. OF THE UNITED STATES (June 15, 2012), <https://www.acus.gov/recommendation/improving-coordination-related-agency-responsibilities>.

111. United States Housing Act of 1937, Pub. L. 75-412, 50 Stat. 888, *as amended by* 42 U.S.C. § 1437 (1999); *see also* Parker, *supra* note 1.

112. *See* Parker, *supra* note 1 (stating that Department of Housing and Urban Development's (HUD's) inspection system is "pretty much a failure").

definition of “decent, safe, and sanitary housing.”¹¹³ HUD mandates that housing authorities conduct regular inspections throughout the lease term to check for compliance with HQS.¹¹⁴ In addition to federal regulations, public housing authorities may also be subject to additional, state-specific regulations intended to ensure that units are safe for habitation.¹¹⁵ For example, public housing landlords in New York City must also comply with legal requirements set forth under the New York City Housing Maintenance Code (HMC)¹¹⁶ and the New York State Multiple Dwelling Law (MDL).¹¹⁷ The HMC specifically mandates that landlords address indoor allergen hazards such as rats and pests.¹¹⁸ Violations under the HMC are categorized as “immediately hazardous,” “hazardous,” or “non-hazardous” and have corresponding timelines for landlords to rectify the issues.¹¹⁹ Under MDL, property owners may be required to provide rent abatements for serious violations.¹²⁰ These requirements apply to all public housing developments as well as private property owners contracting with NYCHA under Section 8 of the Housing Choice Voucher Program.¹²¹

Tenants in public housing are also responsible for reporting housing violations, as mandated by federal and local regulations.¹²² These violations can be categorized as those caused by landlords and those caused by tenants

113. 24 C.F.R. § 886.302 (2019); *see also* Housing Quality Standards, 24 C.F.R. § 982.401 (2019) (including categories such as “(A) sanitary facilities; (B) [f]ood preparation and refuse disposal; (C) [s]pace and security; (D) [t]hermal environment; (E) [i]llumination and electricity; (F) [s]tructure and materials; (G) [i]nterior air quality; (H) [w]ater supply; (I) [l]ead-based paint; (J) [a]ccess; (K) [s]ite and neighborhood; (L) [s]anitary condition; and (M) [s]moke detectors”).

114. 24 C.F.R. § 982.401(a)(3) (2019).

115. 24 C.F.R. § 982.401(a)(4) (2019); *see also* N.Y. REAL PROP. LAW § 235-B (McKinney 1997).

116. N.Y.C. ADMIN. CODE § 27-2001 (2019) (stating the chapter can be cited as the “housing maintenance code”).

117. N.Y. MULT. DWELL. LAW § 9 (McKinney 2020).

118. N.Y.C. HOUS. MAINT. CODE § 27-2017.4(b)–(c) (stating property owners must correct violations for mice, cockroaches, and rats within twenty-one days after receiving notice).

119. N.Y.C. HOUS. MAINT. CODE §§ 27-2115(d) and 27-2115(c)(1)–(3).

120. N.Y. MULT. DWELL. § 302-a.3.a. (McKinney 2019); N.Y. MULT. RESID. § 305-a.2.a. (McKinney 2019).

121. *Section 8: Tenants Frequently Asked Questions*, NYCHA, <https://www1.nyc.gov/assets/nycha/downloads/pdf/SECTION8.TENANTS.FAQ.pdf> (last visited May 10, 2024).

122. *A Home to be Proud Of: A Handbook for Residents*, N.Y.C. HOUS. AUTH. (2017), <https://www.nyc.gov/assets/nycha/downloads/pdf/nycha-tenant-handbook-2017.pdf>.

themselves.¹²³ When landlords cause HQS violations, they must make necessary repairs or cover the costs.¹²⁴ Conversely, when tenants, household members, or guests cause violations, the onus to repair any damage falls on the tenants.¹²⁵

In the 1960s, courts began introducing the concept of the warrant of habitability into residential leases to ensure that landlords provide safe and habitable living conditions to tenants.¹²⁶ This shift in power dynamics gave tenants the ability to seek rent reductions or withhold rent when landlords did not maintain livable conditions.¹²⁷ Tenants also gained the right to deduct repair costs from their rent, initiate legal claims, or use the breach of the warrant of habitability as a defense in eviction proceedings.¹²⁸ In cases of severe and negligent breaches, tenants could be entitled to punitive damages.¹²⁹

Almost all states have codified the warrant of habitability,¹³⁰ demonstrating a nationwide commitment to providing tenants in affordable housing with a mechanism to address substandard living conditions.¹³¹ For example, New York formalized the warrant of habitability in 1975,¹³² extending its statutory obligations to include private housing in addition to

123. *Id.*

124. 24 C.F.R. § 982.404(b)(1)(iii) (2019).

125. 24 C.F.R. § 982.404(a)(4) (2019).

126. Roger A. Cunningham, *The New Implied and Statutory Warranties of Habitability in Residential Leases: From Contract to Status*, 16 URB. L. ANN. 3, 9 (1979); see also Jean C. Love, *Landlord's Liability for Defective Premises: Caveat Lessee, Negligence, or Strict Liability?*, 1975 WIS. L. REV. 19, 91–92 (1975).

127. See Nicole Summers, *The Limits of Good Law: A Study of Housing Court Outcomes*, 87 U. CHI. L. REV. 145, 145 (2020) (stating “the warranty of habitability . . . established that a tenant’s obligation to pay rent is contingent upon the landlord’s obligation to maintain the premises in good repair”).

128. Rachel Schwartz, Comment, *The Warranty of Habitability and the New York City Housing Authority*, 33 GEO. J. LEGAL ETHICS 781, 783 (2020).

129. 2301 7th Ave. HDFC v. Hudgen-Grace, 918 N.Y.S.2d 400 (N.Y. App. Term 2010) (stating that tenants may be awarded punitive damages if the landlord’s breach rises to a “level of high moral culpability or indifference to civil obligations” (quoting *Conversions for Real Estate, LLC v. Granik*, 824 N.Y.S.2d 768 (N.Y. App. Term 2006))).

130. Ashley E. Bachelder, M. Kate Stewart, Holly C. Felix & Neil Sealy, *Health Complaints Associated with Poor Rental Housing Conditions in Arkansas: The Only State Without a Landlord’s Implied Warranty of Habitability*, FRONT PUB. HEALTH, Nov. 2016, at 1, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5120100/pdf/fpubh-04-00263.pdf> (noting that all states except Arkansas have a warranty of habitability).

131. See Summers, *supra* note 127, at 159–60.

132. N.Y. REAL PROP. L. § 235-b (McKinney 1997).

public housing developments.¹³³

In 2021, New York City, acting on behalf of the DOHMH, HPD, and DOB, took legal action against two groups of private residential building owners for their failure to protect over 1,300 households from rat infestations.¹³⁴ The city's lawsuits sought injunctive relief, the correction of dangerous conditions in the units, and civil penalties for the owners' continued and repeated property violations.¹³⁵

B. Cases Against Public Housing Authorities: NYCHA

Numerous claims have been brought against NYCHA for its failure to address its horrendous living conditions.¹³⁶ A 2016 survey of 230 NYCHA residents revealed that more than fifty-one percent believed the physical conditions in their housing developments were unsafe.¹³⁷ Forty-eight percent, nearly half of the respondents, felt their own living units were unsafe.¹³⁸

In addition to this data, anecdotal accounts further illustrate the severity of the situation in NYCHA public housing.¹³⁹ One single mother living in

133. See, e.g., *Ketchakeu v. Secka*, 108 N.Y.S.3d 323, 329–30 (N.Y. Civ. Ct. 2019) (applying warranty of habitability to private housing); see also *Law v. Franco*, 690 N.Y.S.2d 893, 895–96 (N.Y. Sup. Ct. 1999) (applying warranty of habitability to public housing).

134. See Press Release, Mayor's Office to Protect Tenants, City Sues Landlords to Protect Tenants from Rat Infestations Affecting 1,300+ Units (Nov. 4, 2021), <https://www.nyc.gov/assets/tenantprotection/downloads/pdf/MOPT-Press-Release-City-Sues-Landlords-to-Protect-Tenants-from-Rat-Infestations-2021-11-04.pdf>.

135. *Id.*

136. See *NYCHA Residents File Lawsuit Against the City for Refusing to Fix Hundreds of Units*, HOUSING WORKS (May 8, 2013), <https://www.housingworks.org/advocacy/nycha-residents-file-lawsuit-against-the-city-for-refusing-to-fix-hundreds>; see also *United States v. N.Y.C. Hous. Auth.*, 347 F. Supp.3d 182, 189 (S.D.N.Y. 2018) (alleging that NYCHA failed to meet contractual obligations with the HUD and violated federal law when it failed to provide safe and sanitary housing).

137. Jeffrey D. Klein & Ritchie Torres, *NYCHA 2020: Revitalizing New York City's Crumbling Public Housing*, N.Y. STATE SENATE 2 (2016), https://www.nysenate.gov/sites/default/files/idc_nycha_2020_full_report.pdf.

138. *Id.*

139. See Josette Barsano, Note, *The Collateral Consequences of Substandard Public Housing on Tenant-Families*, 27 GEO. J. ON POVERTY L. & POL'Y 147, 148–49 (2019); see also Isabel Vincent & Dana Kennedy, *Eric Adams Rose from Abject Poverty to Serve NYC Community*, N.Y. POST (June 12, 2021), <https://nypost.com/2021/06/12/eric-adams-rose-from-abject-poverty-to-serve-nyc-community/> (writing that New York City Mayor Eric Adams grew up in such extreme poverty, that he and his siblings adopted one of the rats that occupied his Brooklyn walk-up apartment and named him Mickey Mouse).

public housing in the Bronx reported several encounters with rats in her apartment.¹⁴⁰ Over a three-month period, she filed two complaints with NYCHA requesting that a hole in the wall be fixed to prevent rats from entering her home.¹⁴¹ However, NYCHA failed to respond to her complaints or conduct an investigation.¹⁴² Her young son reportedly told his schoolteachers that “his best friends are the rats that live at home” and expressed distress when the refrigerator door crushed one to death.¹⁴³ Other anecdotes include rats eating small pets¹⁴⁴ and climbing up clogged garbage chutes to access apartments as high as the fourteenth floor.¹⁴⁵

In terms of case law, the Urban Justice Center’s Community Development Project and New York Lawyers for the Public Interest filed suit in 2013 on behalf of over three hundred NYCHA residents, alleging that the housing authority failed to make timely repairs to remedy horrendous living conditions.¹⁴⁶ Furthermore, the plaintiffs argued that NYCHA neglected their right to habitable living conditions due to its focus on land leasing plans for eight additional housing developments in Manhattan.¹⁴⁷ One lawyer representing NYCHA residents stated pointedly that “[t]he number of times I had to type the phrase ‘Rats present in an apartment’ is absolutely outrageous.”¹⁴⁸

In 2018, NYCHA residents brought a landmark suit against NYCHA to address systemic failures in meeting federally mandated health and safety standards for residents.¹⁴⁹ *United States v. New York City Housing Authority*¹⁵⁰

140. Barsano, *supra* note 139, at 148.

141. *Id.*

142. *Id.*

143. *Id.*

144. Grace Ashford, *Leaks, Mold and Rats: Why New York City Goes Easy on Its Worst Landlords*, N.Y. TIMES (Dec. 26, 2018), <https://www.nytimes.com/2018/12/26/nyregion/nyc-housing-violations-landlords-tenants.html>.

145. Luis Ferré-Sadurní, *Lighting Money on Fire’ as Mold and Rats Persist in New York Public Housing*, N.Y. TIMES (July 26, 2019), <https://www.nytimes.com/2019/07/26/nyregion/nycha-rats-roof-repairs.html>.

146. *NYCHA Residents File Lawsuit Against the City for Refusing to Fix Hundreds of Units*, HOUS. WORKS (May 8, 2013), <https://www.housingworks.org/advocacy/nycha-residents-file-lawsuit-against-the-city-for-refusing-to-fix-hundreds>.

147. *Id.*

148. *Id.*

149. *United States v. N.Y.C. Hous. Auth.*, 347 F. Supp. 3d 182 (S.D.N.Y. 2018); see Benjamin Weiser & J. David Goodman, *Toxic Dust Still Threatens Housing Authority Residents, U.S. Says*, N.Y. TIMES (Aug. 31, 2018), <https://www.nytimes.com/2018/08/31/nyregion/us-faults-nyc-housing-authority-for-lead-paint-removal-practices.html>.

150. *United States v. N.Y.C. Hous. Auth.*, 347 F. Supp. 3d at 188–97.

documented these significant shortcomings within NYCHA, such as organizational disarray, the inability to meet fundamental living standards, and repeated efforts to conceal critical health and safety concerns. The case showed that residents made nearly fifteen thousand rat complaints between 2010 and 2016, and it noted that the presence of rats accounted for significant deterioration in the health of many residents and caused the filing of almost thirty-six thousand work orders between 2013 and 2016.¹⁵¹ The case also revealed that NYCHA either ignored these complaints or “only nominally addressed them because of incompetence or apathy.”¹⁵² The case was voluntarily dismissed without prejudice on March 15, 2019, after NYCHA entered into a settlement agreement with EPA, HUD, and SDNY to address its dilapidated properties, redevelop its internal operations, and adhere to federal health and safety regulations.¹⁵³

Despite the legal actions taken against NYCHA, achieving significant improvements on a broad scale has proven elusive.¹⁵⁴ Up until just two years ago, NYCHA residents were without an effective system for registering repair or service complaints.¹⁵⁵ Their only recourse was to contact NYCHA’s Customer Contact Center.¹⁵⁶ However, the situation changed with the enactment of Local Law 127-2021, passed by the City Council in November 2021 and taking effect the following April.¹⁵⁷ This law finally enabled residents to submit complaints with the city’s 311 complaint line.¹⁵⁸

151. *Id.* at 191–92, 194 (stating that NYCHA is aware that the presence of rats increases the possibility for residents to contract diseases carried by rats, worsen existing respiratory conditions, and pollute food and water sources).

152. *Id.* at 192 (referencing NYCHA management’s awareness of its dilapidated facilities while emphasizing its continued deceptive practices, such as closing unfinished work orders and faking exterminations).

153. *See generally* Mem. of Agreement Between the U.S. Dep’t of Hous. & Urban Dev., the N.Y.C. Hous. Auth., and N.Y.C. (Jan. 31, 2019) [hereinafter HUD, NYCHA, & N.Y.C. Mem. of Agreement], <https://www.justice.gov/usao-sdny/press-release/file/1125736/download> (reaching an agreement that addresses problems with health, safety, and agency operations in NYCHA buildings).

154. *See* SCHWARTZ, *supra* note 33, at 1–2.

155. *How The Other Half Lives in Public Housing*, OFF. OF THE N.Y.C. PUB. ADVOC. 7 (2022), <https://www.pubadvocate.nyc.gov/reports/how-other-half-lives-public-housing/>.

156. *Id.*

157. *Id.*; New York City, N.Y., Local Law No. 127 Int. No. 2330-A (2021), <https://nyc.legistar1.com/nyc/attachments/3e9591db-09b8-4a6a-abe0-fee9903dbd2a.pdf> (codified as N.Y.C. Admin. Code § 23-307).

158. *How The Other Half Lives in Public Housing*, *supra* note 155.

III. ANALYSIS OF THE 2019 NYCHA AGREEMENT

A. 2019 NYCHA Agreement: Purpose and Structure

Cities tackle the issue of rat infestations in various ways, but a common problem persists: city agencies struggle with excessive workloads, understaffing, and limited resources to effectively address this crisis.¹⁵⁹ NYCHA's chronic staff shortage is a telling case.¹⁶⁰ In 2019, the agency employed only 108 pest exterminators, leaving just one pest exterminator for roughly 1,400 apartments across the city.¹⁶¹

After repeatedly failing to adhere to a 2018 consent decree stemming from *New York City Housing Authority*, the court bound NYCHA into a monitoring agreement with EPA, HUD, and SDNY.¹⁶² Some of the most egregious violations pertain to NYCHA's inability to complete both simple and complex repairs within specified timeframes,¹⁶³ failure to meet HUD's lead paint requirements,¹⁶⁴ and improper suspension of building inspections.¹⁶⁵ HUD mandates that public housing authorities conduct annual inspections of each public housing project to ensure that units meet appropriate health and safety standards.¹⁶⁶ However, NYCHA intentionally suspended these federally mandated inspections for a two-year period.¹⁶⁷ In 2018, the New York State Department of Public Health conducted inspections of NYCHA units and discovered that eighty-three percent of them had deficiencies that could negatively impact residents' health.¹⁶⁸ Senior city officials acknowledged the prevalence of vermin, conceding that NYCHA was ill-equipped to address the rat infestation problem and stating that the agency

159. Casey Toner & Mina Bloom, *Why Chicago Is Losing the War on Rats*, ILL. ANSWERS PROJECT (Aug. 31, 2023), <https://illinoisanswers.org/2023/08/31/why-chicago-is-losing-the-war-on-rats/>.

160. See SCHWARTZ, *supra* note 33, at 30.

161. *Id.* at 60.

162. HUD, NYCHA, & N.Y.C. Mem. of Agreement, *supra* note 153, at ¶¶ 1–2, 5, 21 (reaching an agreement that addresses problems with health, safety, and agency operations in NYCHA buildings).

163. See *Baez v. N.Y.C. Hous. Auth.*, No. 13CV8916, 2015 WL 9809872, at *1–3 (S.D.N.Y. Dec. 15, 2015).

164. See *United States v. N.Y.C. Hous. Auth.*, 347 F. Supp. 3d 182, 193–94 (S.D.N.Y. 2018).

165. See *id.* at 192–93.

166. 42 U.S.C. § 1437d(f)(3); see also 24 C.F.R. § 5.703 (2022).

167. *United States v. N.Y.C. Hous. Auth.*, 347 F. Supp. 3d 182, 192 (S.D.N.Y. 2018).

168. *N.Y.C. Hous. Auth.*, 347 F. Supp. 3d at 189.

“has no idea how to handle rats.”¹⁶⁹

The purpose of the Agreement is fourfold: to address the substandard physical conditions in NYCHA properties, ensure NYCHA's compliance with federal law, reform NYCHA's management structure, and foster cooperation and coordination between HUD, NYCHA, and the city.¹⁷⁰ Specifically, concerning rat infestations, the Agreement commits to achieving several key objectives within defined timeframes.¹⁷¹ Within six months of the Effective Date, the Agreement obligates NYCHA to provide accurate estimates of the rat population in each NYCHA development.¹⁷² Subsequently, NYCHA is tasked with reducing the rat populations by fifty percent within three years of the Effective Date and achieving an additional fifty percent reduction within five years of the Effective Date.¹⁷³ Furthermore, the Agreement mandates that within two and five years of the Effective Date, NYCHA must respond to rat complaints from public housing residents at a rate of seventy-five percent and ninety percent, respectively.¹⁷⁴ Regrettably, NYCHA has not fulfilled these commitments, as it has failed to provide reliable estimates of the rat population nor made progress toward the specified reductions.¹⁷⁵

NYCHA's flawed population estimate results from its reliance on the DOHMH's count of rat burrows on NYCHA property rather than independently assessing the population.¹⁷⁶ NYCHA calculates its overall estimate by multiplying the DOHMH's burrow count by five, which represents the average number of rats per burrow according to DOHMH.¹⁷⁷ This method falls short as it does not account for rat populations residing within buildings.¹⁷⁸

The Agreement mandates federal oversight but stops short of a federal takeover of NYCHA.¹⁷⁹ NYCHA retains control of its daily operations and must address issues in its housing developments while being subject to a third-party management consultant's review and recommendations for policy and procedure improvements.¹⁸⁰ A compliance department must be established

169. SCHWARTZ, *supra* note 33, at 3.

170. HUD, NYCHA, & N.Y.C. Mem. of Agreement, *supra* note 153, at 2–3.

171. *Id.* Exhibit B, § D.

172. *Id.* ¶ 35.

173. *Id.* ¶¶ 36–37.

174. *Id.* ¶¶ 38–39.

175. Smith, *supra* note 28.

176. *Id.*

177. *Id.*

178. *Id.*

179. SCHWARTZ, *supra* note 33, at 4.

180. *Id.* at 4–5.

to ensure the effectiveness of HUD's Public Housing Assessment System and prevent NYCHA from falsifying reports or engaging in deceptive practices.¹⁸¹ The Agreement's strength lies in its multi-level agency coordination.¹⁸² It combines high-level support with local authority and autonomy, essential factors for successful coordination.¹⁸³

The Agreement, for the most part, offers clear, actionable, and well-received steps for improvement.¹⁸⁴ Its primary objectives involve the development of new action plans, the establishment of enforceable habitability standards that NYCHA must meet within specified deadlines, and the allocation of an additional \$1 billion in capital funds to support these initiatives.¹⁸⁵ Appointed by HUD and the U.S. Attorney General, the NYCHA Monitor ("the Monitor") released the first quarterly report in July 2019, six months after the Agreement's implementation.¹⁸⁶ The report indicates that NYCHA is unlikely to meet the stipulated deadlines for implementing preventative measures.¹⁸⁷ The report characterizes the Agreement's commitment to significantly reducing rat infestations within three years as "arduous," primarily due to the extensive rat populations.¹⁸⁸ As an example, the report details the widespread presence of rat burrows in and around the foundation of the Washington Houses, a public housing development located in New York City's East Harlem neighborhood.¹⁸⁹ It also includes a letter addressed to NYCHA from the Executive Board of the Washington Houses Tenant Association in which residents describe how they felt like "hostages in [their] own home at night" and how compactor rooms remain closed due to workers' refusal to enter because they fear rat attacks.¹⁹⁰

181. *Id.* at 5.

182. *Strengthening Federal-State Coordination*, *supra* note 43, at 4 (stating "[c]ooperative programs are more likely to be successful when federal, state and local agencies have identified specific individuals or positions tasked with participating").

183. *Id.*

184. Noah Manskar, *NYCHA To Get Tough Oversight Under Deal With Feds*, PATCH (Jan. 31, 2019), <https://patch.com/new-york/new-york-city/nycha-get-tough-federal-oversight-und-er-deal-feds>.

185. Press Release, U.S. Atty's Off., S. Dist. N.Y., *supra* note 27.

186. SCHWARTZ, *supra* note 33, at 1–2.

187. *Id.* at 56.

188. *See id.*

189. *Id.* at 59; *see also NYCHA - Washington Houses*, FOURSQUARE CITY GUIDE, <https://foursquare.com/v/nycha--washington-houses/4bace8a5f964a5205e183be3> (last visited May 10, 2024).

190. SCHWARTZ, *supra* note 33, at 59.

B. 2019 NYCHA Agreement: Room for Improvement

Based on the review of issues associated with NYCHA's operations, the deficient state of rat control in New York City, and the substandard conditions in public housing developments, the NYCHA Monitor issues quarterly reports to track NYCHA's adherence to the provisions of the Agreement.¹⁹¹ In addition, the Monitor makes a variety of suggestions to address the Agreement's shortcomings and ensure that it contains a governance structure, actions, timelines, and resources that are realistic and responsive to the current rat control needs of public housing residents.¹⁹²

The first major concern is that the data collected by NYCHA is "incomplete, imprecise, and/or inaccessible," resulting in widespread inaccuracies, including an inability to properly estimate the rat population and the true extent of the damage they cause.¹⁹³ Many cities, including New York, rely on surveys that track 311 complaint calls as the primary source for rat-related information.¹⁹⁴ However, in New York, it was only as recently as 2022 that NYCHA residents were permitted to file rat complaints with the city's 311 complaint line.¹⁹⁵ This context sheds light on NYCHA's ongoing struggle to determine rat populations in and around its public housing developments,¹⁹⁶ which, in turn, hampers its ability to meet its commitment to reducing the rat population by half.¹⁹⁷ To tackle this challenge, the Monitor Team implemented a verification process to improve the accuracy of NYCHA's data collection methods.¹⁹⁸ Including more modern, effective data-gathering tools will enable authorities to better target rat populations and enhance eradication efforts.¹⁹⁹

A second major issue is that NYCHA lacks comprehensive financial management suitable for the scale and complexity of a comprehensive rat control program for public housing.²⁰⁰ While the city's substantial

191. *Id.* at 1–2.

192. *See id.*

193. *Id.* at 12.

194. Munshi-South, *supra* note 58; *see also* Parsons et al., *supra* note 95, at 2.

195. *See How The Other Half Lives in Public Housing*, *supra* note 155, at 7.

196. SCHWARTZ, *supra* note 33, at 56.

197. HUD, NYCHA, & N.Y.C. Mem. of Agreement, *supra* note 153, at ¶¶ 35–37.

198. SCHWARTZ, *supra* note 33, at 62.

199. *Id.*; *see also* Mayor Adams Anoints Kathleen Corradi as NYC's First-Ever 'Rat Czar,' *supra* note 106 (explaining that an important aspect of Kathleen Corradi's rat control plan is to "bring a scientific, data-driven approach to the role").

200. SCHWARTZ, *supra* note 33, at 11 (positing that a "comprehensive asset management strategy is necessary to ensure that NYCHA's capital investments are effective and that its operational funds are not squandered").

investment of \$1.2 billion over the first five years of the Agreement, followed by \$200 million annually for the duration of the Agreement, provides a solid financial foundation for a successful rat control initiative, NYCHA faces several financial management challenges.²⁰¹ These challenges include inadequate personnel funding, resulting in a workforce nearly one thousand inspectors short of the minimum needed; insufficient training funds for exterminators, so that they lack current skills and knowledge; and an inadequate budgeting process that creates a disconnect between NYCHA's budgeting and capital planning processes.²⁰² A modern financial management system that prioritizes strategic, appropriate, and effective resource allocation, tracking, and oversight is necessary to address these and other issues and to ensure the effective use of funds for compliance endeavors.²⁰³

Finally, the Monitor insists that NYCHA must enhance and expand its rat eradication efforts beyond their current parameters to ensure thorough and effective services for all residents.²⁰⁴ Currently, NYCHA applies eradication efforts inconsistently, as they depend on a building's location or status.²⁰⁵ For instance, while over fifty NYCHA developments are part of former Mayor de Blasio's multi-agency rat reduction program, others are not.²⁰⁶ This discrepancy has resulted in a significant issue where developments outside of the reduction zone lack improvements and often experience the worst infestations, as seen in the case of the Washington Houses, a NYCHA development outside the reduction zone with particularly pervasive rat infestations.²⁰⁷

Relying solely on the mayor's rat reduction program is insufficient to effectively manage rat infestations across all NYCHA developments and has led to disparities in living conditions among public housing residents.²⁰⁸ To enable NYCHA to meet its basic obligations, the Monitor initiated a "best practices" pilot program in some housing developments, and the program's most successful methods will be expanded across all NYCHA developments.²⁰⁹

201. Press Release, U.S. Atty's Off., S. Dist. N.Y., *supra* note 27.

202. SCHWARTZ, *supra* note 33, at 60 n.7.

203. *Id.* at 11.

204. *Id.* at 57.

205. *See id.*

206. *See id.*

207. *Id.* at 57, 59.

208. *Id.* at 57.

209. *Id.* at 11.

IV. RECOMMENDATIONS TO ACHIEVE NATIONAL EXPANSION

This Comment's recommendations are rooted in the structure and purpose of the Agreement but seek to expand the model represented by the collective components of the Agreement to the national level. This Comment proposes using the structure of the Agreement as a scalable roadmap for national implementation. Establishing a governance structure to strengthen and broaden rat control strategies will assist in achieving the goal of improving living conditions in public housing developments by making them free of rats.

To enable the program to broaden its reach, this Comment proposes that the governance structure outlined in the Agreement be expanded nationally to create a uniform and systematic approach for effective rat control in public housing developments throughout the United States, achieving a broader and greater impact than local efforts alone can attain.²¹⁰ Expanding the Agreement's scope hinges on fostering collaborative partnerships among federal and state government agencies, a process facilitated at the federal level through joint policymaking, and at the federal and state levels by enacting MOUs.²¹¹

A. National Expansion: Federal-Federal Agency Coordination

The essential first step for an effective nationwide strategy is for EPA and HUD to coordinate their actions through joint policymaking to streamline rulemaking and standardize rat eradication measures across the country.²¹² Joint policymaking serves as an interagency coordination mechanism, allowing agencies to collaborate on producing joint policy statements, rules, or guidelines.²¹³ Agencies can initiate this process voluntarily on their own terms.²¹⁴ Joint rulemaking, an example of joint policymaking, brings together two or more agencies to collectively develop a single set of rules and reach an agreement on the content and wording before adoption.²¹⁵ Financial and environmental agencies particularly employ this instrument to facilitate regulatory goals, promote uniformity in shared regulatory spaces,

210. Cf. *Strengthening Federal-State Coordination*, *supra* note 43, at 9 (finding that effective federal-state cooperation in managing invasive species is hindered by the “[l]ack of national framework for decision making process”).

211. See Jody Freeman & Jim Rossi, *Agency Coordination in Shared Regulatory Space*, 125 HARV. L. REV. 1131, 1164–65, 1195–96 (2012).

212. See *id.* at 1165–73.

213. *Id.* at 1165.

214. *Id.* at 1167.

215. *Id.* at 1165–66.

and address inconsistencies or conflicts resulting from independently issued regulations.²¹⁶

Environmental agencies navigate a complex regulatory landscape marked by numerous agencies' overlapping responsibilities and objectives at various levels.²¹⁷ To assess the effectiveness of improved coordination between federal and state agencies, a Federal-State Task Team—formed by the National Invasive Species Council Invasive Species Advisory Committee (ISAC)—studied six collaborative initiatives involving federal, state, and local entities.²¹⁸ One case study, focused on the management and control of the widely invasive Asian Carp species, found that federal and state agency collaboration is “essential” for effective control of extensive populations across the country.²¹⁹ The study also highlighted key determinants of successful agency coordination: well-defined governance structures, clear participatory roles, and explicit agency objectives.²²⁰

B. National Expansion: Federal-State Agency Coordination

Shifting focus from facilitated federal collaboration to instruments at the federal and state agency level, the MOU emerges as the most pertinent tool for coordinating actions between federal agencies and their state and local counterparts. MOUs are formal agreements between two or more parties that delineate the intentions, terms, and conditions of a proposed project or collaboration and the roles and understanding of the parties involved.²²¹ They are generally developed voluntarily and are not legally binding documents.²²² The content, level of detail, and structure can vary widely and be tailored to the specific needs of the involved parties.²²³ This flexibility and versatility make the MOU an attractive tool for parties that want to cooperate on specific issues or projects, and it accounts for the MOU being the most widely employed coordination tool among agencies in the federal government.²²⁴ Among the reasons that agencies create MOUs are their mutual interests in defining the boundaries of their respective authorities, developing processes for sharing or creating information, committing to joint projects, and collaborating on reviews or approvals in areas of shared

216. *Id.* at 1166–67.

217. *Strengthening Federal-State Coordination*, *supra* note 43, at 1–2.

218. *Id.* at 1.

219. *Id.* at 4.

220. *See id.*

221. Freeman & Rossi, *supra* note 211, at 1161.

222. *Id.*

223. *Id.* at 1161–62.

224. *Id.*

responsibility.²²⁵ Appointing a central coordinator can help ensure the successful implementation of an MOU.²²⁶

The ISAC report also highlighted two case studies employing MOUs to facilitate collaboration federal agency action with state and local agencies, along with nongovernmental organizations and private parties.²²⁷ In both instances, MOUs proved instrumental in enabling agencies across various levels to share resources and funding efficiently.²²⁸ The collaborative mechanism exemplified in the Agreement, linking federal agencies (EPA and HUD) with state agencies (SDNY and NYCHA), illustrates that employing MOUs for multi-level agency coordination is a viable approach for upgrading long-term rat mitigation efforts.²²⁹

With the usefulness of MOUs in mind, EPA and HUD should establish MOUs with pertinent state housing authorities to define and implement standardized roles, duties, and responsibilities for rat control, as well as provisions for personnel and funding allocations. A central coordinator should be appointed to monitor the program, track its progress and outcomes, and ensure compliance with applicable laws, regulations, and policies. The individualized nature of MOUs will be particularly beneficial for accommodating variations in state and local regulations, as well as fostering collaboration and promoting successful program implementation.

Beyond joint policymaking and the use of agency MOUs, interagency consultations offer several other options for facilitating coordination at the federal and state level.²³⁰ While useful in many circumstances, they are not necessary to advance federal and state cooperation for a national rat control program. One category of interagency consultations, discretionary and mandatory consultations, entails interactions among federal agencies that Congress authorizes or requires through statutory provisions.²³¹ A second category of interagency consultations includes public response, default position, and concurrent requirements.²³² These administrative tools are used by federal agencies and sanctioned by Congress.²³³ They involve engaging the public in decisionmaking processes, identifying the outcome that automatically pertains if no specific administrative action or decision is

225. *Id.* at 1161.

226. *Id.* at 1165.

227. *Strengthening Federal-State Coordination*, *supra* note 43, at 3.

228. *Id.* at 3.

229. *Infra* Part IV.

230. Freeman & Rossi, *supra* note 211, at 1157.

231. *Id.* at 1157–58.

232. *Id.* at 1159–61.

233. *Id.* at 1157–61.

defined for a matter, and managing the simultaneous consideration of multiple legal and procedural considerations, respectively.²³⁴ Interagency consultations are particularly valuable when a high degree of mission overlap and conflict exists, expertise is scattered across agencies, and the potential exists for isolated decisionmaking.²³⁵

Looking at the proposed expansion of NYCHA's rat control program to the national level, the tools provided through interagency consultations are not necessary for enabling federal and state agency collaboration.²³⁶ Specifically, EPA and HUD have already worked together successfully in the arena of rat mitigation in New York City public housing.²³⁷ Consequently, concerns about potential conflicts or incompatibility involving mission are not pertinent.²³⁸ Local expertise will inform rat control measures in a national program, eliminating the need to consolidate and harmonize knowledge, techniques, or procedures across multiple agencies.²³⁹ The governance structure, as well as other administrative and organizational features of a national rat control program, are derived from the operational framework outlined in the Agreement, which encourages a collaborative approach.²⁴⁰ Therefore, isolated decisionmaking is not a realistic concern.²⁴¹ In totality, MOUs are versatile, flexible, and less formal than interagency consultations and allow for varied content.²⁴² Thus, they are better suited to facilitate multi-agency collaboration than interagency consultations.²⁴³

CONCLUSION

The burgeoning rat population in major cities has emerged as a pervasive societal issue, posing a persistent threat to urban communities.²⁴⁴ Their proximity to human dwellings, their capacity to transmit diseases, and their role in creating unsafe living conditions make them a formidable challenge.²⁴⁵ Despite many well-intentioned initiatives by states and city agencies to eliminate and manage rat populations, the measures employed

234. *Id.* at 1159–61.

235. *Id.* at 1192.

236. *Id.* at 1157–61.

237. HUD, NYCHA, & N.Y.C. Mem. of Agreement, *supra* note 153.

238. Freeman & Rossi, *supra* note 211, at 1192.

239. *Id.* at 1192.

240. *Supra* Part III.

241. Freeman & Rossi, *supra* note 211, at 1192.

242. *Id.* at 1161–62.

243. *Id.* at 1161–62.

244. *Economic Costs of Invasive Rodents*, *supra* note 2, at 2–3.

245. *Economic Impact of Commensal Rodents*, *supra* note 1, at 1.

have not yielded a fully effective, widespread, and enduring solution to the issue of rat infestations.²⁴⁶ This problem is especially acute for individuals residing in public housing.²⁴⁷ They experience a disproportionately higher occurrence of rat-related issues that account for heightened instances of property damage, safety hazards, and public health concerns.²⁴⁸ For example, residents living in NYCHA public housing developments continuously grapple with the ongoing presence of rats both inside and outside their living units.²⁴⁹

This Comment explored variations in rat mitigation efforts, delineating the variations in IPM plans, analyzing case law related to rodenticide use to pinpoint distinctions, and examining unique models of modern rat eradication used in the Canadian province of Alberta; Chicago; New Orleans; Washington, D.C.; and New York.²⁵⁰ These localities approach rat control from different angles, using either a coordinated agency response model, a data-driven response model, or a hybrid response model.²⁵¹ The process of evaluating these models revealed the potential advancements that can be gained through multi-level agency collaboration, as well as the implementation of data-driven tools.²⁵² Additionally, examining relevant landlord-tenant laws provided a foundation for discussing lawsuits brought against NYCHA that challenged substandard living conditions in the Authority's public housing developments.²⁵³ In light of these shortcomings, this Comment specifically examined NYCHA's failure to fulfill the stipulations outlined in the 2019 Agreement between EPA, HUD, SDNY, and NYCHA, which aimed to address long-standing and severe health and safety issues, including rat infestations, in NYCHA's public housing developments.²⁵⁴

This Comment recommends expanding the governance structure outlined in the Agreement on a national scale to create a systematic and standardized approach for effective rat control in public housing developments across the United States.²⁵⁵ Achieving national expansion to facilitate widespread rat control efforts requires two crucial steps: (1) fostering

246. *Economic Costs of Invasive Rodents*, *supra* note 2, at 3.

247. James M. Clinton, *Rats in Urban America*, CDC PUB. HEALTH REPS., Jan. 1969, at 4.

248. *Id.*

249. Smith, *supra* note 28.

250. *Supra* Part I.C.

251. *Supra* Part I.C.

252. *Supra* Part I.C.

253. *Supra* Part II.B.

254. HUD, NYCHA, & N.Y.C. Mem. of Agreement, *supra* note 153, at ¶¶ 35–39.

255. *Supra* Part IV.

collaborative partnerships between EPA and HUD at the federal level through joint policymaking²⁵⁶ and (2) coordinating federal and state agency action through the enactment of MOUs.²⁵⁷ Scaling up to the national level paves the way for a broader and more impactful reduction and control of rat populations than local efforts can achieve alone.

256. *Supra* Part IV.B.

257. *Id.*