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## Powerless Beings: Solitary Confinement of Humans and Nonhumans in America

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Michael B. Mushlin\* & David N. Cassuto\*

## Powerless Beings: Solitary Confinement of Humans and Nonhumans in America

### ABSTRACT

*Every day, thousands of humans and millions of nonhumans endure solitary confinement. Human prisoners held in this way are confined for twenty-two to twenty-four hours a day for weeks, months, or even years on end in cells the size of a parking space. For these humans, the experience is tortuous. Captive animals held in solitary confinement similarly spend much of their lives locked into tiny spaces, isolated, and deprived of the types of interactions and environment essential to their wellbeing. And, like humans, they are driven mad. In human and nonhuman settings, the agony of solitary is chillingly alike and harmful. And, in neither setting is it justifiable or necessary.*

*This Article uses a comparative format to examine the moral, penological and scientific shortcomings of solitary confinement across species. Part I describes how solitary confinement is used in human and nonhuman settings and shows the deep wounds that it inflicts in both.*

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\* Michael B. Mushlin is Professor of Law Emeritus, Elisabeth Haub School of Law at Pace University. I express my gratitude to Nicole Anna Vanderveer, Class of 2023, Katherine M. Boyd and Tyler Rutherford, Class of 2022, Vanessa Garcia and Sabrina Rehfeld Class of 2024 of the Elisabeth Haub School of Law at Pace University for their superb assistance. The authors presented a version of this Article at a faculty development session at Pace Law School in July 2022. We are grateful for the feedback and assistance that we received from our colleagues at that session.

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*Part II examines why the legal structures under which solitary confinement is imposed (on humans and nonhumans) offer inadequate protections from its depredations. Part III argues that incarcerated beings have no legal protections because they are powerless and invisible. In Part IV, the authors write individually. The author with expertise in prison law (Mushlin) describes how solitary confinement would end in penal facilities if prisoners were empowered and their rights protected. Next, the author with expertise in animal law (Cassuto) explains why solitary confinement for animals in zoos, aquariums and laboratories should and could be abolished. The authors conclude with a call to empower creatures subjected to solitary confinement. If all vulnerable beings are adequately protected, the unnecessary suffering inflicted by solitary confinement will finally end.*

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## I. INTRODUCTION

Everyday thousands of humans and millions of nonhumans are held in American prisons, jails, laboratories and zoos against their will in solitary confinement.<sup>1</sup> The impact of this experience is shattering. Justice Kennedy observed that prolonged solitary confinement will inevitably bring prisoners “to the edge of madness, perhaps to madness itself.”<sup>2</sup> Human prisoners are confined for twenty-two to twenty-four hours a day for weeks, months, or even years in spaces the size of a parking space.<sup>3</sup> They live their lives in extreme isolation, deprived of the contact with fellow humans that forms the core of the human experience. Captive animals in the United States in solitary confinement are locked into small spaces, isolated, and deprived of the types of interactions and environments that are essential to their wellbeing.<sup>4</sup> And, like humans, they are driven mad.

Nonhumans and humans respond to forced isolation in much the same ways. They often mutilate themselves, tear out their hair, and attack their own bodies.<sup>5</sup> They also scream continuously, beat themselves against their cages, and exhibit other self-destructive behaviors.<sup>6</sup> The confinement frightens, disorients, and shatters their well-being. In human and nonhuman settings, the agony of solitary is chillingly similar and harmful. And in neither setting is it justifiable or necessary.<sup>7</sup>

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1. See discussion *infra* section II.A–B.
  2. *Davis v. Ayala*, 576 U.S. 257, 288 (2015) (Kennedy, J., concurring).
  3. Craig Haney & Monia Lynch, *Regulating Prisons of the Future: A Psychological Analysis of Supermax and Solitary Confinement*, 23 NYU REV. L. & SOC. CHANGE 477, 500 (1997) (research that demonstrates that solitary confinement is psychologically harmful and can lead to long-term emotional and/or physical damage).
  4. See discussion *infra* section II.B.
  5. See Stuart Grassian, *Psychiatric Effects of Solitary Confinement*, 22 WASH. U. J. L. & POL'Y 325, 366 (2006) (“Others [studies] have also found isolation-induced aggressive behavior in mice (such as biting attacks) . . . the effects of social isolation on primates show such deleterious effects as self-mutilation . . .”).
  6. Bob Comis, *What Humane Slaughterhouses Don't Solve: The Last Pig Problem*, THE DODO (Mar. 10, 2014, 3:24 PM), <https://www.thedodo.com/the-last-pig-459704635.html> [<https://perma.cc/TG8Q-WP9V>].
  7. This Article does not take a position on the morality or justification for the institutions in which solitary confinement occurs in prisons, jails, zoos or places of medical experimentation. Instead, the Article focuses on the use of solitary confinement within these institutions. Whether the institutions in which solitary confinement takes place should be abolished is a subject that is left unanswered or addressed in this Article. Abolition of places of human incarceration and places of animal confinement raise questions that are unique to each type of institution. This is because while there are important similarities, which are described, the reasons for confinement of nonhumans and humans differ. In the case of humans whether pretrial detention or imprisonment can or should be used is question that recently has generated important discussion. See, e.g., Dorothy E. Roberts, *Abolition Constitutionalism*, 133 HARV. L. REV. 1 (2019). Equally important in an age of “mass incarceration” is the question of whether the public good is served in any way by a prison and jail system that in the last generation has grown to be gigantic.

While the similarities between human and animal solitary confinement have been documented previously,<sup>8</sup> this Article goes further. Here, two experts, one in prison law and the other in animal law, explore the moral, penological and scientific shortcomings of the practice of solitary confinement across species and call for much needed reform. Their collaboration yields three critical insights. First, solitary confinement inflicts pain and suffering that leaves deep physical and emotional scars on all beings upon whom it is imposed. The similarity of that suffering across species lends powerful support to the notion that solitary confinement is, as Dickens said, “immeasurably worse than any torture of the body.”<sup>9</sup> Second, the legal system does not adequately protect anyone (human or nonhuman) from the dangers of solitary confinement. And third, solitary confinement is tolerated because it is imposed on disenfranchised and powerless beings.

This Article proceeds in four sections. Part II describes solitary confinement in prisons and jails and discusses the detrimental impact on the mental and physical health of persons subjected to it. It then reviews the solitary confinement imposed on animals in captivity and describes the grievous wounds such treatment inflicts, both physically and emotionally. Part III examines the legal structures under which solitary confinement is imposed on humans and nonhumans and describes how the law regulating each is inadequate. Part IV argues that the reason for the lack of legal protection for the rights of incarcerated humans and nonhumans is that they are powerless. In Part V, each author writes individually. The author with expertise in prison law (Mushlin) describes how solitary confinement could be ended in penal facilities if the rights of prisoners were protected. Then, the author with expertise in animal law (Cassuto) explains why solitary confinement for animals in zoos, aquariums and laboratories should be abolished. The Article concludes with a call to empower all beings,

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These are elaborate questions that go to the heart of how the criminal justice system ought to function, all of which are beyond the scope of this Article. Similarly, there are important issues about the confinement of nonhumans that are outside the scope of this piece. Unlike the human confinement in the case of nonhumans, confinement almost always has nothing to do with public safety and any interrogation of its justification would inevitably have to address issues of speciesism and animal rights, as well as the nature and scope of our obligations—moral and legal—to other beings. Consequently, this discussion is cabined solely to solitary confinement and not whether the institutions in which solitary confinement is employed should or should not exist.

8. See generally Delcianna J. Winders, *Treating Humans Worse Than Animals?*, in *CARCERAL LOGICS: HUMAN INCARCERATION AND ANIMAL CAPTIVITY* 187, 187–203 (LORI GRUEN & JUSTIN MARCEAU EDS., 2022); Karen M. Morin, *Carceral Space: Prisoners and Animals*, 48 *ANTIPODE* 1317 (2016); JUSTIN MARCEAU, *BEYOND CAGES: ANIMAL LAW AND CRIMINAL PUNISHMENT* (2019).
9. 1 CHARLES DICKENS, *AMERICAN NOTES FOR GENERAL CIRCULATION* 239 (London, Chapman & Hall 1842).

human and non-human, who endure solitary confinement so that once and for all this torturous practice is ended.

## II. SOLITARY CONFINEMENT OF HUMANS IN AMERICAN PENAL FACILITIES AND OF NONHUMANS IN CAPTIVITY IN AMERICAN ZOOS AND PLACES OF MEDICAL EXPERIMENTATION

The precise number of people in solitary confinement in American prisons is not known, but it is beyond dispute that tens of thousands are held in solitary confinement every day.<sup>10</sup> And that's only the number on any given day. Far more—close to a half million prisoners—spend time in solitary each year.<sup>11</sup> For animals, the number is much higher; millions of animals in captivity in zoos and places of medical experimentation are held in solitary confinement.<sup>12</sup> The reasons for using solitary confinement vary, as do the names of the places in which the confinement occurs.<sup>13</sup> Whatever the term used, the experience of

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10. SOLITARY WATCH & UNLOCK THE BOX CAMPAIGN, CALCULATING TORTURE: ANALYSIS OF FEDERAL, STATE, AND LOCAL DATA SHOWING MORE THAN 122,000 PEOPLE IN SOLITARY CONFINEMENT IN U.S. PRISONS AND JAILS (2023), <https://solitarywatch.org/wp-content/uploads/2023/05/Calculating-Torture-Report-May-2023-R2.pdf> [https://perma.cc/DGT2-2ET6] (“This report has documented that more than 122,000 people in adult prisons and jails are in solitary confinement on a given day for 22 or more hours a day. In fact, the number of people subjected to solitary confinement across the United States is far greater.”). One government study said that about 90,000 prisoners were in solitary on a daily basis. NAT’L INST. OF JUST., RESTRICTIVE HOUSING IN THE UNITED STATES 244 (2016). Other studies provide differing numbers. See, e.g., THE ASS’N OF STATE CORR. ADM’RS & THE LIMAN CTR. FOR PUB. INT. L. AT YALE L. SCH., TIME-IN-CELL: A 2021 SNAPSHOT OF RESTRICTIVE HOUSING (2022), [https://law.yale.edu/sites/default/files/area/center/liman/document/time\\_in\\_cell\\_2021.pdf](https://law.yale.edu/sites/default/files/area/center/liman/document/time_in_cell_2021.pdf) [https://perma.cc/K253-V2GF] (in a survey of jurisdictions with data encompassing 61.2% of prisoners nationwide, 25,083 people were held in solitary confinement); Angela Browne et al., *Prisons Within Prisons: The Use of Segregation in the United States*, 24 FED. SENT’G REP. 46 (2011) (expressing that in 2005, 81,622 individuals were held in restrictive housing); THE ASS’N OF STATE CORR. ADM’RS & THE LIMAN CTR. FOR PUB. INT. L. AT YALE L. SCH., REFORMING RESTRICTIVE HOUSING: THE 2018 ASCA-LIMAN NATIONWIDE SURVEY OF TIME IN CELL (2018), [https://law.yale.edu/sites/default/files/documents/pdf/Liman/asca\\_liman\\_2018\\_restrictive\\_housing\\_revised\\_sept\\_25\\_2018\\_-\\_embargoed\\_unt.pdf](https://law.yale.edu/sites/default/files/documents/pdf/Liman/asca_liman_2018_restrictive_housing_revised_sept_25_2018_-_embargoed_unt.pdf) [https://perma.cc/GD3R-SCU7] (reporting 49,197 individuals were held in solitary in 2017 based on a survey of 43 jurisdictions representing 72.2% of the total U.S. prison population) [hereinafter ASCA 2018].
  11. According to data in 2011, on an average day, up to 4.4% of state and federal prisoners and 2.7% of jail inmates are held in isolation in the United States. ALLEN BECK, U.S. DEP’T OF JUST., USE OF RESTRICTIVE HOUSING IN U.S. PRISONS AND JAILS, 2011–12, at 1 (2015). Roughly 10% of all prisoners and 5% of jail inmates spent at least a month in solitary during 2011–12. *Id.*
  12. Winders, *supra* note 8, at 188.
  13. The following terms have been used to describe solitary confinement units: “administrative confinement,” “close supervision,” “behavior modification,” “departmental segregation,” “enhanced supervision housing” (“ESH”), “inmate segregation,”

solitary confinement, whether imposed on humans or non-humans, is one of extreme isolation which has devastating consequences.<sup>14</sup> This part describes the rationales for solitary confinement in places that confine humans and animals, the conditions in these confinement units, and the detrimental impact that such treatment has on the creatures subjected to it.

## A. Solitary Confinement in American Penal Facilities

### 1. *How Solitary Confinement Is Used in American Prisons and Jails*

There are three principal reasons prisoners are isolated: (1) to discipline the individual placed in solitary, (2) to provide protection for persons who cannot live in the general population in the prison, and (3) to isolate persons considered prone to violence if left in the normal prison area.<sup>15</sup>

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“intensive management,” “special management unit” (“SMU”), “security (or special) housing units” (“SHU”), “security control,” “maximum control units,” “protective custody,” “disciplinary segregation,” and “administrative segregation;” See Shira E. Gordon, *Solitary Confinement, Public Safety, and Recidivism*, 47 U. MICH. J.L. REFORM 495, 496 (2014); Andrew Leon Hanna, *Series on Solitary Confinement & the Eighth Amendment: Article I of III Solitary Confinement in America*, 21 U. PA. J. CONST. L. ONLINE 1, 6 (2019); THE ASS’N OF STATE CORR. ADM’RS & THE LIMAN CTR. FOR PUB. INT. L. AT YALE L. SCH., *TIME-IN-CELL: THE ASCA-LIMAN 2014 NATIONAL SURVEY OF ADMINISTRATIVE SEGREGATION IN PRISON 1* (2015), [https://law.yale.edu/sites/default/files/area/center/liman/document/asca-liman\\_administrativesegregation-report.pdf](https://law.yale.edu/sites/default/files/area/center/liman/document/asca-liman_administrativesegregation-report.pdf) [<https://perma.cc/JK5S-5BW4>].

14. The negative consequences of solitary confinement are now extensively documented. See, e.g., Hanna, *supra* note 13, at 6; see also Ashley T. Rubin & Keramet Reiter, *Continuity in the Face of Penal Innovation: Revisiting the History of American Solitary Confinement*, 43 LAW & SOC. INQUIRY 1604, 1608 (2018) (“[W]e define solitary confinement broadly as the intersection of two of the most restrictive conditions of incarceration—reducing prisoners’ freedom of movement by maximizing ‘time in cell’ and constraining human contact (both physical and social) so severely as not to be ‘meaningful.’”); Lindley A. Bassett, *The Constitutionality of Solitary Confinement: Insights from Maslow’s Hierarchy of Needs*, 26 HEALTH MATRIX 403, 408 (2016) (describing common living conditions of solitary confinement); Gordon, *supra* note 13, at 495 (solitary confinement often means little human interaction, minimal to no natural light, and lack of entertainment like books or television); Grassian, *supra* note 5, at 327 (explaining the psychiatric harms of solitary confinement).
15. Hanna, *supra* note 13, at 13; see also Francis X. Shen, *Neuroscience, Artificial Intelligence, and the Case Against Solitary Confinement*, 21 VAND. J. ENT. & TECH. L. 937, 944 (2019) (outlining the three primary reasons for solitary confinement). For a detailed and revealing discussion of various segregation policies as they are put into practice, see KITTY CALAVITY & VALERIE JENNESS, *APPEALING TO JUSTICE: PRISONER GRIEVANCES, RIGHTS, AND CARCERAL LOGIC*, at 66, 86, 115, 147 (2014).



*a. Discipline*

Most people believe solitary confinement is imposed for violations of serious prison rules.<sup>16</sup> The reality is quite different. Solitary confinement is often the “go to” option for any violation of a prison rule, not just significant violations.<sup>17</sup> Prisoners who disobey even trivial prison rules often find themselves in solitary confinement, a punishment frequently grossly disproportionate to the infraction.<sup>18</sup> Many times, the infraction has little to do with violence at all.<sup>19</sup>

*b. Protective Custody*

A second reason for imposing solitary confinement is for protection. A person vulnerable to violence or abuse from others in the general population is put in solitary confinement for their safety.<sup>20</sup> Individuals placed in these “protective custody” units include those sentenced in notorious cases, those who are vulnerable due to age or sexual orientation, and informants at risk of retaliation from other inmates.<sup>21</sup> People who need protection pay a heavy price for it. They are safeguarded from physical harm from the general prison population, but to receive this essential protection they must instead endure the torments of solitary confinement.

*c. Administrative Segregation*

Administrative segregation straddles the line between discipline and protection. The goal is to incapacitate individuals who are “considered an active harm to others in the general population.”<sup>22</sup> Unlike

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16. Shen, *supra* note 15, at 945 (explaining that a “utilitarian deterrence justification offered for disciplinary segregation is that spending time in solitary confinement is thought to make it less likely for an individual to offend again, and seeing someone spend time in solitary might have a general deterrence effect on other inmates”).

17. Gordon, *supra* note 13, at 496; *see also* Hanna, *supra* note 13, at 13 (defining disciplinary segregation as a “form of segregation [that] is utilized as a response to some inmate rules infractions”); Shen, *supra* note 15, at 944 (2019) (“Prisoners have a number of rules for inmates, and inmates who violates those rules are subject to discipline.”).

18. Hanna, *supra* note 13, at 13 & nn.72–73.

19. *Id.* at 13 nn.74–75 (solitary confinement has been reported as a punishment for abusive language, low-level contraband, smoking, and other minor infractions).

20. *See* Gordon, *supra* note 13, at 496; Hanna, *supra* note 13, at 13.

21. Shen, *supra* note 15, at 945 (“Historically, prisoners selected for protective custody fall into one of two categories: (1) those who have provided information about rule violations committed by other inmates and (2) those with characteristics—sexual, cognitive, or otherwise—that increase the likelihood of abuse by other inmates.”); Gordon, *supra* note 13, at 496.

22. Hanna, *supra* note 13, at 13; *see also* Gordon, *supra* note 13, at 496 (explaining the difference between administrative segregation and protective custody); Shen,

disciplinary solitary confinement, where the prisoner is sentenced to a specific time in solitary for the commission of a specific offense, the rationale for administrative segregation is not punishment.<sup>23</sup> Unlike protective custody, where the prisoner is placed in solitary confinement for their own protection, a prisoner is placed in administrative segregation because the prisoner is thought to pose a risk to others in the general population.<sup>24</sup> When a person is sent to administrative segregation and placed in solitary confinement, that confinement is indefinite.<sup>25</sup> So long as a person is considered a threat, the incarcerated person will be held in solitary confinement even if this means years or even decades in solitary confinement.<sup>26</sup>

## 2. *Living Conditions*

Regardless of the reason for being placed in solitary confinement, the conditions in these units are functionally the same. “[C]ells are unusually barren, diminished, and empty of hope.”<sup>27</sup> Persons are confined in these small spaces for twenty-two to twenty-four hours per day in virtually “utter isolation from human contact.”<sup>28</sup> Those in need of medical treatment often are denied genuine human interaction with healthcare providers.<sup>29</sup> When medical care is necessary, medical staff often come to the unit for brief encounters through the narrow slit between the door and the wall, often without even opening the cell door.<sup>30</sup> Visits with loved ones are usually restricted to no-contact visiting booths during which those in solitary must view visitors through

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*supra* note 15, at 946 (discussing the arguments that critics and proponents use when discussing administrative segregation).

23. Hanna, *supra* note 13, at 13.

24. Alison Shames et al., *Solitary Confinement: Common Misconceptions and Emerging Safe Alternatives*, VERA INST. OF JUST., 4 (2015), [https://www.vera.org/downloads/publications/solitary-confinement-misconceptions-safe-alternatives-report\\_1.pdf](https://www.vera.org/downloads/publications/solitary-confinement-misconceptions-safe-alternatives-report_1.pdf) [<https://perma.cc/XWN7-VLB6>].

25. *Id.*

26. See, e.g., ALBERT WOODFOX, *SOLITARY UNBROKEN BY FOUR DECADES IN SOLITARY CONFINEMENT: MY STORY OF TRANSFORMATION AND HOPE* (2019) (describing being confined in solitary confinement in Angola prison because of perceived dangerousness).

27. Hanna, *supra* note 13, at 15.

28. *Id.*; see also Alexander A. Reinert, *Solitary Troubles*, 93 NOTRE DAME L. REV. 927, 940 (2018) (“[P]risoners may spend years in solitary conditions . . . with almost no human contact over the course of the confinement.”).

29. Hanna, *supra* note 13, at 15–16 (“[I]ndividuals with mental illness often receive very limited, if any, interaction with psychiatrists or group therapy programs, despite their need for treatment.”).

30. Hanna, *supra* note 10, at 15 (noting that “efforts are made by prison officials to avoid any kind of interaction among solitary confinement inmates, between solitary confinement inmates and inmates in the general population, and even between solitary confinement inmates and prison staff”).

closed-circuit televisions<sup>31</sup> or a “plexiglass wall.”<sup>32</sup> Because of this limitation on human contact, prisoners frequently choose to forego visits with their family and friends.<sup>33</sup> The opportunity to participate in the programs available through the prison to other incarcerated persons, such as education or work programming, is much more limited in the confined space of solitary confinement units if available at all.<sup>34</sup>

In addition to the limitations on human interaction, there is also the reality of the extreme restriction on physical space. Cells are often smaller than standard prison cells,<sup>35</sup> “generally eighty square feet in size, or less than the size of a parking space and only a little bigger than a king-sized bed.”<sup>36</sup> In that tiny space, a prisoner in solitary confinement lives all day and all night, never more than a step or two away from their bed, personal belongings, or toilet. Not only is the space limited, but the access to what would seem obvious to most as characteristics of a living space, such as natural light, is regularly lacking.<sup>37</sup> Windows many times are not present, and if present, they are often small “slits in the cell doors.”<sup>38</sup> Exercise time is minimal, as little as four hours a week.<sup>39</sup>

Even during the limited times that a person is out of their cell, the conditions are greatly restrictive, with people sometimes being chained to a table,<sup>40</sup> or put in a confined outdoor area for the duration of their exercise time.<sup>41</sup> The severity of the conditions present in solitary confinement are further highlighted by the length of time spent in these conditions. Regardless of the reason, all too often people

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31. See R. George Wright, *What (Precisely) Is Wrong with Prolonged Solitary Confinement?*, 64 SYRACUSE L. REV. 297, 302 (2014) (quoting Bruce A. Arrigo & Jennifer Leslie Bullock, *The Psychological Effects of Solitary Confinement on Prisoners in Supermax Units*, 52 INT’L J. OFFENDER THERAPY AND COMP. CRIMINOLOGY 622, 625 (2008)).

32. Bassett, *supra* note 14, at 409.

33. See STANDARDS FOR TREATMENT OF PRISONERS § 23-8.5 cmt. at 264 (AM. BAR ASS’N 2010) (describing noncontact visits as a “very unsatisfactory kind of communication”).

34. Wright, *supra* note 31, at 302; see also Bassett, *supra* note 14, at 409 (discussing prisoners’ limited ability to exercise, access certain programs, and restrictions on hobbies).

35. Hanna, *supra* note 13, at 17.

36. *Id.*; see also Merin Cherian, *Cruel, Unusual, and Unconstitutional: An Originalist Argument for Ending Long-Term Solitary Confinement*, 56 AM. CRIM. L. REV. 1759, 1760 (2019).

37. See Gordon, *supra* note 13, at 497; Bassett, *supra* note 14, at 408.

38. Hanna, *supra* note 13, at 17; see also Bassett, *supra* note 14, at 408 (describing solitary cells as concrete or steel and if there is a window present at all, it is one small window).

39. Bassett, *supra* note 14, at 409.

40. “In a Wisconsin juvenile facility, young people are allegedly provided their exercise time while chained to a table.” Hanna, *supra* note 13, at 16.

41. Gordon, *supra* note 13, at 497.

spend long periods that can stretch into years and decades in solitary confinement.<sup>42</sup>

### 3. *Impact of Solitary Confinement on Humans in Penal Facilities*

No matter the reason it is imposed, the “mental anguish”<sup>43</sup> of solitary on humans is irrefutable. Albert Woodfox, the author of a Pulitzer Prize finalist memoir<sup>44</sup> who spent over forty years in solitary confinement, said upon his release: “I do not have the words to convey the years of mental, emotional and physical torture I have endured. I ask that for a moment you imagine yourself standing at the edge of nothingness, looking at emptiness. The pain and suffering this isolation causes go beyond mere description.”<sup>45</sup>

There is now broad recognition across the scientific community that solitary causes grave psychological harm on human beings.<sup>46</sup> While the harm increases with the length of time in which a person is held in solitary,<sup>47</sup> even a short stay can cause lasting damage.<sup>48</sup>

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42. Hanna, *supra* note 13, at 16; *see also* Gordon, *supra* note 13, at 497 (noting that the average time spent in solitary confinement in New York is 3 years, and 7 ½ years in California’s Pelican Bay); Bassett, *supra* note 14, at 409 (“The average duration of a placement in solitary confinement is 531 days or the equivalent of just under a year and a half”).

43. Apodaca v. Raemisch, 139 S. Ct. 5, 8 (2018) (Sotomayor, J., respecting denial of certiorari); *see also* Atul Gawande, *Hellhole*, THE NEW YORKER (Mar. 23, 2009), <https://www.newyorker.com/magazine/2009/03/30/hellhole> [<https://perma.cc/ZQ6L-2M66>] (referring to solitary as creating “soul-destroying loneliness”).

44. WOODFOX, *supra* note 26.

45. *First Hand Accounts*, SEEING SOLITARY, <https://seeingsolitary.limancenter.yale.edu/firsthand-accounts> [<https://perma.cc/6XXD-TZ49>] (last visited May 12, 2023).

46. Hanna, *supra* note 13, at 17.

47. *Id.*; *see also* Ruth Chan, *Buried Alive: The Need to Establish Clear Durational Standards for Solitary Confinement*, 53 JOHN MARSHALL L. REV. 235, 248 (2020) (“Experiments performed on both animals and human subjects have shown a strong correlation between adverse psychological changes and increased time spent in isolation.”).

48. A few days in isolation can “shift the [brain’s] electroencephalogram (EEG) pattern toward an abnormal pattern characteristic of stupor and delirium.” Hanna, *supra* note 13, at 17 (quoting Grassian, *supra* note 5, at 331); *see also* Chan, *supra* note 47, at 251 (describing a 1951 study in which “[a]most all of the subjects reported similar experiences of being ‘unable to think clearly about anything for any length of time’ and experiencing hallucinations, childish emotional responses, extreme restlessness, and inability to perform grade-school tasks” after less than a week in solitary confinement and a 2008 study in which individuals who were subjected to 48 hours in a sound proof room “experienced psychological symptoms including anxiety, extreme emotions, paranoia, and significant mental impairment”). Moreover, a mere 10 days can cause negative psychiatric symptoms. Hanna, *supra* note 13, at 17–18.

Among its manifestations are agitation, loss of motivation, and self-destructive behavior including self-mutilation and suicide.<sup>49</sup> Symptoms frequently include loss of self-identity, which can and often does lead to suicidal thoughts.<sup>50</sup> With the loss of motivation comes a cycle of negative thoughts and emotions without an outlet to express them.<sup>51</sup> A recent study of 500 inmates in solitary, observed that a majority had depression, heart palpitations, and dizziness.<sup>52</sup> Around forty-one percent reported experiencing hallucinations.<sup>53</sup> In addition, deprivation of social interaction leads to a lack of sleep,<sup>54</sup> impaired function of the immune system,<sup>55</sup> and increased stress hormones.<sup>56</sup>

In solitary confinement units, the abnormal, bizarre, and frightening is commonplace. It is not at all unusual in these places to see prisoners smearing feces on themselves and the walls of their cells.<sup>57</sup> Prisoners in solitary also can be seen “sit[ting] catatonic in puddles of their own urine on the floors of their cells.”<sup>58</sup> Inmates have even been observed beating their fists and heads against their cell walls.<sup>59</sup> This self-harm behavior does not stop with using their bodies to attack their cell walls. Confinement causes inmates to self-mutilate and increases suicidal thoughts.<sup>60</sup> Around a third of individuals in solitary confinement were

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49. See MICHAEL B. MUSHLIN, *RIGHTS OF PRISONERS* §3.20 (5th ed. 2019) (summarizing the scientific data on the detrimental consequences of solitary confinement and listing seven “strikingly consistent” psychiatric symptoms including: hypersensitivity to external stimuli; perceptual distortions, illusions and hallucinations, severe panic attacks, difficulty with thinking, concentration and memory, intrusive obsessional (and often violent) thoughts that prisoners resist but cannot control, overt paranoia, and problems with impulse control).

50. Hanna, *supra* note 13, at 18.

51. *Id.*; Bassett, *supra* note 14, at 419.

52. Hanna, *supra* note 13, at 18 & n.99.

53. *Id.* at 18.

54. John T. Cacioppo et al., *Do Lonely Days Invade the Nights? Potential Social Modulation of Sleep Efficiency*, 13 *PSYCH. SCI.* 384, 384 (2002); John T. Cacioppo et al., *The Neuroendocrinology of Social Isolation*, 66 *ANN. REV. PSYCH.* 733, 733 (2015) [hereinafter Cacioppo et al., *Neuroendocrinology*].

55. Sarah D. Pressman et al., *Loneliness, Social Network Size, and Immune Response to Influenza Vaccination in College Freshmen*, 24 *HEALTH PSYCH.* 297, 298 (2005).

56. Emma K. Adam et al., *Day-To-Day Dynamics of Experience-Cortisol Associations in a Population-Based Sample of Older Adults*, 103 *PROC. NAT'L ACAD. SCI.* 17058, 17058 (2006).

57. Hanna, *supra* note 13, at 18; Bassett, *supra* note 14, at 417 (“[I]nmates may become so desperate for revenge and external feedback that they react by throwing feces, urine, and/or semen at prison guards simply to facilitate some sort of human interaction.”).

58. Hanna, *supra* note 10, at 18 (quoting Ruth Marcus, *Why Are We Subjecting Our Youths to Solitary Confinement?*, *WASH. POST* (Oct. 16, 2012), [https://www.washingtonpost.com/opinions/ruth-marcus-why-are-we-subjecting-our-youths-to-solitary-confinement/2012/10/16/76a7bc50-17b6-11e2-9855-71f2b202721b\\_story.html?utm\\_term=.3d10ee2eaa8f](https://www.washingtonpost.com/opinions/ruth-marcus-why-are-we-subjecting-our-youths-to-solitary-confinement/2012/10/16/76a7bc50-17b6-11e2-9855-71f2b202721b_story.html?utm_term=.3d10ee2eaa8f) [https://perma.cc/7K8W-QM6Y]).

59. *Id.*

60. *Id.* at n.101; Chan, *supra* note 47, at 252.

found to have active psychotic and suicidal behavior.<sup>61</sup> Recently, one scholar interviewed inmates in solitary confinement and found that twenty-seven percent of the individuals he interviewed had suicidal thoughts.<sup>62</sup>

The effect is even greater when solitary is imposed on persons who are especially vulnerable.<sup>63</sup> These include the young, the old, mentally ill persons, and pregnant women.<sup>64</sup> At its extreme, solitary confinement causes mental illness, including psychosis, and greatly exacerbates pre-existing mental illness.<sup>65</sup> This, and other physical and psychological damage, is often permanent.<sup>66</sup> Yet individuals with serious mental illness are far too often placed in solitary confinement to “handle” or “deal with” their condition; individuals with mental illness are “over-represented in solitary confinement.”<sup>67</sup> While around a quarter of the overall incarcerated population consists of individuals with mental illness, they make up close to a half of those in solitary confinement.<sup>68</sup>

The reason for this harm is not difficult to understand. Human beings are social creatures.<sup>69</sup> They engage through “learning by social observation”; “navigating complex social hierarchies, social norms, and cultural developments”; and “orchestrating relationships, ranging from pair bonds and families to friends, bands, and coalitions.”<sup>70</sup> When they are confined in solitary confinement, deprived of these human needs, prisoners experience “feelings of sadness and depression”<sup>71</sup> and

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61. Hanna, *supra* note 13, at 18; Terry A. Kupers, *Isolated Confinement: Effective Method for Behavior Change or Punishment for Punishment's Sake?*, in *THE ROUTLEDGE HANDBOOK FOR INT'L CRIME & JUST. STUD.*, 213, 215–16 (Bruce A. Arrigo & Heather Y. Bersot, eds., 2014); *see also* Chan, *supra* note 47, at 252 (explaining that “half of all suicides that took place in prisons between 1999 and 2004 were from those in solitary confinement”).

62. Hanna, *supra* note 13, at 18.

63. *Why Are People Sent to Solitary Confinement? The Reasons Might Surprise You.*, VERA INST. OF JUST. (Mar. 2021), <https://www.vera.org/publications/why-are-people-sent-to-solitary-confinement> [https://perma.cc/TA5F-3AZH].

64. MUSHLIN, *supra* note 49, §3.29 (“Solitary Confinement is especially dangerous when inflicted on vulnerable populations including mentally ill inmates, young persons and pregnant women.”).

65. *Id.*

66. Elizabeth Bennion, *Banning the Bing: Why Extreme Solitary Confinement is Cruel and Far Too Usual Punishment*, 90 *IND. L.J.* 741, 757–58 (2015); Craig Haney, *Mental Health Issues in Long-Term Solitary and “Supermax” Confinement*, 49 *CRIME & DELINQ.* 124, 126 (2003); Grassian, *supra* note 5, at 333.

67. Hanna, *supra* note 13, at 12.

68. *Id.* at 11.

69. Cherian, *supra* note 36, at 178 & n.215 (discussing the well-documented support that social psychologists have found for the importance of social contact).

70. Shen, *supra* note 15, at 948 (quoting John T. Cacioppo & Stephanie Cacioppo, *Social Relationships and Health: The Toxic Effects of Perceived Social Isolation*, 8 *SOC. & PERSONALITY PSYCH. COMPASS* 58, 58–59 (2014)).

71. *Id.*

“increased vascular resistance and higher blood pressure.”<sup>72</sup> While research is limited, it suggests that brain circuits are deleteriously affected by prolonged time in solitary confinement.<sup>73</sup> From this data the overall consensus of the medical community is that there are long-term psychological impacts from punitive isolation.<sup>74</sup> Solitary confinement has also been scientifically correlated with an increase in physical morbidity and mortality.<sup>75</sup>

Solitary confinement follows individuals even after they are released into the general population of the prison or back into the free world.<sup>76</sup> The evidence establishes that prisoners who have experienced solitary confinement are “more likely to develop psychiatric disorders,”<sup>77</sup> experience self-harm,<sup>78</sup> and contemplate and follow through with suicide at a greater rate than individuals that have never experienced isolation.<sup>79</sup> One study of people who were released from prison in North Carolina from 2000 to 2015 found that individuals who spent any time

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72. *Id.* at 948 & n.49.

73. *Id.* at 949; Cacioppo et al., *Neuroendocrinology*, *supra* note 54, at 733. Medical researchers have conducted noninvasive brain imaging to examine the impacts of solitary confinement. Shen, *supra* note 15, at 950. When individuals who have spent time in solitary confinement are observed on a neurological level, there is some evidence that suggests “dopaminergic neurons in the dorsal raphe nucleus (“DRN”) represent the experience of social isolation.” *Id.* at 950 & n.63. It has been suggested that solitary confinement causes an increase in DRN which impacts an individual’s ability to perceive social rewards and queues. *Id.* at 950. Moreover, adults who were isolated showed “reduced activation of the ventral striatum in response to pleasant social images, and increased activation of the visual cortex in response to unpleasant social images” compared to individuals who had not experienced isolation. *Id.* at 950–51. Research has showed that individuals who are isolated are hypervigilant in their responses to social stimuli whether their social environment is threatening or not. *Id.* at 951 & n.70. The hyper-alertness corresponds with the increased activation of the neural network which controls an individuals’ alertness. *Id.*

74. *Id.* at 953 & n.85.

75. *Id.* at 949; Veronica Chmiel, *Making the Case for Abolition: Why Legislation Restricting Solitary Confinement Is Not Enough*, 45 SETON HALL LEGIS. J. 181, 184 (2021) (“Studies have also found solitary confinement to be as strong of a risk factor for mortality and morbidity as smoking, obesity, high blood pressure, and living a sedentary lifestyle.”).

76. Cherian, *supra* note 36, at 1760 & n.10; *see also* Nicole Johnson, *Solitary Confinement of Juvenile Offenders and Pre-Trial Detainees*, 35 Touro L. REV. 699, 702 (2019) (“The effects of solitary confinement are irreversible and detrimental to a person’s mental and physical wellbeing.”); Juan Méndez, *Solitary Confinement Should be Banned in Most Cases, UN Expert Says*, UN NEWS (Oct. 18, 2011), <https://news.un.org/en/story/2011/10/392012-solitary-confinement-should-be-banned-most-cases-un-expert-says> [https://perma.cc/NX75-2UGT].

77. Shen, *supra* note 15, at 953 & n.86.

78. *Id.* at 953 & n.87.

79. *Id.* at 954 & n.88; Bassett, *supra* note 14, at 419 (identifying a “significant correlation between segregated prison housing and suicidal ideation”).

in restrictive housing were twenty-four percent more likely to die in the first year after release.<sup>80</sup>

### B. Solitary Confinement of Nonhumans in Captivity

No one knows how many animals are held in solitary confinement in the United States. This ignorance arises partly from shoddy record-keeping and indifference to and/or exemptions from regulatory requirements. Mostly, however, it is because no one cares. Only three types of animals qualify under federal requirements for social companionship—nonhuman primates, marine mammals, and dogs (albeit to a lesser extent).<sup>81</sup> Those requirements—though lax and under-enforced—<sup>82</sup>mean that some records regarding numbers and the manner of captivity do exist.

Nevertheless, millions of lab animals (mice, rats, ferrets, birds, and others) in the U.S. are exempt from any protections at all. In addition—and though outside the purview of this Article— agricultural animals are often isolated and have no federal protections.<sup>83</sup> The sections that follow provide an overview of the nature of the social isolation imposed on animals and the reasons proffered for its use.

Solitary confinement of nonhumans generally involves sensory and social deprivation more often than complete isolation.<sup>84</sup> Usually there are interactions with humans, although in the laboratory context, those interactions frequently involve humans inflicting chemical or physical torments—all of which are perfectly legal.<sup>85</sup> An animal confined in a laboratory is the subject of human experimentation.<sup>86</sup> If the

80. Lauren Brinkley-Rubinstein et al., *Association of Restrictive Housing During Incarceration with Mortality After Release*, 2 JAMA NETWORK OPEN 1 (2019) (those who spent time in restrictive housing were 78% more likely to die by suicide, 54% more likely to die by homicide, and 127% more likely to die of an opioid overdose within 2 weeks after release).

81. See *infra* section III.B.2 (discussing USDA regulations related to solitary confinement).

82. The lack of clear standards and shoddy enforcement mean that, as a practical matter, the protections for these animals are few. See *infra* section III.B.3–5.

83. The plight of animals used in the food industry is well-documented and severe. See, e.g., Comis, *supra* note 6; David N. Cassuto & Tala DiBenedetto, *Suffering Matters: NEPA, Animals, and the Duty to Disclose*, 42 U. HAW. L. REV. 41, 51–57 (2020); David J. Wolfson & Mariann Sullivan, *Foxes in the Hen House: Animals, Agribusiness, and the Law: A Modern American Fable*, in ANIMAL RIGHTS: CURRENT DEBATES & NEW DIRECTIONS 205, 205–33 (Cass R. Sunstein & Martha C. Nussbaum, eds., 2004). However, solitary confinement is not as prevalent, see Hope Ferdowsian et al., *A Belmont Report for Animals?*, 29 CAMBRIDGE Q. HEALTHCARE ETHICS 19, 27 (2020), and the Animal Welfare Act does not apply, see 7 U.S.C. § 2131. Consequently, that is not focused on here.

84. Grassian, *supra* note 5, at 365–66.

85. See *infra* section II.A–B.

86. See Ferdowsian et al., *supra* note 83, at 22 (discussing the anthropocentric view of animal research).



animal resides in a zoo, it is likely on display for humans to observe.<sup>87</sup> Either way, the animal usually has some contact with humans. Nevertheless, the animals remain socially isolated<sup>88</sup>—kept away from other members of their species and deprived of meaningful, species-appropriate interactions.<sup>89</sup>

Living in this artificially imposed isolation differs from being solitary by nature. In their natural environments, even “solitary” animals do not live in isolation.<sup>90</sup> They have contact with other members of their species for many purposes, including procreation and raising their young.<sup>91</sup> They engage with others by mating, habitat copying, or mimicking predator avoidance behavior.<sup>92</sup> Like humans, nonhuman animals learn about their surroundings from each other, even if they are antisocial.<sup>93</sup> They also engage with each other through scent, scat, or remnants of food, all of which share information about other beings and their surroundings.<sup>94</sup>

Some nonhuman animals also have relationships with other species. This includes domesticated animals who interact with companion humans.<sup>95</sup> Isolation eliminates opportunities for interaction and this deprivation can lead to long-lasting mental and physiological damage.<sup>96</sup>

### 1. *Solitary Confinement in Zoos and Aquariums*

Animals that do not tolerate captivity well in zoos are often isolated. In one instance, a gorilla named Kit was put on a cocktail of

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87. Sally L. Sherwen & Paul H. Hemsworth, *The Visitor Effect on Zoo Animals: Implications and Opportunities for Zoo Animal Welfare*, 9 ANIMALS 366, 366 (2019).

88. This Article does not here refer to all animals in laboratories and zoos, only those kept in isolation.

89. Rebecca Tuvel, *Against the Use of Knowledge Gained from Animal Experimentation* 5 SOCIETIES 222, 227 (2015) (confinement in a laboratory is associated with “boredom, frustration, lack of access to conspecifics and species-typical behaviors”).

90. Solitary animals are defined as “those that spend a majority of their lives without others of their species, with possible exceptions for mating and raising their young. The antonym to a solitary animal is a social animal.” *Solitary Animal*, DEFINITIONS, <https://www.definitions.net/definition/solitary+animal> [<https://perma.cc/83JK-CXGX>] (last visited Jan. 11, 2022).

91. Robert Streiffer *The Confinement of Laboratory Animals: Ethical and Conceptual Issues*, in *THE ETHICS OF CAPTIVITY* 174, 183–184, 187 (Lori Gruen ed., 2014).

92. *Id.*

93. *Id.*

94. *Id.*

95. See, e.g., Dorothy L. Cheney, *Extent and Limits of Cooperation in Animals*, 108 PROCEEDINGS OF THE NAT'L ACAD. OF SCIS. OF THE U.S. 10902 (2011) (explaining the complex social groups nonhuman animals can be a part of with other nonhuman animals).

96. See Zoltán Tóth et al., *Diffusion of Social Information in Non-grouping Animals*, 8 FRONTIERS IN ECOLOGY & EVOLUTION 1, 4 (2020) (discussing the ecological significance of social information).

drugs that failed to curb his aggressive behavior.<sup>97</sup> After fruitlessly tinkering with his medications, researchers put Kit into a cement and steel holding cell.<sup>98</sup> He remained there in isolation for ten years.<sup>99</sup>

The case of Happy the elephant presents another prominent example.<sup>100</sup> Happy has lived in isolation for forty years at New York City's Bronx Zoo.<sup>101</sup> The zoo determined that Happy is not compatible with the other two elephants there and has also committed to closing its elephant exhibit.<sup>102</sup> Thus, the zoo will not acquire any other elephants.<sup>103</sup> This means that Happy's isolation will not change—a reality made all the more definite in light of the recent failure of a habeas corpus suit filed on her behalf.<sup>104</sup> In the wild, Happy would likely roam many miles each day in the company of her family. At the zoo, she lives alone in a two-acre enclosure<sup>105</sup> and, rather than roaming, she sways and paces,<sup>106</sup> behavior indicative of stress and often displayed by animals in isolation.<sup>107</sup>

Wildlife in aquariums display similar symptoms of chronic stress and depression when housed in isolation.<sup>108</sup> Dolphins and whales, when housed alone, are prone to stress ulcers and violent outbursts.<sup>109</sup> Aquariums often give marine creatures psychotropic drugs to combat depression, anxiety, and abnormal behaviors.<sup>110</sup>

Living conditions in zoos or aquariums seldom replicate an animal's natural habitat.<sup>111</sup> The physical and psychological stress resulting

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97. Laurel Braitman, *Even the Gorillas and Bears in Our Zoos Are Hooked on Prozac*, WIRED (July 15, 2014, 6:38 AM), <https://www.wired.com/2014/07/animal-madness-laurel-braitman/> [https://perma.cc/EA75-7D6F].

98. *Id.*

99. *Id.*

100. *Behind the Times for Elephants: So Called "Modern" Zoos are Harming Elephants with Outdated, Failing, and Inhuman Captive Methods*, IN DEFENSE OF ANIMALS (2018), <https://www.idausa.org/campaign/elephants/10-worst-zoos-for-elephants-2018/> [https://perma.cc/4Q2K-3JPK] (naming the Bronx zoo the worst zoo in the world for elephants due to Happy's conditions).

101. *Id.*

102. Joseph Berger, *Bronx Zoo Plans to End Elephant Exhibit*, N.Y. TIMES (Feb. 7, 2006), <https://www.nytimes.com/2006/02/07/nyregion/bronx-zoo-plans-to-endelephant-exhibit.html> [https://perma.cc/X6QW-2DAU].

103. *Id.*

104. Nonhuman Rts. Project, Inc. v. Breheny, 197 N.E.3d 921, 932 (2022) (upholding denial of habeas writ and, leaving no further avenue for habeas relief)

105. Berger, *supra* note 102.

106. *See id.* (discussing stereotypes).

107. LAUREL BRITMAN, ANIMAL MADNESS: HOW ANXIOUS DOGS, COMPULSIVE PARROTS, AND ELEPHANTS IN RECOVERY HELP US UNDERSTAND OURSELVES 134 (Simon & Schuster ed. 2014).

108. NAOMI A. ROSE, & E.C.M. PARSONS, THE CASE AGAINST MARINE MAMMALS IN CAPTIVITY 57 (Dave Tilford ed., 5th ed. 2019).

109. *Id.*, at 4.

110. Braitman, *supra* note 97.

111. JASON HRIBAL, FEAR OF THE ANIMAL PLANET: THE HIDDEN HISTORY OF ANIMAL RESISTANCE 29 (2010).

from confinement in unnatural surroundings can lead to aggressive behavior or an animal becoming the target of aggression by others.<sup>112</sup> These issues have led some zoos to forego collecting certain species.<sup>113</sup>

Many enclosures also cannot fit more than one animal and/or are undersized.<sup>114</sup> Solitary confinement often ensues. Sick animals are also isolated.<sup>115</sup> Lastly, some animals in zoos are placed in solitary confinement as a punitive measure.<sup>116</sup>

Aquariums isolate animals for many of the same reasons that zoos do. Dolphins are housed alone in small pools if they display aggressive behavior.<sup>117</sup> Other types of marine and aquatic wildlife are isolated if found incompatible with the other wildlife at the aquarium.<sup>118</sup> Occasionally, adding young animals to a group upsets the dominance hierarchy or social dynamics.<sup>119</sup> This too can lead to isolation.<sup>120</sup> In addition, some marine wildlife is kept in isolation because the tanks are not large enough for more than one, or there is a need for separate tanks to attend to the particular needs of a given species.<sup>121</sup>

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112. *Id.*

113. *See generally*, Liz Tyson, *10 Years After the Bronx Zoo Ends Their Elephant Program, Happy Remains in a Solitary Prison*, ONE GREEN PLANET (2015), <https://www.onegreenplanet.org/animalsandnature/happy-the-loneliest-elephant-bronx-zoo/> [<https://perma.cc/RU2V-X8AT>] (explaining that Bronx Zoo is no longer obtaining new elephants for their enclosures thus, the remaining elephants are left in isolation, despite being very social animals); Berger, *supra* note 102 (“While once every zoo worthy of the title would boast an elephant, facilities in San Francisco, Detroit, Santa Barbara, Calif., and Lincoln Park in Chicago have either closed their elephant exhibits or decided to phase them out.”).

114. *See* Mark Deer, *Zoos Are Too Small for Some Species*, *Biologists Report*, N.Y. TIMES (Oct. 1, 2003), <https://www.nytimes.com/2003/10/01/science/zoos-are-too-small-for-some-species-biologists-report.html> [<https://perma.cc/T834-FZ48>] (explaining that some animals, especially roaming animals, may never have an enclosure that is big enough to simulate the wide range they typically would have in the wild); Jake Stuart Veasey, *Can Zoos Every Be Big Enough for Large Wild Animals? A Review Using an Expert Panel Assessment of the Psychological Priorities of the Amur Tiger (Panthera tigris altaica) as a Model Species*, 10 ANIMALS 1 (2020) (discussing the relationship of habitat size and reduction in cognitive opportunities improperly sized habitats cause).

115. THE CTR. FOR FOOD SECURITY AND PUB. HEALTH, *LIVESTOCK ISOLATION AND QUARANTINE AREAS BIOSECURITY TIP SHEET 1* (2021).

116. *See* HRIBAL, *supra* note 111, at 111 (discussing Orky the whales punishment for an attack on his trainer).

117. ROSE & PARSONS, *supra* note 108, at 11.

118. *Id.* at 35.

119. *Id.* at 59.

120. *Id.*

121. Natasja Daly, *Orcas Don't Do Well in Captivity. Here's Why.*, NAT'L GEOGRAPHIC (Mar. 25, 2019), <https://www.nationalgeographic.com/animals/article/orcas-captivity-welfare> [<https://perma.cc/TYK3-GYZE>].

2. *Solitary Confinement as Practiced for Nonhumans Confined for Research*

Animals used in scientific research are isolated primarily to reduce the risk of tainted results.<sup>122</sup> Collective housing can spread disease,<sup>123</sup> and social interactions might interfere with the clarity of the data.<sup>124</sup> Moreover, some animals may become aggressive.<sup>125</sup> Finally, some research explicitly studies the effects of social and cognitive deprivation.<sup>126</sup> In such cases, allowing the animals to interact would preclude researchers from observing how the animals respond to the deliberately imposed sensory deprivation.<sup>127</sup> Nevertheless, isolating animals creates its own set of problems for the validity of the data.

Stress can undermine animal well-being and skew research results.<sup>128</sup> Laboratories using solitary confinement are typically filled with artificial light and rarely have windows.<sup>129</sup> Animals confined in such environments cannot exhibit normal behaviors.<sup>130</sup> This, in addition to the procedures the animals endure, leads to high levels of stress hormones, abnormal heart rates, and high blood pressure.<sup>131</sup>

When combined with isolation, these stresses can lead to physical manifestations unrelated to the research endeavor. For example, stressed rats are prone to chronic inflammatory conditions and intestinal leakage.<sup>132</sup> Some studies implement settings and procedures to alleviate some of the stress experienced by the animals, but results have been mixed.<sup>133</sup>

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122. Streiffer, *supra* note 91, at 176.

123. SELIN ZEYTINGLU & NATHAN A. FOX, WHAT DOES ANIMAL (NONHUMAN) RESEARCH TELL US ABOUT SOCIAL DEPRIVATION AND SOCIAL ISOLATION, *in* THE HANDBOOK OF SOLITUDE: PSYCHOLOGICAL PERSPECTIVES ON SOCIAL ISOLATION, SOCIAL WITHDRAWAL, AND BEING ALONE 42 (Robert J. Coplan et al. eds., 2nd ed. 2021).

124. *Id.*

125. *See, e.g.*, Brianna Gaskill, *Aggression in Laboratory Mice: Potential Influences and How to Manage It*, ENRICHMENT REC. 22, 22–24 (2014) (explaining how to limit mice used in research from killing each other).

126. ZEYTINGLU & FOX, *supra* note 123, at 44–45.

127. *Id.*

128. Jarrod Bailey, *Does the Stress Inherent to Laboratory Life and Experimentation on Animals Adversely Affect Research Data?*, 45 ALTERNATIVES TO LAB'Y ANIMALS 299, 299–300 (2017).

129. *See id.* at 299.

130. *Id.*

131. *Id.* at 300.

132. *Id.*

133. *See* Kathryn Bayne, *Environmental Enrichment and Mouse Models: Current Perspectives*, 1 ANIMAL MODEL & EXPERIMENTAL MED. 82, 82 (2018) (“[T]he literature is replete with contradictory findings and diverse conclusions about the potential benefits and unexpected consequences from providing enrichment to laboratory mice.”); *see also* Robert C. Hubrecht & Elizabeth Carter, *The 3Rs and Humane Experimental Technique: Implementing Change*, 9 ANIMALS 754, 759 (2019) (“[M]ore humane methods often facilitate good science, resulting in better, cheaper, or

### 3. *Impact of Solitary Confinement on Animals in Captivity*

There exist over 400 published studies on the effects of social isolation on nonhuman primates.<sup>134</sup> Many describe self-mutilation, and disturbances in perception and learning.<sup>135</sup> A 1971 study by the University of Wisconsin noted that, “social deprivation is an enormously effective procedure for the production of psychopathological behavior patterns [in nonhuman primates].”<sup>136</sup> Other studies document the animals dying from refusal to eat, and numerous other psychological problems.<sup>137</sup>

Different species subjected to isolation evinced similar psychological and physiological dysfunction. Dogs whine, howl, self-mutilate, and exhibit other stressed behaviors.<sup>138</sup> Kittens isolated without sunlight or contact for the first thirty days of their life, displayed abnormal behaviors once they were allowed to see sunlight, including fixating on their mother’s faces and not blinking.<sup>139</sup> Female rabbits subjected

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easier outcomes . . . However, although the Three Rs Principles appear simple, they are not always well understood.”)

134. Grassian, *supra* note 5, at 366.

135. *Id.*; Michael Reimers et al., *Rehabilitation of Research Chimpanzees: Stress and Coping After Long-Term Isolation*, 51 HORMONES & BEHAV. 428, 429 (2007) (finding that young, isolated chimps were more timid, less social, less dominant, and more susceptible to stress and although chimps could recover from severe social deprivation this could only occur with therapeutic resocialization); *see also* Lucy P. Birkett & Nicholas E. Newton-Fisher, *How Abnormal Is the Behaviour of Captive, Zoo-Living Chimpanzees?*, 6 PUB. LIBR. OF SCI. (2011) (showing a variety of behavioral severe abnormalities, such as repetitive rocking, drinking of urine, or self-mutilation); Lance Tapley, *Solitary Confinement: Bad for Chimps, Okay for Humans?*, PRISON LEGAL NEWS (Oct. 15, 2012) <https://www.prisonlegalnews.org/news/2012/oct/15/solitary-confinement-bad-for-chimps-okay-for-humans/> [<https://perma.cc/WB3X-SKAZ>] (observing violence, self-injury, screaming, and “highly anxious states” – similar to humans after long-term solitary confinement).

136. Harry F. Harlow & Stephen J. Suomi, *Social Recovery by Isolation-Reared Monkeys*, 68 PROC. NAT’L ACAD. SCI. 1534, 1534 (1971).

137. Harry F. Harlow et al., *Total Social Isolation in Monkeys*, 54 PROC. NAT’L ACAD. SCI. 90, 96 (1965).

138. *Social Isolation in Dogs: The Hidden Cruelty*, SPCA, <http://www.spcanl.com/wp-content/uploads/2016/10/Social-Isolation-in-Dogs.pdf> [<https://perma.cc/W5JS-ZP3C>] (last visited Sept. 3, 2023) (describing behaviors dogs that are socially isolated in pounds exhibit); *see also* Suzanne Hetts, *Influence of Housing Conditions on Beagle Behaviour*, 34 APPLIED ANIMAL BEHAV. SCI. 137, 150 (1992) (finding that dogs housed in total isolation exhibited more stressed behaviors than other dogs in the same study housed with one other dog); M.W. Fox, *The Effects of Short-Term Social and Sensory Isolation Upon Behavior, EEG and Averaged Evoked Potentials in Puppies*, 2 PHYSIOLOGY & BEHAV. 145, 146 (1967) (finding that isolated puppies exhibited less tail wagging, more self-exclusion and whining, and self-play activities like chasing their tail, while performing worse at tests).

139. Lisa Guenther, *Beyond Dehumanization: A Post-Humanist Critique of Solitary Confinement*, 10 J. FOR CRITICAL ANIMAL STUD. 46, 57 (2012).

to isolation had different sexual behaviors than non-isolated rabbits.<sup>140</sup> Rats developed abnormal adult social, sexual, and maternal behaviors.<sup>141</sup> Mice displayed increased anxiety.<sup>142</sup>

There is significant variation in how animals respond to isolation both because different species respond differently and because the reasons for and conditions of their isolation vary widely. Zoos generally attempt to situate animals in areas that humans can easily view. Researchers confine animals in standardized environments designed to produce untainted data. Even as the types of reaction vary, they are all responses to social isolation.

### III. CURRENT LAW PROVIDES INADEQUATE PROTECTION FROM THE HARM OF SOLITARY CONFINEMENT

While the laws regulating penal institutions differ from the laws for institutions confining animals, what these laws have in common is each does a poor job of protecting creatures from the harm caused by solitary confinement. This part explores how current prison law and animal law fails.

#### A. The Current Law for Humans Is Inadequate

Despite the immense harm caused by solitary confinement, the present state of the law in the United States allows solitary confinement in almost all its forms without violating the constitution's fundamental prohibition against cruel and unusual punishment. The paradigm case is *Madrid v. Gomez*.<sup>143</sup> In that case the plaintiffs mounted a broad-based attack on solitary confinement at Pelican Bay in a super maximum-security prison in California. The court found that solitary confinement imposed on persons with diagnosed psychosis was per se unconstitutional. But while the court candidly recognized the trauma that solitary confinement induces in anyone exposed to it,<sup>144</sup> it refused to hold unconstitutional solitary for adults who are not actively psychotic. The effect of this ruling is to leave "intact the core practice of solitary confinement."<sup>145</sup> In making this determination, that court stated:

[C]onditions in the [solitary confinement units] may well hover on the edge of what is humanly tolerable for those with normal resilience, particularly when

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140. C. O. Anderson et al., *Effects of Handling and Social Isolation upon the Rabbit's Behaviour*, 43 BEHAVIOUR 165, 167 (1972).

141. Veronica Begni et al., *Social Isolation in Rats: Effects on Animal Welfare and Molecular Markers for Neuroplasticity*, 15 PUB. LIBR. OF SCI. 1 (2020).

142. Chuljung Kwak, *Social Isolation Selectively Increases Anxiety in Mice without Affecting Depression-like Behavior*, 13 KOREAN J. OF PHYSIOLOGY & PHARMACOLOGY 357, 358 (2009).

143. *Madrid v. Gomez*, 889 F. Supp. 1146 (N.D. Cal. 1995).

144. *Id.* at 1228.

145. Hanna, *supra* note 13, at 14.

endured for extended periods of time. They do not, however, violate exacting Eighth Amendment standards, except for the specific population subgroups identified in this opinion.<sup>146</sup>

This holding from a respected district court judge upholding solitary confinement for people who are not mentally ill means that “[i]ndividuals on the borders of a diagnosis can continue to be placed in solitary . . . .”<sup>147</sup> This statement is as true today as it was when the *Madrid* court made it 29 years ago.<sup>148</sup> There is no reported case which holds that solitary confinement is per se unconstitutional.<sup>149</sup> One commentator recently opined that anyone launching a per se attack on solitary confinement faces “next to impossible odds in court.”<sup>150</sup>

Lacking the ability to consider claims for abolition of solitary confinement, lower courts have concerned themselves with more limited challenges. As a result of these efforts, there is now caselaw protecting women, young people, and the mentally ill from the horror of solitary confinement.<sup>151</sup> There is also precedent that provides that prisoners cannot be sent to solitary confinement without at least some sort of rudimentary hearing, when prisoners are sent there for long periods. However, the trigger for a hearing in such cases is a judicial finding that the conditions in these units are “atypical and significant hardships in relationship to the normal incidents of prison life.”<sup>152</sup> Under this approach solitary confinement has been held to be constitutional

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146. *Madrid*, 889 F. Supp. at 1280.

147. Hanna, *supra* note 13, at 14.

148. Nevertheless, the effort to contain and even eliminate solitary confinement continues. In addition to arguments against solitary confinement, legal arguments that against solitary confinement center primarily on the Eighth and Fourteenth Amendments. Prisoners argue that prisons cannot impose solitary confinement without: providing due process procedural protections, on vulnerable groups of prisoners, for long lengths of time that are unconstitutional, with especially harsh or unsanitary conditions which is unlawful, or under any circumstances for more than a minimal period of time is unconstitutional. For a full survey of the extensive litigation regarding solitary confinement, see MUSHLIN, *supra* note 49, §§ 3.19–3.29.

149. MUSHLIN, *supra* note 49, § 3.24 (“ . . . virtually every court which considered the issue held that the imposition of solitary confinement, without more, does not violate the Eighth Amendment.”).

150. Hanna, *supra* note 13, at 13; *see also Johnson v. Prentice*, 144 S. Ct. 11, 12–13 (2023) (Jackson, J., dissenting from denial of certiorari in a case in which the lower court held a prisoner who was confined in solitary confinement for over three years without any opportunity for outdoor exercise in a “cramped” cell “with no opportunity at all to stretch his limbs or breathe fresh air” was not deprived a constitutional right.).

151. *Madrid v. Gomez*, 889 F. Supp. 1146 (N.D. Cal. 1995); *Jones’El v. Berge*, 164 F. Supp. 2d 1096 (W.D. Wis. 2001); *Scarver v. Litscher*, 371 F. Supp. 2d 986 (W.D. Wis. 2005); *Troutman v. Louisville Metro Dep’t of Corr.*, 979 F.3d 472 (6<sup>th</sup> Cir. 2020).

152. *See Sandin v. Connor*, 115 S. Ct. 2293, 2295 (1995).

even without a hearing unless the time in confinement exceeds one year or more.<sup>153</sup>

In the absence of constitutional protection, in recent years a grassroots movement to reform solitary confinement has sought to raise public consciousness about the harm of the practice and to promote administrative, and legislative actions addressing the problem.<sup>154</sup> These efforts have shown some positive results, but to date, fall far short of the mark. Below is a brief overview and analysis of these continuing efforts.

### 1. *Administrative Change*

In some states, enlightened administrators acting on their own initiative have undertaken to reform the solitary confinement process in their system.<sup>155</sup> Colorado, Maine and North Dakota are three prominent examples.<sup>156</sup> These are positive developments but remain quite limited to discrete areas of the country. In an overwhelming majority of states prison officials impose solitary confinement on the incarcerated persons in their care.<sup>157</sup>

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153. *See* Shoats v. Horn, 213 F.3d 140 (3d Cir. 2000) (ruling that administrative segregation for eight years was an atypical and significant hardship); Giano v. Kelly, No.89-CV-727(C), 2000 WL 876855 (W.D.N.Y. May 16, 2000) (ruling that confinement for almost two years violated due process).
154. This movement grew out of the older and more expansive prisoners' rights movement, which is a direct product of the American Civil Rights Movement of the mid-20<sup>th</sup> century. Before then prisoners lacked enforceable rights. This is because they had no rights at all, being considered "slaves of the state," *Ruffin v. Commonwealth*, 60 Va. 790 (1871), or because if they did have rights, those rights could not be enforced because of judicially created "hands off" doctrine which debilitated judges on separation of powers and federalism grounds from taking cognizance of cases challenging prison conditions. *See generally* MUSHLIN, *supra* note 64, § 1.3. This changed in the mid-1970s when federal courts, in the wake of the Civil Rights Movement, began to accept prisoners' claims for improved conditions of confinement. Signaling that moment, Justice White, in 1974, speaking for the Court, emphatically stated, "there is no iron curtain between the constitution and the prisons of this country." *Wolff v. McDonnell*, 418 U.S. 539, 555–56 (1974). With the door which had long been closed now opened the federal courts began the task of adjudicating claims involving the rights of prisoners, including prisoners and detainees who sought protection from the tortures of solitary confinement.
155. Amy Fetting, *2019 was a Watershed Year in the Movement to Stop Solitary Confinement*, ACLU (Dec. 16, 2019), <https://www.aclu.org/news/prisoners-rights/2019-was-a-watershed-year-in-the-movement-to-stop-solitary-confinement> [<https://perma.cc/U2NV-3L7V>].
156. For a discussion of efforts made to reform solitary confinement in Colorado and Maine, see MUSHLIN, *supra* note 49, § 3.23. For a discussion of the North Dakota experience, see David H. Cloud et al., "We Just Needed to Open the Door": A Case Study of the Quest to End Solitary Confinement in North Dakota, 9 HEALTH & JUST. 2 (2021).
157. For a comprehensive listing of the policies of every state, see *State and Federal Policies*, SEEING SOLITARY, <https://seeing solitary.limancenter.yale.edu/>



## 2. *Legislative Change*

Legislation has been considered or passed in thirty-two states.<sup>158</sup> However, with a few notable exceptions that legislation does not eliminate the pervasive use of solitary confinement.<sup>159</sup> According to the Liman Center at the Yale Law School—which has extensively canvassed this legislation—while the statutes vary in scope, most of these legislative efforts do not fundamentally reform solitary confinement but are restricted to

[L]imits on the reasons that prison authorities can use to put individuals into isolation, the duration of such confinement, and/or the extent to which the conditions of isolation can depart from those in general population. In addition, some statutes focus on the use of solitary confinement for subpopulations, such as pregnant or young people, or people who have received certain medical or mental health diagnoses. Many statutes have reporting requirements to create some measures of transparency and data collection. A few aim to create monitoring and oversight beyond the prison administration.<sup>160</sup>

Thus, with some exceptions most of these laws do not disturb the basic approach to using solitary confinement.<sup>161</sup> Instead, they are designed to limit some of the most egregious uses of solitary confinement by eliminating what have been called its “plus factors.”<sup>162</sup>

There are exceptions to this trend; in three states, legislation has passed recently which, if implemented, would transform solitary confinement in those jurisdictions.<sup>163</sup> The most promising of these laws is New York’s HALT (Humane Alternatives to Long-Term Solitary Confinement) law passed in 2021 after several failed attempts and a governor’s veto.<sup>164</sup> The HALT law limits solitary confinement in New York state’s prisons and jails to 15 days. For persons requiring further separation from the general population, it requires that Residential Rehabilitation Units (RRUs) be established which serve the function of

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state-and-federal-policies [<https://perma.cc/82X3-3ZDH>] (last visited May 12, 2023).

158. MUSHLIN, *supra* note 49, § 3.22 & Highlights.

159. *Id.*

160. Judith Resnik et al., *Legislative Regulation of Isolation in Prison: 2018-2021* (U of Alabama Legal Studies Research Paper No. 3914942, 1 (2021), <https://ssrn.com/abstract=3914942>).

161. See HALT Solitary Confinement Act, S. 2836, 2021-2022 Reg. Sess. (N.Y. 2021).

162. These reforms end the imposition of solitary confinement on vulnerable populations such as pregnant women, juveniles, the mentally ill, or the elderly. Hanna, *supra* note 13, at 6.

163. See HALT Solitary Confinement Act, S. 2836, 2021-2022 Reg. Sess. (N.Y. 2021); The PROTECT Act, S.B. 1059, S. 1059, 2021 Gen. Assemb., Reg. Sess. (Conn. 2021); Isolation Confinement Restriction Act, N.J.S.A. 30:4-82.5 (2020).

164. For a tortious history of the effort to pass HALT, including a description of the Governor’s prior opposition and veto, see Christopher Robbins, *Cuomo Signs Bill Banning Long Term Solitary Confinement*, GOTHAMIST (Apr. 1, 2021), <https://gothamist.com/news/cuomo-signs-bill-banning-long-term-solitary-confinement-ny> [<https://perma.cc/KG5P-BAEF>].

isolating those individuals without imposing solitary confinement on them. In RRUs, prisoners at a minimum have access to seven hours of daily out-of-cell congregate programs, recreation, and activities.

However, there has been pushback to the implementation of this law through a lawsuit filed by the union representing prison staff. Prison administrators have passively resisted by less than diligent implementation of these laws.<sup>165</sup> Implementation of the law has been so languid that another lawsuit, this time by prisoners, has been filed in New York state court challenging the failure of prison administrators in New York to implement the law.<sup>166</sup> Thus, while there has been limited success legislatively, overall solitary confinement remains resistant to change.

### **B. The Current Law for Nonhumans Is Inadequate**

Captive animals have few legal protections. The Animal Welfare Act (AWA)<sup>167</sup>—the federal law regulating the treatment of animals in laboratories as well as in zoos, aquariums, and other entertainment venues—excludes many creatures (birds, mice, rats, etc.) from its definition of “animal.”<sup>168</sup> They are thus excluded from the purview of the only federal law that could offer any substantive protections. As a result, solitary confinement for these animals is routine, widespread, and inadequately tracked.<sup>169</sup>

#### *1. The AWA Purports to Protect Laboratory Animals and Animals Used for Exhibition*

The AWA’s stated purpose is to protect animals used in medical research and for exhibition.<sup>170</sup> It sets forth minimum welfare standards regarding handling, housing, feeding, watering, sanitation, ventilation, shelter, veterinary care, and for separation by species when necessary for humane care and treatment.<sup>171</sup> It also requires covered facilities to form Institutional Animal Care and Use Committees (IACUCs) to inspect facilities and report on compliance.<sup>172</sup> Research facilities with

165. New York State Corr. Officers and Police Benevolent Ass’n v. New York State Dep’t of Corr. and Cmty. Supervision, 191 N.Y.S.3d 797, 797–98 (2022).

166. Amended Class Petition & Complaint, Fields v. Annucci, No. 902997-23 (N.Y. Sup. Ct. Albany Cnty. Apr. 5, 2023); Motion to dismiss denied and class action certified *Brian Lee*, NY Judge Refuses to Toss Inmates’ Class-Action Suit Over Solitary Confinement (New York Law Journal September 13, 2023).

167. Animal Welfare Act, 7 U.S.C. §§ 2131–2160 (2022).

168. *Id.* § 2132(g).

169. Alka Chandna, *Commentary: A Belmont Report for Animals: An Idea Whose Time Has Come*, 29 CAMBRIDGE Q. HEALTHCARE ETHICS 46, 50–51 (2019); Winders, *supra* note 8, at 190–91.

170. 7 U.S.C. § 2131.

171. *Id.* § 2143.

172. *Id.*

animal subjects have additional responsibilities, including considering alternatives to any procedure likely to produce pain or distress in an animal subject.<sup>173</sup>

### 2. *USDA Regulations Related to Solitary Confinement Are Broad*

AWA regulations allow isolation when group housing is “not in accordance with a research proposal and the proposal has been approved by the research facility Committee.”<sup>174</sup> Marine mammals—known to be social—must be housed with at least one compatible animal,<sup>175</sup> but they may be housed separately if there exists a “written plan approved by a veterinarian developed in consultation with husbandry and training staff.”<sup>176</sup>

The special requirements for dogs and primates are left to regulated facilities to interpret.<sup>177</sup> The primate requirements add that the facilities protocols must be in accordance with currently accepted professional standards.<sup>178</sup> Facilities must address social grouping and environmental enrichment but are not required to implement anything specific.<sup>179</sup> For dogs and primates, if the IACUC decides that a requirement—including social housing—need not be followed for scientific reasons, that decision is only reviewed by the IACUC itself.<sup>180</sup>

### 3. *Coverage Failures*

While the AWA purports to protect warm-blooded animals used for research and exhibition, the exclusion of rats, mice, and birds means that it does not cover the vast majority of animals in research. Rats and mice alone account for eighty percent of laboratory animals.<sup>181</sup> In 2002, Congress amended the AWA so that birds, rats, and mice would fall under the definition of animal.<sup>182</sup> In 2015, APHIS announced it was moving forward with a final rule codifying the amendment but offered no timeline for its publication.<sup>183</sup>

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173. Delcianna J. Winders, *Administrative Law Enforcement, Warnings and Transparency*, 79 OHIO STATE L. J., 451, 474 (2018).

174. 9 C.F.R. § 3.8(b)(1) (2022).

175. 9 C.F.R. § 3.109 (2022).

176. *Id.*

177. Katharine M. Swanson, *The Non-Enforcement of the Animal Welfare Act*, 35 U. MICH. J. L. REFORM 937, 943 (2002).

178. *Id.*

179. *Id.*

180. *Id.* at 953–54.

181. Winders, *supra* note 173, at 473; Swanson, *supra* note 177, at 951.

182. CONG. RSCH. SERV., RS22493, THE ANIMAL WELFARE ACT: BACKGROUND AND SELECTED ANIMAL WELFARE LEGISLATION 1 (2016) [hereinafter CRS Report].

183. *Id.* at 1.

Even for those animals covered by the AWA, systemic regulatory neglect has led to little protection, and to the continuation of solitary confinement. That neglect is most evident with respect to primates. The lack of oversight of the thousands of primates in laboratories first came to light following a 1981 exposé of a laboratory in Silver Springs, Maryland where monkeys were housed in brutal isolation.<sup>184</sup> In the wake of the scandal, Congress amended the AWA to require “minimum standards” for primate housing that would support the primates’ psychological wellbeing.<sup>185</sup>

The USDA convened an expert committee that recommended, *inter alia*, that primates be housed in social groups with compatible members of their own or other species.<sup>186</sup> Laboratory research and industry groups opposed the new standards and persuaded the agency to dilute the final rule.<sup>187</sup> The 1991 final rule did not require group housing for nonhuman primates, despite noting that “housing in groups promotes [the primates’] psychological well-being.”<sup>188</sup> Two years later, an agency review found that at least half of research facilities still held primates in solitary confinement.<sup>189</sup> Agency inspectors expressed uncertainty about how to enforce the rule and believed that most of the affected animals were isolated out of convenience rather than scientific necessity.<sup>190</sup> The agency determined that further guidance was necessary.<sup>191</sup>

In 2002, despite extensive consultation with and recommendations from the scientific community—veterinarians, primatologists, etc.—the agency affirmed its earlier rule.<sup>192</sup> Since then, not much has changed. Tens of thousands of primates remain in solitary confinement with little oversight or enforcement.<sup>193</sup>

#### 4. *Inspection Failures*

Researchers engaged in regulated uses of animals must register with the USDA and submit to unannounced inspections.<sup>194</sup> “Problem facilities” are facilities with a history of violations and are purportedly

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184. Peter Carlson, *The Great Silver Spring Monkey Debate*, WASH. POST (Feb. 24, 1991), [https://www.washingtonpost.com/archive/lifestyle/magazine/1991/02/24/the-great-silver-spring-monkey-debate/25d3cc06-49ab-4a3c-afd9-d9eb35a862c3/\[https://perma.cc/5MVU-88JC\]](https://www.washingtonpost.com/archive/lifestyle/magazine/1991/02/24/the-great-silver-spring-monkey-debate/25d3cc06-49ab-4a3c-afd9-d9eb35a862c3/[https://perma.cc/5MVU-88JC]).

185. Food Security Act of 1985, Pub. L. No. 99–198, § 1752, 99 Stat. 1354, 1645 (1985).

186. Winders, *supra* note 8, at 193.

187. *Id.*

188. Animal Welfare; Standards 56 Fed. Reg. 6426, 6473 (Feb. 15, 1991) (codified at 9 C.F.R. § 3.81); Winders, *supra* note 8, at 193.

189. Winders, *supra* note 8, at 193.

190. *Id.*

191. *Id.* at 194.

192. *Id.* at 195.

193. *Id.* at 195–96.

194. Winders, *supra* note 173, at 456.

inspected more often.<sup>195</sup> The public can also file complaints that the USDA will investigate if it deems the complaint of legitimate concern.<sup>196</sup> In reality, there is little agency rigor or follow-through. The USDA Inspector General found that AWA inspections are inconsistent and cannot reliably confirm compliance.<sup>197</sup> Some facilities receive repeat violation warnings for failing to be inspected.<sup>198</sup> Furthermore, federal research facilities are exempt from AWA licensing and inspection requirements.<sup>199</sup>

Animal exhibitors must also acquire licenses.<sup>200</sup> Applicants need to demonstrate compliance with minimum regulatory standards.<sup>201</sup> However, the AWA does not require that facilities be inspected prior to issuance of a license nor for the license's renewal.<sup>202</sup> Therefore, the requirement that applicants comply with regulatory standards is hortatory at best.

#### 5. *Enforcement Failures: Warnings and Penalties*

The AWA gives the USDA a range of enforcement methods including monetary penalties, license suspension, license revocation, cease and desist orders, settlement agreements, formal action by the USDA Office of General Counsel, and even referral to the Attorney General for criminal prosecution and injunctive relief.<sup>203</sup> However, the statute creates no duty for the agency to make findings, penalize noncompliant facilities, or take any action at all.<sup>204</sup> This broad discretion means that the agency need not—and often does not—enforce the regulations or take action against repeat violators.<sup>205</sup>

#### 6. *Warnings*

When the USDA does act, that action usually takes the form of a warning.<sup>206</sup> When violations are accidental, stemming from employee inattention or ignorance, warnings can deter future violations. However, a regulated facility acting in bad faith will generally only comply with regulations if the cost of non-compliance exceeds the value of the

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195. *Id.* at 477.

196. *Id.*

197. *Id.* at 479.

198. *Id.* at 490.

199. CRS Report, *supra* note 182, at 3.

200. Winders, *supra* note 173, at 474–75.

201. CRS Report, *supra* note 182, at 1.

202. Winders, *supra* note 173, at 475.

203. Winders, *supra* note 173, at 456, 479, 483, 487.

204. Swanson, *supra* note 177, at 959.

205. *Id.* at 957.

206. Winders, *supra* note 173, at 456.

benefit received through engaging in prohibited behavior.<sup>207</sup> Otherwise, warnings do nothing and can even be counterproductive.<sup>208</sup> Not only will noncompliant facilities continue to commit violations, other facilities, faced with operating at a competitive disadvantage, are incentivized to cease complying as well.<sup>209</sup>

Nearly half of the facilities that receive warnings continue to commit the same violation that prompted the warning.<sup>210</sup> More than twenty-five percent of facilities studied were cited for one or more direct violations—i.e., violations likely to impact the well-being of animals—after receiving a warning.<sup>211</sup> The USDA's most common response to repeat violators is to issue repeat warnings.<sup>212</sup> Sixty percent of warnings for subsequent violations were given within three years of the first warning.<sup>213</sup> This data runs directly counter to the USDA's stated policy of issuing warnings only to facilities that have not been cited in the recent past.<sup>214</sup>

### 7. Penalties

Though the AWA allows for penalties up to \$11,390 per violation for research facilities, in practice, the USDA rarely imposes fines.<sup>215</sup> When it does, it often fails to collect them.<sup>216</sup> The USDA is also required to request that the Attorney General seek injunctive relief if the cited behavior places the health of any animal in serious danger.<sup>217</sup> It has never actually done so.<sup>218</sup>

### 8. Public Perception and Misunderstandings

A license issued under the AWA can convey the impression that a facility treats its animals lawfully and humanely.<sup>219</sup> Regulated entities

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207. *Id.* at 461.

208. *Id.*; M. B. Rodriguez Ferrere, *Animal Welfare Underenforcement as a Rule of Law Problem*, 12 *ANIMALS* 1411, 1414 (2022); see also CRS Report, *supra* note 182, at 3 (an audit determined that “(1) AC’s enforcement process was ineffective against dealers with repeated violations; (2) APHIS misused its guidelines to lower penalties for AWA violators; and (3) some large breeders circumvented AWA by selling animals over the Internet.”).

209. Winders, *supra* note 173, at 468–69 & n.89.

210. *Id.* at 489.

211. *Id.* at 490.

212. *Id.* at 457.

213. *Id.* at 491.

214. *Id.*

215. *Id.* at 479, 483.

216. *Id.* at 485.

217. *Id.* at 480–81.

218. *Id.* at 481.

219. Justin Marceau, *How the Animal Welfare Act Harms Animals*, 69 *HASTINGS L. J.* 925, 943 (2018).

often exaggerate the AWA's rigor and use their licensure/registration to deflect accusations of cruelty or malfeasance.<sup>220</sup> In truth, widespread abuses—both permissible and impermissible—occur regularly at licensed facilities, and many of those actions involve keeping animals in isolation with little if any legal recourse.<sup>221</sup> The next sections briefly describe why these inadequate protections are tolerated.

#### IV. SOLITARY CONFINEMENT IS TOLERATED BECAUSE IT IS IMPOSED ON POWERLESS BEINGS

If solitary confinement is in effect—if not by law—torture, why does the law tolerate it? The answer is that prisoners and animals are powerless beings. Their lives are spent in the law's shadow, hidden from view, disenfranchised, and ignored. Left vulnerable and lacking meaningful legal recourse, mistreatment becomes all but inevitable. The discussion that follows describes the powerlessness of incarcerated humans and animals in captivity.

##### A. Incarcerated Persons Are Powerless Beings

Prisoners are disproportionately male members of minority groups drawn from impoverished communities<sup>222</sup> who have been adjudicated guilty of a criminal offense and sentenced to prison as a sanction for their behavior. People detained in America's jails while waiting trial or disposition of the criminal charges against them are also largely male, minority, and poor. Many of them are confined because they lack resources to post bail which would free them from incarceration. After sentencing, prisoners are often transported far from their homes and confined in institutions cut off from contact with their families and the communities from which they come.<sup>223</sup> While imprisoned the overwhelming majority of incarcerated persons are deprived of the right to vote. Only two states allow prisoners to vote while incarcerated.<sup>224</sup>

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220. *Id.* at 947, 949.

221. See discussion *supra* part III.

222. See, e.g., James Forman, *Racial Critiques of Mass Incarceration: Beyond the New Jim Crow*, 87 N.Y.U. L. REV. 21 (2012) (describing how American prisons are populated overwhelmingly by persons who are poor and badly educated); JENNIFER BRONSON & E. ANN CARSON, U.S. DEP'T OF JUSTICE, BUREAU OF JUSTICE STATISTICS, PRISONERS IN 2017 (2019), <https://www.bjs.gov/content/pub/pdf/p17.pdf> [<https://perma.cc/YDY9-ZETL>] (stating that men make up approximately 93% of the American prison population).

223. See, e.g., Bernadette Rauby & Daniel Kopf, *Separation by Bars and Miles: Visitation in State Prisons*, PRISON POLICY INITIATIVE (Oct. 20, 2015) <https://www.prisonpolicy.org/reports/prisonvisits.html> [<https://perma.cc/G227-SZ3J>] (finding that most people (63%) in state prison are locked up over 100 miles from their families).

224. Brennan Center for Justice, *Criminal Disenfranchisement Law Across the United States*, <https://www.brennancenter.org/sites/default/files/2023-07/2023.07.05%20>

Disenfranchisement continues for many even after they are released from prison.<sup>225</sup>

Persons who have been convicted of a crime are understood to have broken the social contract.<sup>226</sup> Pretrial detainees, although not convicted, nevertheless suffer from the shame associated with being charged with a crime. Due to the multiple stigmas incarcerated persons carry, many believe they do not deserve decent treatment.<sup>227</sup> Because detainees are generally disenfranchised male adults drawn from minority and poor communities who have either been charged with or convicted for committing a crime, they have been aptly described to be “a despised minority without political power to influence the policies of legislative and executive officials.”<sup>228</sup>

Lacking political power, prisoners cannot expect legislative changes will come easily, even if such changes are desperately needed to alleviate their plight.<sup>229</sup> Elected executive officials are equally unlikely to be receptive. Even those who are motivated to do the right thing cannot when the legislature fails to provide sufficient funds for the operation of penal facilities to ensure humane treatment of people incarcerated in them.<sup>230</sup> The lack of funding forces prison officials to resort to oppressive measures to maintain control. Without funds to make

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[-%20BC%20Criminal%20Disenfranchisement%20Laws%20Map\\_0.pdf](https://perma.cc/G329-5W3C) [https://perma.cc/G329-5W3C] (last updated July 5, 2023).

225. *Id.*

226. *See, e.g.* *Givens v. Alabama Dept of Corrections*, 381 F.3d 1064, 1068 (11th Cir. 2004) (since a prisoner “has violated the social contracts by transgressing the municipal law, he forfeits his right to such privileges as he claims by that contract. . .”).

227. Prisoners are often seen as “others,” or people who have placed themselves outside of the sphere of concern of ordinary citizens. *Cf.* *Johnson v. Phelen*, 63 F.3d 144, 152 (1999) (Posner, J., dissenting) (“We must not exaggerate the distance between the lawful ones, the respectable ones, and the prison and jail population; for such exaggeration will make it too easy for us to deny that population the rudiments of humane consideration.”).

228. Pamela S. Karlan, *Bringing Compassion Into the Province of Judging: Justice Blackmun and the Outsiders*, 71 N. D. L. REV. 173, 176 (1995) (“Prison inmates may be the least sympathetic group of “outsiders” in our constitutional jurisprudence, since their banishment from free society is the result of their willful criminal behavior.”); *see also* CHRISTOPHER E. SMITH, *COURTS, POLITICS, AND THE JUDICIAL PROCESS* 289 (1993) (examining the difficulties prisoners’ face to gain political legitimacy).

229. As described *supra* in part III, to date legislatures, with limited exceptions, have failed to address in a comprehensive manner the plight of prisoners in solitary confinement.

230. *See, e.g.*, Jeanne Hirschberger, ‘Imprisonment is Expensive’ – *Breaking Down the Costs and Impacts Globally*, *Penal Reform Int’l* (July 24, 2020), <https://www.penalreform.org/blog/imprisonment-is-expensive-breaking-down-the-costs-and/#:~:text=was%20the%20rule.-,Low%20funds%20effectively%20means%20that%20prisons%20remain%20a%20low%20political,in%20a%20safe%2C%20hygienic%20environment> [https://perma.cc/J99R-J9BM] (noting that “[m]any prison systems have so few resources that they struggle to meet basic needs such as food, healthcare, clothing and even shelter in a safe, hygienic environment”).



prisons humane, officials feel compelled to resort to solitary confinement to control prisoners.<sup>231</sup>

Thus, because of the powerlessness of American prisoners, prisons are harsh, inhumane places in which solitary confinement is ever present. This result is entirely predictable. Justice Brennan wrote that “[p]ublic apathy and the political powerlessness of inmates have contributed to the pervasive neglect of the prisons.”<sup>232</sup> When a group is powerless, the normal political processes of a democracy will often fail to protect it. The genius of the United States political system is that it has within it a check on what scholars have called the “tyranny of the majority.” That check is the power of judicial review.<sup>233</sup> If that check is used it ensures that the fundamental rights of all Americans specified in the Bill of Rights are protected.<sup>234</sup>

Over eighty years ago in *United States v. Carolene Products*<sup>235</sup> one of the most famous and important footnotes in the annals of American legal history,<sup>236</sup> the Supreme Court recognized the obligation of the judiciary to use the power of judicial review to fill the gap to provide special protection to “discrete and insular minorities” who cannot depend on the “political processes ordinarily to be relied upon.”<sup>237</sup> However, when it comes to incarcerated persons the judiciary has refused to recognize that prisoners are discrete and insular minorities entitled to special protection.<sup>238</sup> Prisoners’ rights law has suffered as a consequence and this failure means that the group in society which needs the most judicial protection fails to receive it.<sup>239</sup> Thus, all three

231. Prisons do not have to be unduly harsh or inhumane. See, e.g., Jordan M. Hyatt et al., *We Can Actually Do This: Adapting Scandinavian Correctional Culture in Pennsylvania*, 58 AM. CRIM. L. REV. 1715 (2021) (describing a program to adapt the humane model of imprisonment used in Norway).

232. Rhodes v. Chapman, 452 U.S. 337, 358–359 (1981) (Brennan, J., concurring).

233. John F. Stinneford, *The Original Meaning of “Unusual”: The Eight Amendment as a Ban to Cruel Innovation*, 102 N.W. U. L. REV. 1739, 1747 (2008).

234. See John Hart Ely, *The Supreme Court, 1977 Term - Foreword: On Discovering Fundamental Values*, 92 HARV. L. REV. 5, 7–8 (1978).

235. *United States v. Carolene Prods. Co.*, 304 U.S. 144, 153 n.4 (1938) (indicating that there is a need for a “more searching judicial inquiry” when there is a claim made to courts by “discrete and insular minorities” who cannot depend on “the operation of those political processes ordinarily to be relied upon . . .”).

236. Jesse H. Choper & Stephen F. Ross, *The Political Process, Equal Protection and Substantive Due Process*, 20 U. PA. J. CONST. L. 983, 987 (2018).

237. *Id.* at 985–86 (quoting *Carolene Prods. Co.*, 304 U.S. at 152–53 n.4).

238. *Myrie v. Comm’r, v. N.J. Dept.*, 267 F.3d 251, 263 (3d Cir. 2001) (noting that inmates, as a class, do not constitute a “discrete and insular” minority); *Abdul-Akbar v. McKelvie*, 239 F.3d 307 (3d Cir.), *cert. denied* 533 U.S. 953 (2001).

239. See Erwin Chemerinsky, *The Constitution in Authoritarian Institutions*, 32 SUFFOLK U. L. REV. 441, 461 (1999) (“The current presumption is against judicial review when there is a claim that an authoritarian institution has violated a person’s rights. This assumption is backwards of what it should be. The judiciary should operate from the premise that it has a special role in protecting individuals in these institutions.”).

branches of government have defaulted, leaving powerless incarcerated prisoners and detainees entombed by the tens of thousands in solitary confinement cages.

## B. Animals Are Powerless Beings

Animals have very few rights to begin with.<sup>240</sup> What rights they do have reside mainly with companion animals, but even those are mutable. An animal's legal rights—here defined in the legal rather than moral sense as legally enforceable claims<sup>241</sup>—are context dependent. For example, a dog's human custodian cannot legally torture the dog because imposing unnecessary physical suffering on a companion animal is illegal in all fifty states.<sup>242</sup> Stated differently, the dog has a legally enforceable right to be free from torture. However, that same custodian can sell that same dog to a laboratory where researchers can impose those same torments. Once the animal's identity shifts from companion to laboratory subject, its legal rights all but evaporate.

The reasons for this are several. First, nonhuman legal agency is vicarious. Animals acquire agency through their relationship with, and proximity to, humans. For example, wild animals' legal protections vary according to their popularity. Humans care deeply about whales, who consequently enjoy significant protections, including an international treaty.<sup>243</sup> On the other hand, rodents are unpopular. And the consequence of that unpopularity is that glue traps—which kill slowly and painfully by dehydration—can be purchased in any hardware store.<sup>244</sup> Similarly, the federal Endangered Species List,<sup>245</sup> though supposedly

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240. *See, e.g.*, *Nonhuman Rts. Project, Inc. v. Breheny*, 38 N.Y.3d 555, 577 (2022) (denying Happy the elephant legal personhood and the fundamental right to bodily integrity and liberty); *People for Ethical Treatment of Animals, Inc. v. Miami Seaquarium*, 879 F.3d 1142, 1145 (11th Cir. 2018) (holding that the confinement of Lolita the orca in her aquarium tank since her capture did not amount to harassment under the Endangered Species Act); *Cnty. of Albany v. Am. Soc. for Prevention of Cruelty to Animals*, 447 N.Y.S.2d 662 (Sup. Ct. Albany Co. 1982) (forcing the return of the defendant's farm animals despite his being charged with failure to provide adequate sustenance to the animals regardless of whether the defendant was found guilty); *Cassuto & DiBenedetto*, *supra* note 83, at 47–59; *Ferdowsian et al.*, *supra* note 83, at 20–22.

241. Cass R. Sunstein, *Standing for Animals (with Notes on Animal Rights)*, 47 *UCLA L. REV.* 1333, 1335 (2000).

242. *See* Luis E. Chiesa, *Why Is It a Crime to Stomp on a Goldfish? - Harm, Victimhood and the Structure of Anti-Cruelty Offenses*, 78 *MISS. L. J.* 1, 4 (2008).

243. International Convention for the Regulation of Whaling, Dec. 3, 1946, 64 *Stat.* 421, 161 *U.N.T.S.* 72.

244. *See, e.g.*, *Tomcat Small Glue Trap For Mice 4 pk*, ACE, <https://www.acehardware.com/departments/lawn-and-garden/insect-and-animal-control/animal-traps/7401250> [<https://perma.cc/V88N-BZB2>] (last visited Sep. 2, 2023).

245. *FWS-Listed U.S. Species by Taxonomic Group - All Animals*, U.S. FISH & WILDLIFE SERV., <https://ecos.fws.gov/ecp/report/species-listings-by-tax-group?>

populated using science-based criteria,<sup>246</sup> is replete with charismatic megafauna but precious few parasites.<sup>247</sup> This disparity exists despite the ecological importance of parasites and the fact that many face imminent extinction.<sup>248</sup>

Second, the American legal system is fundamentally anthropocentric.<sup>249</sup> Humans designed their system of laws to accommodate human wants and needs. This reality is most evident in the laws and regulations regarding animal agriculture. Even those professing fondness of cows, pigs, and other farm animals often enjoy eating those animals' flesh and byproducts. Consequently, the legal system enables and subsidizes an agricultural system that brutalizes animals<sup>250</sup> while protecting the agricultural industry from scrutiny and oversight.<sup>251</sup>

Third, Americans love their pets. This has led state legislatures to enact laws protecting those pets while those who abuse companion animals are often publicly and legally excoriated.<sup>252</sup> However, those pets can be sold to laboratories where they have only the meager protections of the Animal Welfare Act. Once owned by the laboratory, the

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statusCategory=Listed&groupName=All%20Animals&total=743 [https://perma.cc/N8H6-FJJH] (last visited Sep. 2, 2023) [hereinafter Listed Species].

246. See 16 U.S.C. § 1533(a)(1) (“The Secretary shall by regulation promulgated in accordance with subsection (b) determine whether any species is an endangered species or a threatened species because of any of the following factors: (A) the present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence.”).
247. See Listed Species, *supra* note 245.
248. Rachel Nuwer, *You May Miss These Parasites When They're Gone*, N.Y. TIMES (Jan. 9, 2023) <https://www.nytimes.com/2023/01/09/science/parasites-global-warming.html> [https://perma.cc/VS4M-62UR]; Robert R. Dunn et al., *The Sixth Mass Coextinction: Are Most Endangered Species Parasites and Mutualists?*, 276 PROC. ROYAL SOC'Y B 3038 (2009).
249. Joshua J. Bruckerhoff, *Giving Nature Constitutional Protection: A Less Anthropocentric Interpretation of Environmental Rights*, 86 TEX. L. REV. 615, 618 (2008); see generally Swanson, *supra* note 177, at 938–42; Winders, *supra* note 8, at 187–203; Chiesa, *supra* note 242, at 4–8; ROSE & PARSONS, *supra* note 117, at 7 (discussing the Marine Mammal Protection Act of 1972).
250. See Cassuto & DiBenedetto, *supra* note 83, at 51–57; see generally Wolfson & Sullivan, *supra* note 83, at 205–33.
251. See, e.g. Animal Enterprise Terrorism Act (AETA), 18 U.S.C. § 43 (2006); *Ag-Gag Laws*, ANIMAL LEGAL DEFENSE FUND, <https://aldf.org/issue/ag-gag/> [https://perma.cc/86MJ-HF4P] (last visited Sept. 2, 2023); Cassuto & DiBenedetto, *supra* note 83, at 49–50.
252. See, e.g., N.Y. AGRIC. & MKTS. LAW § 353-a (McKinney 2022); Maria Chiorando, *New York Bans Pet Shops From Selling Dogs, Cats, and Rabbits in an Effort to Reduce Animal Suffering*, FOOD & LIVING VEGAN (Dec. 21, 2022), <https://www.veganfoodandliving.com/news/new-yorks-bans-pet-shops-selling-dogs-cats-rabbits/> [https://perma.cc/LWE5-EF2Z]; Sarah Grimmer, *In Light of Recent Animal Abuse, Protestors Call for New Legislation to Protect MI Animals*, WXYZ DETROIT (Nov. 26, 2022), <https://www.wxyz.com/news/in-light-of-recent-animal-abuse-protestors-call-for-new-legislation-to-protect-mi-animals> [https://perma.cc/5EZH-7HVS].

animals may be isolated, experimented on, and/or killed.<sup>253</sup> This license to impose grievous physical and emotional hardships also stems from an anthropocentric focus—the law is premised on the notion that experimenting on animals serves human needs. The law therefore condones and enables the animals' isolation and suffering. However, that suffering is kept well out of sight and therefore creates no dissonance for a public who might otherwise recoil from it.

All the foregoing suggests that the law tacitly condones mistreatment when that mistreatment serves a desirable purpose—i.e., keeping humans safe, healthy, happy, and well-fed. However, society prefers not to know about it. The best way not to know about it is to remove the victims from sight and the circle of care. Animals are put in places humans do not go<sup>254</sup> and in the custody of those over whom there is little oversight.<sup>255</sup> They are walled off, literally and legally, from prying eyes.

Zoos present something of an anomaly because the isolated animals are often on display. Their isolation is not apparent or understandable to visitors who want very much to believe the animals are treated well.<sup>256</sup> In this instance, the animals' isolation is hidden in plain sight, enabled by the illusion that humans interacting with them provides the animals with the stimulation that they need.

Removing animals from legal consideration and literal sight disempowers them. Their power, such as it is, comes from proximity to and relationship with human society. Removed from human purview, they become little more than the automata of Descartes' day.<sup>257</sup> Treated as biological machines, devoid of consciousness and therefore unworthy of membership in or protection by the moral community,<sup>258</sup> they become, in a word, powerless.

It bears emphasizing that the animals' biological characteristics do not change when they are confined by exhibitors and laboratories. Rather, it is their status as rights holders that shifts.<sup>259</sup> What is more—and here the comparison between prisoners and nonhumans comes clearly into focus—even those few rights animals retain go unenforced because the state has neither the incentive nor the interest to enforce

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253. See discussion *supra* part III.

254. Zoo animals being the exception to this.

255. See discussion *supra* part III.

256. See Sherwen & Hemsworth, *supra* note 87, at 4 (“It is in the best interests of zoos to attract visitors and provide a good visitor experience. . . . If an animal displays signs of stress in the presence of visitors or shows avoidance, there is potential for a conflict between these goals.”).

257. Descartes argued that animals are soulless and that their behavior is completely explainable by mechanical laws. Eric Dayton, *Could It Be Worth Thinking about Descartes on Whether Animals Have Beliefs?*, 21 *HIST. PHIL. Q.* 63, 64–65 (2004).

258. See Tuvel, *supra* note 89, at 221–23 (describing animal rights theory).

259. See discussion *supra* part III.

them.<sup>260</sup> There is a widespread belief that laboratory animals suffer for a purpose. This leads to a lack of resources devoted to the codification or enforcement of the Animal Welfare Act. The suffering of prisoners is similarly ignored through confinement in facilities with little public access and of which the public takes little notice.

## V. IF POWERLESS BEINGS WERE EMPOWERED

Solitary confinement imposes real and sustained pain and suffering on beings across species. Indeed, the abnormal behaviors caused by solitary including depression, listlessness, excessive pacing, self-mutilation, throwing of feces and urine occur in human and non-humans in an eerily similar matter. This confirms a long-known truth: torture inflicted by confinement is damaging regardless of who it is imposed on. The legal structures governing the incarceration of humans and the confinement of animals in captivity are different both in underlying theory and regulatory structure, but they have in common that both prison law and animal law fail to protect beings in custody from the horror of solitary confinement. As demonstrated,<sup>261</sup> the reason that solitary remains so persistent and entrenched is that those upon whom it is imposed are powerless. They lack the political power to compel elected officials to act on their behalf. And, in both cases, the judicial branch has been unwilling to step into the void, likely for the same reasons.

In the following section<sup>262</sup> each author presents a vision of what would happen in their respective fields if elected officials as well as judges were to meet their responsibility to protect the powerless who languish in solitary confinement in prisons, jails, laboratories, and zoos across the country.

### A. Solitary Confinement Is Not Necessary in Prisons and Jails

If prisoners were not powerless, they would be free of all restraints which are not justified by a compelling governmental objective that could not be achieved through a least drastic alternative.<sup>263</sup> Under this

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260. See discussion *supra* part III.

261. See discussion *supra* part IV.

262. In this section each author states his view of what would happen if the powerless beings subjected to solitary confinement were empowered. In this part the author who has expertise in prison law (Professor Michael B. Mushlin) describes how solitary confinement in penal facilities would operate if prisoners were empowered and their rights protected. Similarly, the author with expertise in animal law (Professor David N. Cassuto) describes how solitary confinement for animals is neither justified nor necessary. Neither author endorses nor expresses a view about the correctness of the other's position on the proper remedy for solitary confinement in that author's area of expertise.

263. This is the test used whenever the fundamental rights of free citizens are subjected to curtailment by the government and it is therefore the most appropriate

standard, solitary confinement of humans as it is practiced would end because a less drastic alternative is available.

The most common rationale for solitary confinement is that it is essential for the safety of incarcerated persons and of prison staff. The reasoning goes that without the ability to isolate violent people from the general population, prison security will be jeopardized. A corollary of this notion is that there are some prisoners who are so vulnerable to abuse that for their safety they require solitary confinement. Finally, solitary confinement is justified as a remedy that prison officials can use to punish violations of prison rules. Each of these rationales assert important institutional needs. But can these objectives be achieved without the torture of solitary confinement? In other words, are there less drastic means available?

The answer to these questions is yes. Better-trained staff, more programs and enhanced attention to mental health can help create a safer penal environment in which to hold prisoners who are difficult or at risk.<sup>264</sup> Evidence accumulated in the past several decades establish that each of these needs can be served more effectively without resorting to solitary confinement. This evidence demonstrates that not only can valid institutional needs be served without solitary confinement but also that the alternatives work better than solitary confinement.<sup>265</sup>

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standard for the empowerment of incarcerated persons. It is the standard that some courts used in the 1970s to adjudicate the claims of pretrial detainees. *See* *Rhem v. Malcolm*, 507 F.2d 333, 337 (2d Cir. 1974) (“ . . . [I]t is manifestly obvious that the conditions of incarceration for detainees must, cumulatively, add up to the least restrictive means of achieving the purpose requiring and justifying the deprivation of liberty.”). However, the test has been rejected by the Supreme Court when used to protect incarcerated persons from deprivations such as solitary confinement. *See, e.g.*, *Bell v. Wolfish*, 441 U.S. 520 (1979) (holding that “there is no source in the Constitution for the . . . compelling necessity standard.”). Modern prisoners’ rights law provides the lowest level of constitutional scrutiny of claims by prisoners to the exercise of fundamental constitutional rights. *Turner v. Safley*, 482 U.S. 78 (1987) (holding in the context of a prisoner’s constitutional challenge to prison rules that “a lesser standard is appropriate whereby inquiry is made into whether a prison regulation . . . is ‘reasonably related’ to legitimate penological objectives”). Thus, virtually all rights of prisoners can be curtailed if the government has a rational basis for the restriction. *Id.* Similarly, even the critical protection against cruel and unusual punishment is severely restricted by the “deliberate indifference” test which renders even the deprivation of the most basic necessities of human life constitutional if the prison official responsible does not have a culpable state of mind. *Wilson v. Seiter*, 501 U.S. 294 (1991). To fully empower incarcerated persons these cases would need to be abandoned and a return to the earlier approach would be needed.

264. ASCA 2018, *supra* note 10; Léon Digard *et al.*, *Recommendations*, VERA INST. OF JUST. (May 2018), <https://www.vera.org/rethinking-restrictive-housing/recommendations> [<https://perma.cc/MB38-GBNN>] (describing methods that can be used instead of solitary confinement to hold prisoners safely).

265. *See id.*

One recent study discusses in detail how to move away from the harms imposed by solitary confinement to a better model of prison management.<sup>266</sup> The study examines the experience in North Dakota. There, prison officials decided in 2015 to reform their use of solitary confinement which before that time was used extensively.<sup>267</sup> North Dakota prisons officials from the North Dakota Department of Correction and Rehabilitation began participation in a novel cross-cultural exchange program led by correctional and public health experts at the University of California San Francisco (UCSF) in collaboration with the Norwegian Correctional Service to design a new way of operating its prisons without extensive use of solitary confinement. Eschewing the punitive approach characterized by solitary confinement, the Norwegian prison system is based on three principles: “dynamic security,” “normalization” and “progression.”

Dynamic security connotes an approach that encourages positive relationships between incarcerated persons and correctional staff.<sup>268</sup> Normalization is the idea that to the extent possible prison conditions should resemble the conditions to which a prisoner will return.<sup>269</sup> Progression refers to a system that continually rewards good behavior with a relaxation of penal controls and the movement of persons to a less restrictive environment.<sup>270</sup> Officials in North Dakota used these principles to devise a new system of control without solitary confinement. The plan involved correctional staff—who had experience working with prisoners for reentry to society—working with prisoners in solitary confinement to transition back to the general population.<sup>271</sup> The next step rescinded low utility disciplinary rules and instead adopted rules which make much greater use of mediation instead of punishment.<sup>272</sup> Under this new rule structure, the only rule violations that could lead to isolation were those that were related to acts of serious violence.<sup>273</sup> The new approach also created new units for persons in need of separation from the general population.<sup>274</sup> Unlike the harsh solitary confinement units, the new units have much more out of cell

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266. Cloud et al., *supra* note 156 .

267. *Id.* at 4 (reporting the vast increase in the use of solitary confinement in North Dakota prisons in response to the mass incarceration).

268. Emily Labutta, *The Prisoner as One of Us: Norwegian Wisdom for American Penal Practice*, 31 EMORY INT'L L. REV. 329, 346 (2017).

269. *Id.* at 345 (explaining how the Norwegian system operates under a principle of normality which views the aim of a prison sentence as return to the community therefore prison is made to resemble outside life as feasible).

270. Cloud et al., *supra* note 156, at 6.

271. *Id.* at 9.

272. *Id.*

273. *Id.*

274. *Id.* (describing the units, one called the Behavioral Intervention Unit and the other called the Special Assistance Unit).

time, more interactions between staff and other prisoners, more access to property, and more counseling.

The benefits of this movement away from solitary confinement are significant and measurable. The number of people isolated under this new system was reduced by 74.28% and the median length of stay for those isolated dropped by 59%.<sup>275</sup> Under the new system the need for isolation of people with mental illness decreased markedly.<sup>276</sup> Importantly, without solitary confinement, violence decreased both in the prison generally and in the isolation units.<sup>277</sup> Both prisoners and staff members reported improvements in their health and well-being, enhanced interactions with one another, and less exposure to violence following the reforms.<sup>278</sup>

This study is emblematic of other data that shows solitary confinement is not needed to maintain prison security.<sup>279</sup> Reports of other jurisdictions that have decided to no longer rely upon solitary confinement demonstrate that solitary confinement is not required. This evidence demonstrates that properly understood solitary confinement is not necessary but instead, “. . . is a systemic problem resulting from factors like overcrowding prisons and deinstitutionalization without adequate community-based mental health treatment, no corresponding increase in prison resources, and a shift in criminal justice policy toward an emphasis on punishment rather than rehabilitation.”<sup>280</sup> Empowering incarcerated people will encourage a use of safe and humane alternatives which will end a reliance on the harshness of solitary confinement to cover these systemic failures.

This evidence demonstrates that solitary confinement can be eliminated. Put another way, if prisoners were empowered, the law would require that the practice of solitary confinement be ended.

## **B. Animal Isolation Is Not Necessary**

If one accepts the premise that solitary confinement is deeply injurious to the animals upon whom it is imposed, the next line of inquiry becomes whether it achieves the desired results and whether those results merit the harm they cause. In the case of zoos, the analysis is straightforward. The harm yields no productive result and workable alternatives exist. And, while achieving the goal of ending zoo animal

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275. *Id.* at 12.

276. *Id.* (“For instance, before reforms were implemented (between January 1, 2010 and December 31, 2015), there was an average of 11.39 solitary confinement placements among people with serious mental illness per month between both prisons. In the post-reform period (January 1, 2016, to December 31, 2019), it decreased 630% to an average of 1.56 placements per month.”).

277. *Id.* at 16–20.

278. *Id.* at 14–15.

279. Hanna, *supra* note 13, at 10.

280. *Id.*



isolation may be logistically difficult, it can be managed without affecting the mission of zoos or their ability to continue to exist.

In the case of animal experimentation, the issue is more nuanced and implicates both data and ethics. However, the answer remains the same. Since causing gratuitous harm to another is wrongful absent a compelling reason, the question becomes whether imposing this harm on another avoids greater harm.

The analysis begins by defining necessity. In law, a necessity is commonly viewed as a justification defense consisting of three elements: (1) the defendant acted to avoid a significant risk of harm; (2) no adequate lawful means could have been used to escape the harm; and (3) the harm avoided was greater than that caused by breaking the law.<sup>281</sup> In addition, most jurisdictions require the harm in question to be imminent; the harmful action taken must be to avoid a known and immediate danger.<sup>282</sup> Thus, to be legally necessary, solitary confinement of animals must be done to avoid a significant risk of imminent harm; no adequate means of avoiding it can exist, and the harm avoided must be greater than that caused by the confinement itself.

### 1. *Solitary Confinement in Zoos and Aquariums Is Unnecessary*

As described above, zoos and aquariums rarely isolate animals for the animals' own wellbeing.<sup>283</sup> Generally, it occurs because the facility lacks the space or resources to house the animal socially or because the isolated animal is a "problem" animal that cannot peacefully coexist with others.<sup>284</sup> Neither of these situations rise to the level of legal necessity.

First, if the facility lacks the space to house an animal in a species-appropriate manner, it should not have acquired the animal in the first place. Once acquired, however, the animal could be rehomed to a sanctuary or some other facility with more space. If the animal is anti-social, the same options exist. Only when all other options are exhausted could isolation become potentially necessary, and that situation would seldom arise.

The case of Happy the elephant offers a useful illustration. The Bronx Zoo cannot feasibly house Happy with other elephants both because she does not get along with them and because the zoo has

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281. 115 AM. JUR. 3D *Proof of Facts* 309 (2010).

282. *See id.* ("Courts have tended to set forth these elements in numerous combinations. Where there is a requirement that the threatened harm be "imminent," there is also often not the element that there be no legal alternative because if the harm was imminent, it is also likely that there was no such alternative. Some courts, in their decisions, have primarily discussed only those elements that were pertinent or relevant to the holding in the particular case.").

283. *See* discussion *infra* section IV.B.

284. *Id.*

committed to closing its elephant exhibit and will not acquire more.<sup>285</sup> However, the zoo vigorously fought, and won, a habeas corpus suit that would have freed Happy to live in a sanctuary where she would have had ample space to roam and live as socially as she cared to and as solitary as she wished.<sup>286</sup> Not only did the zoo have the option to rehome Happy, it also faced a lawsuit attempting to compel it do so.<sup>287</sup> It refused.<sup>288</sup> Happy's isolation, in the view of the Court, did not rise to the level of legal necessity.

As a practical matter, if society accepts the fact that zoo and marine animals should only be isolated when it is legally necessary, zoos and aquariums could comply without significantly affecting their operations or mission. It is hard to imagine a set of facts where the choice to isolate a marine or zoo animal rose to the level of legal necessity. The issue of laboratory research poses a more complicated set of questions.

## 2. *Solitary Confinement of Animals in Biomedical Research Is Unnecessary*

The discussion below deals only with animals used for biomedical research. It is self-evident that experimenting on animals to manufacture cosmetics cannot rise to the level of necessity both because "cruelty-free" cosmetics are widely available,<sup>289</sup> and because cosmetics themselves are not necessary. It logically follows that imposing harm on another to manufacture cosmetics is not necessary.

To reiterate, this section focuses on the solitary confinement of animals in biomedical research. A fuller discussion of potential moral and legal justifications for biomedical research lies beyond the scope of this Article. For that confinement to rise to the level of necessity, it must avoid a significant risk of imminent harm; no alternative means of avoiding the harm can exist, and the harm avoided must exceed the harm caused by the confinement itself.<sup>290</sup> Isolating animals for purposes of biomedical research does not avoid an imminent, otherwise unavoidable harm. Rather, the research compelling the isolation, is often an ineffective means of furthering human epidemiological knowledge. That knowledge, while beneficial, is not necessary to avoid a looming, identifiable and immediate harm.

In other words, isolating an animal does not definitively prevent anyone from suffering greater harm. Putting aside the question of whether human suffering is in fact a greater harm than the suffering

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285. *Id.*

286. *See generally* Nonhuman Rts. Project, Inc. v. Breheny, 38 N.Y.3d 555 (2022).

287. *Id.* at 567–68.

288. *Id.* at 568.

289. Daniela Isabel Bolivar Leon, *An Examination of the Growth of Cruelty Free Products Available for the 18-24 Age Range*, 12 BUSINESS 1, 21 (2020).

290. *See discussion supra* section V.B. (setting forth the elements of necessity).

of nonhumans, animal experimentation, including those experiments that require isolation, has no direct correlation to preventing imminent harm to anyone. At best, it may lead to medical advances that might prevent future suffering. But there is no *imminent* harm for which it provides a remedy. What follows is a brief overview of the scattershot effectiveness of biomedical research.

*a. Biomedical Research is Often Ineffective*

Human diseases are often challenging to recreate in nonhuman animals because the animals may not naturally experience these diseases.<sup>291</sup> Cancer, for example appears in both nonhuman animals and humans.<sup>292</sup> However, recreating complex human cancers in nonhuman animals has proven challenging.<sup>293</sup> Cancer that can be cured in mice continues to kill humans.<sup>294</sup> Conversely, while strokes are well understood in humans, they cannot be modeled in animals.<sup>295</sup>

Another problem with manufacturing artificial medical conditions in animals is that the act of creating the disease can skew results.<sup>296</sup> For example, creating strokes in nonhuman animals requires clamping the animals' blood vessels or inserting blood clots to create atherosclerosis—the buildup of fats, cholesterol, and other substances in the artery walls that contribute to strokes in humans.<sup>297</sup> Doing so does not replicate the underlying causes of atherosclerosis in humans—poor

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291. Kurt Williams & Jesse Roman, *Studying Human Respiratory Disease in Animals – Role of Induced and Naturally Occurring Models*, 238 J. PATHOLOGY 220, 221 (2016); Aysha Akhtar, *The Flaws and Human Harms of Animal Experimentation*, 24 CAMBRIDGE Q. HEALTHCARE ETHICS 407, 409 (2015).

292. See Maria Cekanova & Kusum Rathore, *Animal Models and Therapeutic Molecular Targets of Cancer: Utility and Limitations*, 8 DRUG DESIGN, DEV. & THERAPY 1191, 1191 (2014) (“Companion animals have a relatively high incidence of cancers, with biological behavior, response to therapy, and response to cytotoxic agents similar to those in humans.”).

293. See Isabella WY Mak et al., *Lost in Translation: Animal Models and Clinical Trials in Cancer Treatment*, 6 AM. J. TRANSLATIONAL RSCH. 114, 115 (2014) (“Crucial genetic, molecular, immunologic and cellular differences between humans and mice prevent animal models from serving as effective means to seek for a cancer cure.”); see also Akhtar, *supra* note 291, at 410 (“[S]ignificant limitations exist in the models’ ability to faithfully mirror the complex process of human carcinogenesis.”).

294. Mak et al., *supra* note 293, at 115.

295. Akhtar, *supra* note 291, at 409.

296. *Id.*; see also Cekanova & Rathore, *supra* note 292, at 1913 (“The major disadvantage of these models is the inability to control the level and pattern of gene expression. Random integration of a transgene can also result in unexpected phenotypes.”); see also Williams & Roman, *supra* note 291, at 224 (“However, in general, although they manifest features of human disease, they do not exactly resemble the human condition, and interventions successfully tested in these models have not always led to safe and effective therapeutic agents in humans.”).

297. Akhtar, *supra* note 291, at 409.

diet, lack of exercise, etc.—because those risk factors do not create atherosclerosis in animals.<sup>298</sup>

One way to address the epidemiological challenges presented by biological dissimilarity of other species and humans would be to experiment on species closely related to humans, i.e., nonhuman primates.<sup>299</sup> However, nonhuman primate research has decreased while its regulation has increased, ironically due to concerns about testing on animals that are so similar to humans.<sup>300</sup> Here the ethical quandary presented by this type of scientific research becomes clear: acquiring data useful for human epidemiology often requires experimenting on animals whose similarity to humans makes their mistreatment unacceptable. Left unasked and unanswered by these regulatory shifts is why mistreating nonhuman animals who are not like humans poses no similar ethical concerns.

*b. High Failure Rates Are Associated with Nonhuman Animal Testing*

A major problem with nonhuman animal testing is that the data it yields can make drugs unsafe for humans appear safe (false positives) or bar drugs that could benefit humans from advancing to clinical trials (false negatives).<sup>301</sup> The problem arises from three main issues with nonhuman preclinical trials: (1) failure to predict adverse effects in humans, (2) foreseeing clinical benefits that do not appear in humans, and (3) erroneously predicting human risks.<sup>302</sup> In 2004, the estimated failure rate was 92% for drugs that passed preclinical tests, and a 2013 study found that the percentage edged closer to 96%.<sup>303</sup> A group of researchers analyzed over 4,000 studies finding over 700 successful neuroprotective drugs in nonhuman animal experiments, of which 150 made it to human trials and none of which were successful in humans.<sup>304</sup>

Other examples of incompatible results abound. Vioxx, an arthritis drug, passed nonhuman animal tests in African green monkeys and five other species, but caused an estimated 140,000 heart attacks and

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298. *Id.*

299. *Id.* at 412.

300. Kate Chatfield & David Morton, *The Use of Non-human Primates in Research*, in *ETHICS DUMPING* 81, 83 (2018).

301. Akhtar, *supra* note 291, at 414.

302. *See id.* (“Imprecise results from animal experiments may result in clinical trials of biologically faulty or even harmful substances, thereby exposing patients to unnecessary risk and wasting scarce research resources.”).

303. *Id.* at 410.

304. Malcolm R. Macleod et al., *Pooling of Animal Experimental Data Reveals Influence of Study Design and Publication Bias*, 35 *STROKE* 1203, 1203 (2004).

60,000 deaths in the United States.<sup>305</sup> The animal tests failed to predict these adverse effects in humans.<sup>306</sup> Many people fell ill or died as a result.<sup>307</sup>

Similarly in the Northwick Park incident, TGN1412 was administered to six healthy individuals in 1/500 of the dose that was given to rhesus monkeys and deemed safe.<sup>308</sup> The six suffered headaches, lumbar myalgia, rigors, pyrexia, hypotension, and tachycardia, and were transferred to the intensive-care unit.<sup>309</sup> Experts concluded that the reliance on monkey testing was misplaced due to differences in the monoclonal antidote receptors in humans and primates.<sup>310</sup> Again, the genetic differences between the animal test subjects and humans caused a failure to predict adverse effects in humans.

*c. Animal Trials are Required for Vaccine and Drug by The Food & Drug Administration*

Animal testing occurs primarily because of regulatory requirements for drug and vaccine approval.<sup>311</sup> For example, full Food & Drug Administration (“FDA”) approval for a vaccine can involve ten to twelve years of pre-clinical animal trials before human trials are even authorized.<sup>312</sup> Animal trials are theoretically used to determine a drug’s safety and effectiveness, proper dosage and formulation, optimal

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305. John J. Pippin, *Animal Research in Medical Sciences: Seeking a Convergence of Science, Medicine, and Animal Law*, 54 S. TEX. L. REV. 469, 499 (2013); see also Manette Loudon, *The FDA Exposed: An Interview with Dr. David Graham, the Vioxx Whistleblower*, NAT. NEWS (Aug. 30, 2005), [http://www.naturalnews.com/011401\\_Dr\\_David\\_Graham\\_the\\_FDA.html](http://www.naturalnews.com/011401_Dr_David_Graham_the_FDA.html) [https://perma.cc/UTA3-HQ2A]; David J. Graham et al., *Risk of Acute Myocardial Infarction and Sudden Cardiac Death in Patients Treated with Cyclo-Oxygenase 2 Selective and Non-Selective Non-Steroidal Anti-Inflammatory Drugs: Nested Case-Control Study*, 365 LANCET 475, 475 (2005); Eric J. Topol, *Failing the Public Health—Rofecoxib, Merck, and the FDA*, 351 NEW ENG. J. MED. 1707, 1707–08 (2004).

306. See Pippin, *supra* note 305, at 499, 501.

307. *Id.*

308. T. Dowsing & M.J. Kendall, *The Northwick Park Tragedy – Protecting Healthy Volunteers in Future First-in-Man Trials*, 32 J. OF CLINICAL PHARMACY AND THERAPEUTICS 203 (2007).

309. *Id.*

310. Adel Nada & John Somberg, *First-in-Man (FIM) Clinical Trials Post-TeGenero: A Review of the Impact of the TeGenero Trial on the Design, Conduct, and Ethics of FIM Trials*, 14 A. J. OF THERAPEUTICS 594, 595–96 (2007).

311. *Animals Behind Top Drugs*, FBR RESEARCH, <https://fbresearch.org/medical-advances/top-drugs> [https://perma.cc/2KLE-VHBS] (last visited, Mar. 25, 2022).

312. Volker Gerdts et al., *Large Animal Models for Vaccine Development and Testing*, 56 ILAR J. 53, 53 (2015); see also Lisa Jones-Engel, *There is No Monkey Shortage for COVID-19 Research – Because No Monkeys Are Needed*, INSIDE SOURCES (Dec. 01, 2020), <https://insidesources.com/there-is-no-monkey-shortage-for-covid-19-research-because-no-monkeys-are-needed/> [https://perma.cc/R5QQ-F87L] (discussing the development of a COVID-19 vaccine).

route for delivery, and duration of immune responses.<sup>313</sup> However, the data from these trials often have little utility.

Vaccine developers may only apply for authorization to begin human trials when a vaccine successfully undergoes sufficient pre-clinical studies using animals.<sup>314</sup> Very few vaccines, however, progress beyond the pre-clinical stage.<sup>315</sup> Even when a vaccine does progress to human trials, animal data is not predictive of human immuno-responses. Over 90% of successful drug trials in animal models fail in human trials.<sup>316</sup>

*d. Animal Data Do Not Accurately Reflect Drug Effectiveness in Human Clinical Trials*

Humans are outbred populations<sup>317</sup> whose immune systems have changed and evolved over time from exposure to a vast array of micro-organisms and pathogens.<sup>318</sup> In contrast, most research animals are bred in laboratories and/or genetically modified to respond to particular pathogens.<sup>319</sup> Disparities in immune responses between clinically bred animals and out-bred humans often lead to misleading results.<sup>320</sup>

Moreover, many zoonotic diseases evolve from species-specific viruses.<sup>321</sup> With species-specific viruses, the animals used in research cannot naturally contract the viral disease. Researchers often must inject them with vectors containing the viral agent<sup>322</sup> or with an

313. Gerdts et al., *supra* note 312, at 54.

314. *Vaccine Development, Testing, and Regulation*, HIST. OF VACCINES, <https://historyof-vaccines.org/vaccines-101/how-are-vaccines-made/vaccine-development-testing-and-regulation> [<https://perma.cc/XM75-82QJ>] (last updated Apr. 18, 2022).

315. *Id.*

316. Akhtar, *supra* note 291, at 410. DNA vaccines prove highly effective in mice models; however, none have been licensed for humans to date. Gerdts, *supra* note 312, at 54. Despite extensive animal testing for tuberculosis and hepatitis C vaccines, none have succeeded at human trials. *Id.*

317. Gerdts et al., *supra* note 312, at 54; *see also* C. Teixeira & R. Gomes, *Experimental Models in Vaccine Research: Malaria and Leishmaniasis*, 46 BRAZILIAN J. OF MED. & BIOLOGICAL RSCH. 109, 109 (2013) (“Human populations have a diverse genetic background that has a profound influence on the immune response. . .”).

318. Gerdts et al., *supra* note 312, at 54.

319. *Id.* at 174; Teixeira & Gomes, *supra* note 317, at 109. Eighty-five percent of animal models are rats and mice bred specifically for research. COMM. ON THE USE OF ANIMALS IN RSCH., SCIENCE, MEDICINE, AND ANIMALS 4 (1991). Of the 50 to 60 thousand nonhuman primates used in research, most are from breeding colonies. *Id.*

320. Teixeira & Gomes, *supra* note 317, at 109.

321. *Id.*

322. Vectors can either be injected directly into the body or administered intravenously. *How Does Gene Therapy Work?*, MEDLINEPLUS, <https://medlineplus.gov/genetics/understanding/therapy/procedures/> [<https://perma.cc/PM46-Z23D>] (last updated Feb. 28, 2022). Alternatively, researches can remove a sample of the subject’s cells, expose those cells to the vector in the lab, and then inject the cells back into the patient. *Id.*

alternative virus that produces similar symptoms.<sup>323</sup> This use of substitute viruses contributes to the disparity between animal and human study results.<sup>324</sup> A vaccine's effectiveness against one virus does not necessarily equate to effectiveness against another, however similar the two viruses might be.<sup>325</sup>

There is perhaps no better example of the ineffectiveness of animal testing than the quest for an HIV vaccine. Nonhuman primates used in HIV and AIDS research are not naturally susceptible to the HIV virus and do not develop AIDS.<sup>326</sup> Instead, researchers infect primates with the simian immunodeficiency virus ("SIV"),<sup>327</sup> an AIDS-related virus.<sup>328</sup> SIV, however, differs genetically from HIV by roughly 50%.<sup>329</sup> Additionally, nonhuman primates used in HIV research are kept in isolation and locked in cages.<sup>330</sup> The stress of prolonged isolation on these highly social animals weakens their immune system and undermines the reliability of the study.<sup>331</sup> The result: despite over one hundred HIV vaccines undergoing successful pre-clinical animal trials, none have proven effective at the human clinical trial stage to date.<sup>332</sup>

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323. See Eva Maciejewski, *The First FDA-Approved Ebola Vaccine: Another Animal Research Victory*, FOUND. FOR BIOMEDICAL RSCH. (Jan. 9, 2020), <https://fbresearch.org/fda-approved-ebola-vaccine/> [https://perma.cc/6RC5-KZFJ].

324. See Jarrod Bailey, *An Assessment of the Role Chimpanzees in AIDS Vaccine Research*, 36 ALTERNATIVES TO LAB'Y ANIMALS 381, 420 (2008).

325. *Id.* Even mutated strains of the same virus do not always respond to a vaccine in the same manner. *How Do Viruses Mutate and What it Means for a Vaccine?*, PFIZER, [https://www.pfizer.com/news/articles/how\\_do\\_viruses\\_mutate\\_and\\_what\\_it\\_means\\_for\\_a\\_vaccine](https://www.pfizer.com/news/articles/how_do_viruses_mutate_and_what_it_means_for_a_vaccine) [https://perma.cc/MRJ5-RUA9] (last visited May 3, 2022). For example, when the influenza virus mutates, the vaccine developed to protect against the old influenza strain does not always continue to provide immunity against the newly mutated strain. *Id.* This is why the influenza vaccine must be reviewed and re-developed on an annual basis. *Id.*

326. *AIDS: Contagion and Confusion*, PETA, <https://www.peta.org/issues/animals-used-for-experimentation/animals-used-experimentation-factsheets/aids-contagion-confusion/> [https://perma.cc/94KY-N7SX] (last visited Aug. 15, 2021).

327. Cats utilized in HIV research must also be injected with an alternative virus, feline immunodeficiency virus. PETA, *supra* note 326.

328. *Id.*

329. Jarrod Bailey & Katy Taylor, *The SCHER Report on Non-human Primate Research Biased and Deeply Flawed*, 37 ALTERNATIVES TO LAB'Y 427 (2009); see also PETA, *supra* note 326 (according to AIDS researcher Marv Girard, "we still do not know how the SIC or SHIV model compares to HIV infections in humans. Extrapolating from vaccine protection results in non-human primate studies to efficacy in man may be misleading").

330. PETA, *supra* note 326.

331. *Id.*

332. *Id.* In over thirty-years of AIDS research, nonhuman primate models have yielded no effective vaccine. Bailey & Taylor, *supra* note 329. Of 85 vaccines developed, only seven even reached Phase III human trials. Bailey, *supra* note 324, at 419.

*e. Animal Experimentation Can Interfere with Drug Development and Marketing*

In addition to failing to prevent toxic drugs from gaining approval, animal testing can also prevent beneficial drugs from entering the market.<sup>333</sup> For example, aspirin was marketed in 1900, before animal testing became widespread.<sup>334</sup> Today, aspirin is widely used to prevent heart attacks and strokes and to treat headaches, pain, swelling, and fevers.<sup>335</sup> When aspirin was later tested on nonhuman animals, it caused congenital disabilities in all eight species tested.<sup>336</sup> If researchers had used nonhuman animal testing exclusively, aspirin might never have entered the market.

Similarly, penicillin was also marketed before the onset of widespread animal testing.<sup>337</sup> When the drug was later tested on animals, it resulted in death or birth defects.<sup>338</sup> If animal testing had been used, penicillin may have never been approved for humans.

*f. Biomedical Research Does Not Require Isolating Animals*

Clearly, the data from biomedical research on nonhumans is often of limited efficacy. Furthermore, even if the experiments led to a medical advance, the long-time horizon between the animal modeling and any therapeutic human use means that the research could not possibly have staved off any imminent harm. What's more, the injuries the experiments cause are significant, permanent, and immediate. Biomedical research on animals in isolation is similarly problematic for all the same reasons, with the harm compounded by the additional torment of solitary confinement.

But all of this does not fully address the question of necessity. The question of whether isolating and experimenting on nonhuman animals is necessary remains. The answer: it is not. These actions avoid neither imminent harm nor any significant risk therefrom; there exist adequate means of avoiding isolation such as pursuing research through other means or not doing it at all. Additionally, since no imminent harm is

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333. See Pippin, *supra* note 305, at 500 (discussing drugs that have caused adverse reactions in animals however are widely used in humans).

334. *Id.*

335. *Aspirin for Reducing Your Risk of Heart Attack and Stroke: Know the Facts*, FDA, <https://www.fda.gov/drugs/safe-daily-use-aspirin/aspirin-reducing-your-risk-heart-attack-and-stroke-know-facts> [<https://perma.cc/TE43-RGA9>] (last updated Dec. 16, 2019).

336. RONALD D. MANN, *MODERN DRUG USE: AN ENQUIRY ON HISTORICAL PRINCIPLES* 610–11 (2nd ed. 2014); Phil Young, *Aspirin and Non-Steroidal Anti-Inflammatory Agents: Pregnancy*, IPCS INCHEM (2016), <http://www.inchem.org/documents/ukpids/ukpids/ukpid03.htm> [<https://perma.cc/5BXD-H3PT>]; Richard T. Robertson et al., *Aspirin: Teratogenic Evaluation in the Dog*, 20 *TERATOLOGY* 313, 316 (1979).

337. See Pippin, *supra* note 305, at 501.

338. *Id.*



avoided, solitary confinement cannot logically avoid greater harm than that caused by the confinement itself.

*g. Isolation of Animals in Biomedical Research is Harmful and Unnecessary*

To be clear, both this Article and this section of it address solitary confinement. Animals are isolated for different reasons than humans and determining the need for that isolation involves interrogating the reasons for its use. Because solitary confinement in biomedical research aims to provide a societal good, both the means through which that good would be achieved and the efficacy of those means must be scrutinized. As the foregoing demonstrates, the means are cruel, deeply injurious, and, often of limited to no efficacy. Put differently, isolating laboratory animals causes terrible suffering while delivering questionable results that fail to ward off imminent harm. Therefore, by any metric, isolating animals for biomedical research is not necessary.

## VI. CONCLUSION

Solitary confinement is harmful and morally suspect. It is imposed on powerless beings walled off from public view, and those who suffer its deprivations have little or no legal recourse. Prisoners do not enjoy the constitutional rights given other citizens.<sup>339</sup> They are even the target of laws designed explicitly to limit their access to the courts.<sup>340</sup> Non-humans have neither constitutional rights nor any other meaningful legal protections. They live, suffer, and die at the will of their captors. As a direct consequence, incarcerated persons and animals in captivity can be subjected virtually at will to the horrors of solitary confinement without legal recourse. In both cases, society isolates itself from the reality of solitary confinement and from its ethical implications. We are better than this. So too must be our laws.

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339. Prisoners have not been given full protection of their constitutional rights. *See, e.g., Turner v. Safley*, 482 U.S. 78 (1987) (holding that even fundamental constitutional rights are subject to abridgement so long as there is a mere rational relationship between the restriction and a governmental objective).

340. Prison Litigation Reform Act (PLRA), 42 U.S.C. § 1997e (imposing severe restrictions on access to the court including exhaustion requirements and “three strikes” penalties and payment of fees provisions even for indigent litigants that only apply to prisoners).