

Notes

Preface and Acknowledgments

1. RealtyTrac, "U.S. Residential Property Vacancy Rate Drops 9.3 Percent," February 9, 2016, <https://wpnewsroom.realtytrac.com/news/u-s-q1-2016-u-s-residential-property-vacancy-analysis/>.
2. In 2006, the Flint public school system was the eighth largest in the state. By 2015, it had fallen to fifty-fourth. Julie Mack, "Michigan's 30 Largest School Districts Now Compared to 2006," *MLive*, May 12, 2016, https://www.mlive.com/news/index.ssf/2016/05/michigans_30_largest_school_di.html.
3. Richard O. Boyer and Herbert M. Morais write of the strikers that "it was their firmness that built the CIO, that made a hundred other unions possible, that cracked the open shop, that filled the common people, the working people, with a great thrill and resolve." *Labor's Untold Story*, 303. For general accounts of the strike, see Kraus, *The Many and the Few*, and Fine, *Sit-Down*.
4. The democratic potential contained in the sit-down strike, a constant touchstone for Flint activists, is highlighted by Jeremy Brecher: "The principles under which [workers] could govern their own activity can be seen in the self-organization of the sitdown strikers. ... All those who worked together simply met in assembly and made the decisions that affected their common activity, and all were responsible for doing their share of carrying the decisions out. ... They could have run not only the sitdown but the factory itself in this way." *Strike!*, 306.
5. One of the images created by activists to advertise what turned out to be a seminal water march in February 2015 was superimposed on a photograph of the sleep-in protestors. It read: "Lest we forget. These people would not accept the idea they were inferior. Don't forget the '67 Sleep-ins! First in the nation to ban housing discrimination." And: "Fighting for people's rights is a Flint tradition."
6. See Clark and Kramer, "'An Equal Opportunity Lie.'"

7. The EPA ruled against claims of environmental racism in this case, but the facility was never built. See Buford and Lombardi, “Steel Mill That Never Was,” and Dawson, “Lessons Learned from Flint, Michigan.”

8. Hillary Clinton, in particular, sought to distinguish herself as a champion of the city. She later suggested that her “advocacy for the heavily African American community of Flint” may have “alienated white voters in other parts of Michigan,” and cost her the state in both the primary and general elections. Clinton, *What Happened*, 214.

9. See, for example, Clark, *The Poisoned City*, and Hanna-Attisha, *What the Eyes Don't See*.

Timeline

1. Ron Fonger, “Flint Council Votes to Do ‘All Things Necessary’ to End Use of Flint River,” *MLive*, March 23, 2015, https://www.mlive.com/news/flint/index.ssf/2015/03/flint_council_votes_to_do_all.html.

2. Randy Conat, “Coalition Wants Flint to Return to Detroit Water,” ABC12, June 5, 2015, <https://www.abc12.com/home/headlines/Coalition-wants-Flint-to-return-to-Detroit-water-306325041.html>.

Introduction

1. For a detailed breakdown of Flint’s water rates, see Raftelis Financial Consultants, Inc., *Flint Water Rate Analysis Final Report*.

2. In addition to Flint, the KWA is comprised of the City of Lapeer and the counties of Genesee, Lapeer, and Sanilac. Mayor Dayne Walling claimed that “Flint would save \$19 million over eight years” as well as seeing “the additional benefits of partial ownership and economic development” by joining the KWA. Genesee County Drain Commissioner Jeff Wright promised, similarly, that “the city would pay roughly \$6.4 million annually for water service if it joined the pipeline—a nearly \$4 million savings on what it pays Detroit for water.” See Dominic Adams, “‘Biggest Decision for City in Decades’ Is Proposal to Join Regional Pipeline, Says Flint Mayor,” *MLive*, March 16, 2013, https://www.mlive.com/news/flint/index.ssf/2013/03/flint_mayor_dayne_walling_says_10.html.

3. Melissa Mays, personal interview with author, Flint, MI, February 17, 2016.

4. Dominic Adams, “Flint to Spend \$171,000 for Engineering to Treat Flint River Water While KWA Pipeline Is Built,” *MLive*, July 8, 2013, https://www.mlive.com/news/flint/index.ssf/2013/07/flint_to_spend_171000_for_engi.html.

5. Dominic Adams, “Closing the Valve on History: Flint Cuts Water Flow from Detroit after Nearly 50 Years,” *MLive*, April 25, 2014, https://www.mlive.com/news/flint/index.ssf/2014/04/closing_the_valve_on_history_f.html.

6. Stephen Busch, Lansing and Jackson district supervisor in the Office of Drinking Water and Municipal Assistance at the MDEQ, quoted in Adams, "Closing the Valve on History."

7. Ron Fonger, "State Says Flint River Water Meets All Standards but More than Twice the Hardness of Lake Water," *MLive*, May 23, 2014, https://www.mlive.com/news/flint/index.ssf/2014/05/state_says_flint_river_water_m.html.

8. Adams, "Closing the Valve on History."

9. Dominic Adams, "Flint Mayor Takes to Twitter to See How Residents Like Flint River Water," *MLive*, April 28, 2014, https://www.mlive.com/news/flint/index.ssf/2014/04/switch_to_flint_river_for_city.html.

10. Ron Fonger, "Flint Water Supervisor Warned State of Problems before Switch to River," *MLive*, February 12, 2016, https://www.mlive.com/news/flint/index.ssf/2016/02/flint_water_supervisor_warned.html.

11. Governor Rick Snyder himself called the crisis his "Katrina." Ron Fournier, "Snyder Concedes Flint is His 'Katrina,' a Failure of Leadership," *National Journal*, January 18, 2016.

12. In June 2016, Attorney General Bill Schuette filed civil charges against private contractors Lockwood, Andrews, and Newnam, Inc., and Veolia, alleging professional negligence and, in Veolia's case, fraud.

13. Counts, "How Government Poisoned the People of Flint."

14. Ron Fonger, "Emergency Manager Calls City Council's Flint River Vote 'Incomprehensible,'" *MLive*, March 24, 2015, https://www.mlive.com/news/flint/index.ssf/2015/03/flint_emergency_manager_calls.html.

15. Some may question my use of the term "movement" to refer to the relatively small and loosely integrated network of water activists in Flint. I have adopted the term, in part, because it connotes an overarching continuity of purpose across the ebb and flow of activism, the formation and dissolution of various alliances, and the activities of different groups. More importantly, it reflects my determination to accord respect to the self-definition of the activists, who insisted that they were part of a "movement" and not just a "moment." Whether Flint's water activism qualifies as a "movement" in a sociological sense I leave up to the reader to decide.

16. The fact that I was a resident of Flint for a large portion of the time span encompassed in this book gave my research some of the strengths and limitations of "native ethnography." On one hand, my resident status accorded me some automatic credibility and allowed me access to people and spaces I would not otherwise have had. On the other hand, as a mostly trusted "insider," I sometimes felt obliged to guard insider "intimacies" and pressured to avoid airing the activists' dirty laundry (see Rolston, *Mining Coal and Undermining Gender*, 29). In this book, I have had

to walk a fine line between my desire to be candid about the activist movement and my desire to preserve personal relationships, with long-term residence in the city in mind. I would argue, however, that my own entanglement in controversies within the activist community has given me a sense of entitlement to speak more freely than I may have if I were observing the etiquette of a guest, an ally, or a sympathetic outsider. It is worth noting, also, the ways in which my ethnographic work was less than fully “native”: I was working within a newly adopted community into which I was still very imperfectly integrated, without prior kinship relations or friendships to use as resources. In this respect, many of the challenges I faced were similar to those faced by a traditional ethnographer.

17. This criticism focused on a letter written by Kettering University President Robert McMahan and sent to parents and alumni on January 18, 2016, which stressed that the water at Kettering was safe and sought to correct “misinformation” about the nature of the lead contamination and extent of the confirmed harms.

18. In an added twist, though not one of any real consequence for my credibility within the community, my institution’s namesake, Charles Kettering, is generally credited with the introduction of lead into gasoline—an innovation meant to solve the problem of “engine knock” but having the effect of dispersing the toxic metal into the environment through car exhaust. The blood lead level of the average American plummeted after leaded gasoline was phased out in the 1970s and 1980s, but the legacy of the contamination persists to this day, especially in tainted soil.

19. Goffman, *On the Run*, 237.

20. Desiree Duell, personal interview with author, Flint, MI, August 24, 2016.

21. See the work of the We the People of Detroit Community Research Collective, “Mapping the Water Crisis.”

22. Fortun, *Advocacy after Bhopal*, 1.

23. One limitation of my research is that I did not travel with the activists on most of their numerous trips to Lansing, Washington, D.C., or the places around the state and country where they were invited to speak. Thus, my field site did not range over the full scope of the territory traversed by the activists.

24. Steffen Dalsgaard argues that “if his or her interlocutors use Facebook, so should the ethnographer.” “The Ethnographic Use of Facebook in Everyday Life,” 97. I came to see Facebook (more so than Twitter) as an extension of the community, “holistically entangled” (as Dalsgaard puts it) with offline interactions, and therefore critical to understanding them (98).

25. Juris, “Practicing Militant Ethnography,” 164–166.

26. I follow Myron Aronoff and Jan Kubik in regarding the essence of ethnography as “participant observation, a disciplined immersion in the social life of a given group of

people,” and in-depth interviews as supplementary to this activity. Aronoff and Kubik, *Anthropology and Political Science*, 28.

27. The endnotes in this book reflect the fact that I have made extensive use of local news sources for basic factual information about the crisis and its surrounding context. I am fully aware of their limitations. While I have not knowingly included any inaccurate claims from these sources, I have not done the extensive investigative work that would be required to thoroughly vet each and every one. I use these sources not necessarily because they offer the final word on what “really happened,” but because they are useful in establishing the context in which activists exercised political agency in Flint. Although activists were often skeptical of local news coverage of the crisis, their understanding of what was going on at any particular time was heavily mediated by that coverage, especially as relayed in the steady stream of breaking news posts to Facebook.

28. Because the crisis and the people working to resolve it received substantial press coverage from late 2015 on, almost everyone quoted or otherwise referenced in this book is already on record expressing their thoughts about the crisis, and I have sometimes drawn from these secondary sources rather than my own interviews for choice quotes. The existence of this extensive public record is one of the reasons why I have made the carefully considered decision to refer to my sources (with their permission) by their real names rather than pseudonymizing them. There is another important reason, however. While preserving anonymity is sometimes a necessary means of protecting people whose safety or reputations would be compromised by identification, it also has the unfortunate effect of depriving “ordinary” people of the credit they deserve for their activism. Powerful public figures get named because their prior visibility makes it impossible and unnecessary not to name them; however, too often, the real protagonists of the stories academics tell must content themselves with indirect recognition. Not so in this book.

29. It should be clear by now that I arrived at these themes reflexively, in dialogue with activists, rather than adopting the positivist method of investigating preconstituted “facts.” On reflexive science, see Burawoy, “The Extended Case Method.”

30. For a similarly broad way of conceiving of water justice, see Zwarteveen and Boelens, “Defining, Researching and Struggling for Water Justice.” The authors argue that “definitions and understandings of justice cannot be based only on abstract notions of ‘what should be,’ but also need to be anchored in how injustices are experienced. They need to be related both to the diverse ‘local’ perceptions of equity and to the discourses, constructs, and procedures of formal justice” (147).

31. Sze and London, “Environmental Justice at the Crossroads,” 1347. Jeffrey Juris explains that one of the goals of militant ethnography is “to facilitate ongoing activist (self-)reflection regarding movement goals, tactics, strategies, and organizational forms” (“Practicing Militant Ethnography,” 165). David Graeber suggests that the

ethnographer can even engage in a kind of “utopian extrapolation,” “teasing out the tacit logic or principles underlying certain forms of radical practice, and then, not only offering the analysis back to those communities, but using them to formulate new visions.” *Possibilities*, 310.

32. Examples include, but are not limited to, Levine, *Love Canal*; Brown and Mikkelsen, *No Safe Place*; Checker, *Polluted Promises*; Lerner, *Diamond*; and McGurty, *Transforming Environmentalism*.

33. I take inspiration from Erikson’s counsel that “there are times when the need for generalizations must yield to the urgency of passing events, times when the event must tell its own story.” *Everything in Its Path*, 12. Bent Flyvbjerg reminds us in “Five Misunderstandings about Case-Study Research” that good case study narratives “typically approach the complexities and contradictions of real life,” and that “a particularly ‘thick’ and hard-to-summarize narrative is not a problem. Rather, it is often a sign that the study has uncovered a particularly rich problematic” (21).

34. Harvey, “Militant Particularism and Global Ambition,” 83–84.

35. As Kim Fortun writes, one of “the most stubborn dilemmas of advocacy” is “the need to render one’s object of concern in all its particularity so that justice is not lost to grand schemes and glossy claims—while, at the same time, showing how ‘the problem’ one is concerned about crosscuts time and space, demanding a systemic response.” *Advocacy after Bhopal*, 14.

36. See especially Mohai, “Environmental Justice and the Flint Water Crisis.”

37. Karen Bakker, for example, argues that the notion that water is a “human right,” often presented as antithetical to the privatization of water, is in fact compatible with it. For discussion, see Sultana and Loftus, *The Right to Water*.

38. See Swyngedouw and Heynen, “Urban Political Ecology, Justice and the Politics of Scale.”

39. Swyngedouw and Kaika, “Urban Political Ecology,” 472.

40. Swyngedouw and Kaika, 472.

41. Pellow, *Garbage Wars*, 3.

42. To illustrate the consequences of proceeding from the “inside out,” it is instructive to consider the application of the concept of “environmental racism” to the water crisis. The term has been used by many commentators to describe the crisis, with the suggestion that Flint’s majority-minority demographics help to explain everything from the decision to use the Flint River to the official skepticism that greeted residents’ early concerns about the water. What I encountered on the ground among activists, however, were complex feelings about race that included, in some cases, outright hostility to racial framings of the crisis and, in many others, the desire

to emphasize other demographic factors (particularly class) in preference to race (see chapter 5). While considerations of race of course factor centrally into many aspects of the story I tell in this book, I have for the aforementioned reasons chosen not to make environmental racism one of the book's orienting concepts.

43. I was not able to conduct any kind of sustained investigation into why most residents did *not* engage in water activism (à la, e.g., Bell, *Fighting King Coal*). It was a common lament among the activists that more people did not turn out to meetings, rallies, and marches. Some had visions of mobilizing thousands or even tens of thousands of residents, but aside from a core group of hardcore activists who were almost always involved in something or other, people came and went. While some were active as early as spring 2014, others did not show up to a meeting until 2017. Flint's relative lack of social capital undoubtedly played a role in limiting the scope, consistency, and impact of local water activism. What I call "activism" in this book, however—focusing on relatively traditional forms of collective action—was but a piece of the overall mobilization of Flint residents around the crisis. It is important to recognize, with Anna Lora-Wainwright in *Resigned Activism*, that "activism" more broadly defined comes in diverse forms, many of which are invisible—even, often, to the ethnographer. It is also worth pointing out that some who call themselves "activists" do little, seemingly, to earn the designation, while others who are very "active" are uncomfortable with it. Of those who were most involved in water activism in Flint, a handful were longtime activists who self-identified as such and felt a strong sense of connection to other activists past and present. Most, however, were novices who wore the label "activist" uncomfortably, as if it was a new piece of clothing still being broken in. Some came to embrace the label fully and consistently, others more hesitantly and sporadically.

44. Swyngedouw and Heynen, "Urban Political Ecology, Justice and the Politics of Scale," 909.

45. Harvey, *Spaces of Hope*, 241.

46. What activists meant by "local control" encompassed, roughly, what is meant by the term "home rule," a term that I will use when referring to the right of municipalities to determine their own forms of government, pass ordinances, and run their own affairs more generally. The term "home rule" was less familiar to the average activist, however, and did not, from what I could tell, resonate as strongly as its more intuitive alternative.

47. Claire McClinton, personal interview with author, Flint, MI, September 11, 2018.

48. This was the language used by Simone Lightfoot, Director of National Urban Initiatives at the National Wildlife Federation, at the second annual environmental justice summit in Flint, March 2018.

49. See Finewood and Holifield, "Critical Approaches to Urban Water Governance," and Susskind, "Water and Democracy."

50. Cameron Harrington calls for the “realignment away from viewing collaborative governance as a depoliticized process of negotiation where shared and/or competing visions of water management are peaceably managed.” “The Political Ontology of Collaborative Water Governance,” 265.

51. Jaime Hoogesteger, for example, has highlighted the importance of “contentious actions” in moving from “mere participation in government programs to becoming active in the elaboration and implementation of water policies even in the absence of formal participatory spaces.” “Democratizing Water Governance from the Grassroots,” 83.

52. On rendering water “technical” as a way of depoliticizing it, see Joy, Kulkarni, Roth, and Zwartveen, “Repoliticising Water Governance.” See also Swyngedouw, “The Antinomies of the Postpolitical City.” On the notion of “rendering technical” more generally, see Li, “Rendering Society Technical.” Jason Corburn points out that “deliberative forums ... rarely have found a way to avoid granting science and technical expertise a privileged position in the discourse.” *Street Science*, 43.

53. In a review of literature on the subject of regionalization in the mid-90s, political scientist Janice Beecher noted that “The strong desire to maintain local control” was a “significant barrier to regionalization.” *The Regionalization of Water Utilities*, 3. More recent research suggests that this desire continues to act as a barrier: e.g., Hansen, “Community Water System Regionalization and Stakeholder Implications.”

54. Penny Harvey and Hannah Knox, for example, describe infrastructures “as dynamic relational forms” with “political implications” (*Roads*, 4–5), while Nikhil Anand writes that “Infrastructures are neither ontologically prior to politics nor are they merely effects of social organization. Infrastructures are flaky accretions of sociomaterial *processes* that are brought into being through relations *with* human bodies, discourses, and other things” (*Hydraulic City*, 13).

55. The point was influentially made by Susan Leigh Star in “The Ethnography of Infrastructure.” Nikhil Anand applies the idea to Flint in “The Banality of Infrastructure.”

56. Graham, *Disrupted Cities*, 3.

57. For a useful account of large technical systems, see Hughes, “The Evolution of Large Technical Systems.”

58. This is one of the central insights of recent ethnographies of infrastructure. For examples, see Björkman, *Pipe Politics*; Von Schnitzler, *Democracy’s Infrastructure*; and Anand, *Hydraulic City*.

59. Furlong, “Small Technologies, Big Change.”

60. Much has been said about the democratizing implications of citizen science. In “When Citizen Science Meets Science Policy,” Eric Kennedy, for example, writes that citizen science “is part of a much larger call for renewed and reinvigorated forms

of democracy,” and that its democratizing quality “is found in the emerging push to include previously marginalized communities in government decision-making and scientific processes; to increase participation in democratic processes among youth and other communities; to make data and research more openly accessible and freely available” (46). Citizen science, Kennedy continues, “pushes for a science that is inclusive, open, and transparent. It calls for the remaking of expert processes in ways that invite new members to the table, and that allow avenues for all communities to feel ownership and opportunity when it comes to scientific processes. And it holds research—especially publicly funded research—to account through demands for open access, open data, and open lines of communication with researchers and users. Ultimately, it aspires to open pathways for participation in science, and to influence decision making, to anyone who seeks them.” Citizen science is “subversive,” he argues, because it makes “participatory methods ... the norm” (47).

61. Cooper and Lewenstein, “Two Meanings of Citizen Science,” 59.

62. Cooper and Lewenstein, 59.

63. At least some of his inspiration seems to have come from the account of narrative found in Olson, *Houston, We Have a Narrative*.

64. Eventbrite, event description entry, “Citizen Science and the Flint Water Crisis: Triumph, Tragedy, and Misconduct,” American University, February 8, 2018.

65. Even the application of the term “citizen science” to the collaboration is to some extent a reflection of these incongruities. There are a number of other terms in existence that arguably do a better job of capturing the kind of community-driven research typical of environmental justice activism, including “participatory action research,” “activist-mobilized science,” and “street science.” See Baum, MacDougall, and Smith, “Participatory Action Research”; Conde, “Activism Mobilising Science”; and Corburn, *Street Science*.

66. Ottinger, “Social Movement-Based Citizen Science,” 90.

67. Ottinger, 91.

68. Conde, “Activism Mobilising Science,” 68.

69. Harding, “Rethinking Standpoint Epistemology.” Additionally, coproductionist accounts of science challenge us to consider whether *any* science is truly value neutral or immune to social influences. See Jasanoff, *States of Knowledge*.

70. For application of the concept in an environmental justice context, see Allen, *Uneasy Alchemy*.

71. Some have suggested that science conducted under these conditions is inherently “post-normal.” See, for example, Bidwell, “Is Community-Based Participatory Research

Postnormal Science?” Drawing from the influential work of Silvio Funtowicz and Jerome Ravetz, Bidwell writes that post-normal science takes more than just traditionally defined scientific facts into consideration, including “community values, history, personal experiences, and other types of information not traditionally considered legitimate in research on environmental health” (748).

72. Pellow, “Popular Epidemiology and Environmental Movements,” 309.

1 Flint First

1. Hanna-Attisha, LaChance, Sadler, and Schnepf, “Elevated Blood Lead Levels,” 283–290.

2. Associated Press, “Doctors Warn Flint of High Lead Levels in Tap Water,” *Detroit News*, September 24, 2015, <https://www.detroitnews.com/story/news/local/michigan/2015/09/24/flint-plans-advisory-curbing-exposure-lead/72725736/>.

3. Mona Hanna-Attisha, press conference, Hurley Medical Center, Flint, MI, September 24, 2015.

4. All quotes from the testimony of Hanna-Attisha are derived from the author’s field notes and the video record of the Meeting of the Joint Committee on the Flint Water Public Health Emergency, University of Michigan–Flint, Flint, MI, March 29, 2016.

5. Snyder is quoted in Chad Livengood and Keith Laing, “Flint Aid Fight Escalates as Federal Funding Stalls,” *Detroit News*, April 15, 2016.

6. See the House Fiscal Agency memo from March 7 for a summary of allocated and requested funds around this time. Memorandum by Mary Ann Cleary, Michigan House Fiscal Committee, “Flint Water Emergency Appropriations,” revised April 29, 2016, https://www.house.mi.gov/hfa/PDF/Alpha/Flint_Water_Emergency_Memo.pdf.

7. For another statement of Hanna-Attisha’s argument for prioritizing Flint, see Hanna-Attisha, “The Future for Flint’s Children.”

8. Technically, Hanna-Attisha said that “no other *state* was poisoned by policy” rather than no other *city*. I later confirmed with her that she misspoke, having intended to say “city.” This is clearly what the audience took her to mean.

9. Pastor Alfred Harris, personal interview with author, Flint, MI, February 28, 2017. The Saint Paul quote is from Romans 8:28.

10. For another nationwide comparison of blood lead levels, see Shah et al., “Blood Lead Concentrations,” 218–223. It is also worth mentioning that while Flint’s lead levels spiked temporarily due to an unusual confluence of circumstances, communities suffering from more typical forms of lead exposure through paint and soil see high rates year after year. One important caveat in assessing the quantity of harm in Flint, however, is that the impact of elevated blood lead is not linear—low doses

have been found to have a larger proportional impact (i.e., increasing BLLs from 1 to 2 $\mu\text{g}/\text{dL}$ is worse than increasing 10 to 11 $\mu\text{g}/\text{dL}$). Lanphear et al., “Low-Level Environmental Lead Exposure,” 894–899. For overviews of changing understandings of the prevalence and significance of childhood lead poisoning, see Christian Warren, *Brush with Death*, and Markowitz and Rosner, *Lead Wars*.

11. Marc Edwards, talk at Hurley Medical Center, Flint, MI, December 2, 2015.

12. Edwards, “Fetal Death and Reduced Birth Rates,” 739–746.

13. Some suggested that lead ingested through drinking water would simply be urinated out of the body without entering the blood. After a flawed CDC study seemed to show no detrimental effects in D.C., Edwards did his own study that confirmed a correlation between high lead in water and high blood lead. Edwards, Triantafyllidou, and Best, “Elevated Blood Lead,” 1618–1623.

14. Milloy, “EPA’s Lead Heads.”

15. “Political Insider Bill Ballenger Fired after Questioning If Flint Water Is a Crisis, Saying It Didn’t Hurt Him,” CBS Detroit, January 20, 2016, <https://detroit.cbslocal.com/2016/01/20/michigan-political-analyst-fired-after-criticizing-flint-water-crisis-as-a-hoax/>. Ballenger maintained that neither he nor anyone in his neighborhood experienced issues with the water and disputed the claim that children testing positive for elevated lead were exposed through water.

16. Ron Fonger, “Flint Water Crisis Was ‘Overplayed,’ Michigan DEQ Exec Tells Investigator,” *MLive*, June 1, 2016, https://www.mlive.com/news/index.ssf/2016/06/high-ranking_michigan_deq_offi.html. Reynolds called Sygo’s account of the incident that led to this accusation “a complete fabrication.” Another MDEQ employee, Bryce Feighner, said that residents had been hurt more by “hype” than they had by their water; see Garret Ellison, “Treating River Water Would Not Have Prevented Flint Crisis, DEQ Official Says,” *MLive*, April 28, 2017, https://www.mlive.com/news/index.ssf/2017/04/bryce_feighner_mdeq_flint_wate.html.

17. Ballenger, in fact, was fired from his position as a contributor to the *Inside Michigan Politics* newsletter.

18. Other than a “public relations crisis,” that is, which Ari Adler, a communications staff member in Governor Snyder’s office, warned that the situation was shaping up to be in January 2015. Jake May, “Debunking 4 Claims.”

19. Ron Fonger, “Flint Residents Call for Investigative Hearings into ‘Water Crisis,’” *MLive*, January 5, 2015, https://www.mlive.com/news/flint/index.ssf/2015/01/state_deq_high_levels_of_disin.html.

20. Snyder requested \$96 million in federal aid for service lines, water, and filters. See Chad Livengood and Jonathan Oosting, “Snyder to Appeal Obama’s Denial of Flint Disaster Zone,” *Detroit News*, January 17, 2016.

21. Activists were especially interested in the precedent set in Libby, Montana, where the federal government extended Medicare coverage to the whole community, irrespective of age, to help compensate for harms caused by asbestos contamination from vermiculite mining. In Flint, Medicaid was temporarily expanded to cover everyone in the city under twenty-one as well as pregnant women. See Smith, "Why Medicare for Libby and Medicaid for Flint?" For an overview of the Libby affair, see Schneider and McCumber, *An Air That Kills*. The authors describe Libby as "the single worst event the EPA had ever encountered" due to the pervasiveness of the contamination and its terrible human toll, including hundreds of deaths from asbestosis (162).

22. Pastor Alfred Harris, interview, February 28, 2017.

23. Nayyirah Shariff, "Flint: As 2 Unelected Emergency Managers Are Charged over Water Poisoning, Will Gov. Snyder Be Next?," interview by Amy Goodman, *Democracy Now!*, December 21, 2016.

24. One person to use this concept explicitly was environmental justice scholar Paul Mohai in testimony to the Michigan Civil Rights Commission. Mohai said that Flint had experienced a "severe environmental and health burden" that was "an environmental injustice by itself." Hearings on the Flint Water Crisis before the Michigan Civil Rights Commission (September 8, 2016). Written Testimony of Paul Mohai, Professor of Natural Resources and the Environment, University of Michigan.

25. Schlosberg, *Environmental Justice and the New Pluralism*, 12.

26. The ability to quantify harm, particularly bodily harm, is especially important under conditions of economic and political disenfranchisement, when establishing an entitlement to state resources to rectify injuries can offer a kind of "biological citizenship," a place within an otherwise disinterested body politic. See Petryna, *Life Exposed*.

27. Even in well-known and seemingly clear-cut cases of environmental catastrophe and contamination, like the nuclear accident at Chernobyl and the leaching of buried chemical waste at Love Canal, New York, the relationship between exposure to contaminants and subsequent health impairments is often highly ambiguous. For an excellent account of the ambiguities of epidemiology of this kind, see Fagin, *Toms River*.

28. James Felton, "Family Upset over Lack of Legislation on Lead Limit," WNEM, September 16, 2016.

29. Emily Lawler, "43 Flint Residents Identified with Elevated Lead Levels So Far, Urged To Take Precautions," *MLive*, January 7, 2016, https://www.mlive.com/lansing-news/index.ssf/2016/01/43_flint_residents_identified.html.

30. Gómez et al., "Blood Lead Levels." The authors note that "whereas the GM [geometric mean] BLL increased during the Flint River water switch, the increase was no greater than the random increase noted from 2010 to 2011, and GM BLLs in Flint

have since returned to historical lows" (6). For an earlier challenge to Hanna-Attisha's work, see Campbell, Hanna-Attisha, and LaChance, "Flint Blood Lead Levels," e6.

31. Hanna-Attisha, "Don't Downplay Lead Problems." Gómez and his coauthors admit that within their sample "no child tested was young enough to be formula dependent. Therefore, changes in BLLs in the very young from water used in formula preparation during 2014–2015 Flint River water switch cannot be determined." For an analysis more compatible with that of Hanna-Attisha's, see Zahran, McElmurry, and Sadler, "Four Phases." Hanna-Attisha was also involved in an effort to assess whether lead exposure caused a decline in fertility rates in Flint. Although her own study petered out, two other studies on the same topic touched off yet another debate. In a working paper, two economists, Daniel Grossman and David Slusky, claimed that the uptick in miscarriages and fetal deaths during Flint's time on the river was "horribly large" ("Effect of an Increase in Lead," 32). The DHHS, however, challenged the methodology of the study (Paneth, "Review") and reported its own preliminary finding that there was no adverse effect on birth outcomes whatsoever (Ron Fonger, "'Serious Concerns' about Study Claiming Flint Water Increased Fetal Deaths," *MLive*, September 28, 2017, https://www.mlive.com/news/flint/index.ssf/2017/09/state_questions_study_that_cla.html). For a revised version of Grossman and Slusky's paper, see Grossman and Slusky, "The Impact of the Flint Water Crisis on Fertility."

32. Gómez and Dietrich, "The Children of Flint."

33. Jan Worth-Nelson, "Citizens to Hurley Board: 'Lead-Exposed' Word Change 'Preposterous,' and Devastating to Trust," *East Village Magazine*, May 31, 2018.

34. Unified Coordination Group, *Flint Rash Investigation*. It is important to note the limitations of the CDC study, which failed to incorporate case controls that would have allowed for meaningful comparisons. While the study raised the possibility that rashes developed while Flint was on the river may have resulted from excessive chlorination, it was unable to confirm this retrospectively.

35. Zahran et al., "Legionnaires' Disease Outbreak."

36. "Numerous Flaws Found in Flint Area Community Health and Environment Partnership Journal Articles," Michigan.gov, February 5, 2018, <https://www.michigan.gov/som/0,4669,7-192-29942-459450--,00.html>.

37. Byrne et al., "Serogroup 6 *Legionella pneumophila*."

38. Reports by *Bridge* magazine in January 2017 and PBS Frontline in July 2018 seemed to validate popular suspicions that many cases diagnosed as generic pneumonia were in fact Legionnaires'. *Bridge* suggested that, given the abnormally high number of deaths from "pneumonia" during that time span (an average of 88.5 per year, contrasted with 53 in 2013), the actual number of deaths from Legionnaires' was likely much higher. Dawsey, "Soaring Pneumonia Deaths." For Frontline's coverage, see Ruble et al., "Flint Water Crisis Deaths."

39. Leonard N. Fleming, "Expert in Flint Case: Man Didn't Die from Legionnaires'," *Detroit News*, March 23, 2018.
40. For a general treatment of psychological harm and environmental contamination, see Edelstein, *Contaminated Communities*.
41. Residents sometimes spoke of an entire city suffering from post-traumatic stress disorder (PTSD). And, in fact, there was data to support that characterization: a county health survey conducted in the middle of the crisis found that negative perceptions of water quality were indeed correlated with PTSD symptoms. Kruger, Cupal, Kodjebacheva, and Fockler, "Perceived Water Quality." A study done by the CDC in May 2016 found that 38.0 percent of Flint residents surveyed reported having poor mental health compared to 12.9 percent of the total population of Michigan. Centers for Disease Control and Prevention, *Community Assessment for Public Health Emergency Response (CASPER)*.
42. Abby Goodnough and Scott Atkinson, "A Potent Side Effect to the Flint Water Crisis: Mental Health Problems," *New York Times*, April 30, 2016; Marion V. Day, "Flint Water Crisis Has Physical and Psychological Impact," *MLive*, February 29, 2016, https://www.mlive.com/news/flint/index.ssf/2016/02/flint_water_crisis_has_physics.html; and Melikian, "Psychological Damage."
43. Drum, "Lead."
44. Liu, "Marc Edwards."
45. Marc Edwards, "Research Update: Corrosivity of Flint Water to Iron Pipes in the City—A Costly Problem," September 29, 2015, <http://flintwaterstudy.org/2015/09/research-update-corrosivity-of-flint-water-to-iron-pipes-in-the-city-a-costly-problem/>.
46. Pruet, "Rebuild Flint the Right Way."
47. The estimate is from Pruet, "Rebuild Flint the Right Way." See also Mark Guarino, "New Crisis for Flint Residents: Cost of Home Damage Caused by City Water," *Washington Post*, January 22, 2016.
48. Zahran, McElmurry, and Sadler, "Four Phases."
49. A report in February 2017 found that "home values in Flint have risen over the past two years, despite the water crisis the city is facing." Mark Bullion, "Flint Housing Market Rebounds amid Water Crisis," ABC12, February 1, 2017, <https://www.abc12.com/content/news/Flint-housing-market-rebounds--412476443.html>. Homeowners faced other difficulties, though, like the need to prove their water was safe before they were eligible for new loans. Daniel Goldstein, "Lead Poisoning Crisis Sends Flint Real-Estate Market Tumbling," *MarketWatch*, February 17, 2016.
50. Tony Palladeno Jr., quoted in "Green for All, Flint Residents: Absence of Governor Snyder in List of Flint Charges Is Criminal," Green for All, April 20, 2016, https://www.greenforall.org/flint_criminal_charges.

51. Nakiya Wakes quoted in Sara Sidner, "Michigan Governor's Aides Pushed for 'Urgent' Fix to Flint Water Crisis," CNN, February 28, 2016, <https://www.cnn.com/2016/02/28/us/flint-governor-emails/index.html>.
52. Nayyirah Shariff and Marc Edwards, "'Gov. Snyder Should Be Arrested': Flint Residents Demand Justice over Water Poisoning," interview by Amy Goodman, *Democracy Now!*, January 8, 2016.
53. Paul Egan, "Gov. Rick Snyder Blames 'Career Bureaucrats' for Flint Water Crisis," *Detroit Free Press*, March 17, 2016.
54. Schuette's motives were widely questioned by activists who suspected his gubernatorial ambitions were behind his crusading rhetoric.
55. "Charges Brought against 6 More in Flint Crisis," MSNBC, July 31, 2016, <https://www.msnbc.com/msnbc-news/watch/charges-brought-against-6-more-in-flint-crisis-735643203814?v=raila&>.
56. Paul Egan and Elisha Anderson, "Emergency Managers, City Officials Charged in Flint Water Crisis," *Detroit Free Press*, December 20, 2016.
57. Jackman, "Bill Schuette Is Indicting Emergency Managers."
58. For example, the 1983 General Accounting Office study of hazardous waste sites in EPA Region IV (General Accounting Office, "Siting of Hazardous Waste Landfills and Their Correlation with Racial and Economic Status of Surrounding Communities," June 1, 1983); United Church of Christ Commission for Racial Justice, *Toxic Wastes and Race in the United States*; Environmental Protection Agency, *Environmental Equity*; and the pioneering scholarship of Bunyan Bryant and Paul Mohai (*Race and the Incidence of Environmental Hazards*). For discussion of some of the controversy around early studies focusing on distributive injustice, see Taylor, *Toxic Communities*, ch. 2.
59. Young, *Justice and the Politics of Difference*, 23.
60. Principles #5 and #7. For other examples, see Schlosberg, *Defining Environmental Justice*, 65–67. Luke Cole and Sheila Foster write: "The Environmental Justice Movement ... has answered the participation question clearly and decisively. The Movement's principles and practice have focused on the idea that communities should speak for themselves, that those who must bear the brunt of a decision should have an equal and influential role in making the decision." *From the Ground Up*, 106.
61. For an application of a slightly different typology of justice to the water crisis, see Perreault, Boelens, and Vos, "Introduction."
62. For useful background, see Benz, "Toxic Cities."
63. See Moss, "Environmental Justice"; Ward, "The Promise of Jobs"; and Cole and Foster, *From the Ground Up*, 124–125. See also Robin Bravender, "Civil Rights

Advocates Despair after Decades of Agency Inaction," *E&E News*, February 19, 2015; Stephens, "The Flint River Lead Poisoning Catastrophe"; and Carpenter, "How the EPA Has Failed."

64. Dorka, *EPA Final Genesee Complaint Letter*, 7. Only one other agency, a California state agency, has been found in "preliminary" violation of the EPA's antidiscrimination regulations since 1994. See "Agreement between Cal. Dep't of Pesticide Regulation and U.S. EPA, Angelita C. v. Cal. Dep't of Pesticide Regulation (Aug. 24, 2011)," <https://www.ejnet.org/ej/angelitac-settlement.pdf>.

65. Dorka, *EPA Final Genesee Complaint Letter*, 3. The EPA found that the absence of these protections had especially negative consequences for African Americans, people with low English proficiency, and people with physical impairments.

66. Dorka, *EPA Final Genesee Complaint Letter*, 27–28.

67. Dorka, 1.

68. Dorka, 30.

69. The state announced the formation of an Environmental Justice Work Group on February 15, 2017, in direct response to "recommendations from the Flint Water Advisory Task Force and the Flint Water Interagency Coordinating Committee's Policy Subcommittee." See "Environmental Justice Work Group Seeks to Improve State Guidelines and Policy," Michigan.gov, February 15, 2017, <https://www.michigan.gov/snyder/0,4668,7-277--405091--,00.html>.

70. Gosman, Written Testimony, 10.

71. The "Environmental Justice Work Group Report: Michigan as a Global Leader in Environmental Justice" appeared in March 2018. One of the report's findings was that "the present statutes, regulations, policies, and procedures of the State deprive local governments of utilizing their authority to function for the common good. By substituting its authority for local authority, the State preempts the initiative and responsibilities of local government and curtails any meaningful public involvement in government decision making." The report recommended eliminating "limitations placed on local governments" that hinder the latter's ability "to identify or correct environmental justice problems within their locales" (22).

2 How Did It Happen?

1. *Bridge Magazine* Staff, "Disaster Day by Day." For a compilation of *Bridge Magazine's* work on the crisis, see Campbell, *Poison on Tap*.

2. Progress Michigan, "Snyder Cherry Picks Flint Water Crisis Emails," January 20, 2016, <http://www.progressmichigan.org/2016/01/snyder-cherry-picks-flint-water-crisis-emails/>.

3. Dan Kildee, "Statement by Congressman Dan Kildee on Gov. Snyder Declining to Testify on Flint Water Crisis," February 8, 2016, <https://dankildee.house.gov/media/press-releases/statement-congressman-dan-kildee-gov-snyder-declining-testify-flint-water>.

4. Michigan's notoriously lax sunshine laws (the state was ranked dead last for transparency in a 2015 Center for Public Integrity report) facilitated official obscurantism by exempting communications involving the Governor's office and state legislators from Freedom of Information Act requests. Even state agencies subject to the laws operated within a culture of disregard for such requests. In one instance, the Mackinac Center sued the MDEQ after waiting 121 days for crisis-related documents it was told would take mere hours to process. Some argued that the general atmosphere of inscrutability at the state level emboldened officials to act incautiously and directly contributed to causing and prolonging the crisis. See, for example, Byrnes, "Amid the Flint Water Crisis."

5. Comments from Gerald R. Ford School of Public Policy, University of Michigan panel event, October 24, 2016.

6. For discussion, see chapter 6, "Plot in Narrative," in Scholes, Phelan, and Kellogg, *The Nature of Narrative*, and chapter 9, "Story and Discourse in the Analysis of Narrative," in Culler, *The Pursuit of Signs*.

7. The inevitable ambiguities of environmental contamination events have a way of bringing out the relativity of narratives, as no one account can capture such events in their full complexity. See Mazur, *A Hazardous Inquiry*.

8. See Ganz on the need for movements to construct a "story of now" in "What Is Public Narrative?"

9. On the importance of movements struggling over the terms of public discourse, see Woodyly, *The Politics of Common Sense*. As Woodyly writes, "Changing public discourse changes power relations, and altered power relations change politics—the principles and policy that are at stake in the struggle over who shall govern and how.... A movement that effectively alters the terms of discourse can overcome considerable opposition and structural disadvantages to achieve sustained, meaningful change" (1).

10. In the social movements literature, frames tend to be treated as conscious conceptual structures that are used by actors in pursuit of strategic ends. This chapter deals with the activists' efforts to construct what Snow and Benford call a "diagnostic" frame that defines a problem and assigns blame, in the service of what they would call "prognostic" and "motivational" frames. See "Ideology, Frame Resonance, and Participant Mobilization." For a general overview of the framing literature, see, by the same authors, "Framing Processes and Social Movements."

11. Brass fixtures made before 2014 could have up to 8 percent lead content and still be considered "lead free."

12. For the connection between low chlorine residuals and bacterial growth, see Zahran et al., "Legionnaires' Disease Outbreak."
13. Marc Edwards, "Why Is It Possible that Flint River Water Cannot Be Treated to Meet Federal Standards?," August 24, 2015, <http://flintwaterstudy.org/2015/08/why-is-it-possible-that-flint-river-water-cannot-be-treated-to-meet-federal-standards/>.
14. Marc Edwards in Wisely, "Flint River Water."
15. Although environmental engineer Shawn McElmurry acknowledged that "common sense tells you that the Flint River is not your first choice of drinking water" (in John Wisely and Robin Erb, "Chemical Testing Could Have Predicted Flint's Water Crisis," *Detroit Free Press*, October 10, 2015), he, too, concluded that there was "no reason" the river water "could not have been treated properly and used safely." In Jim Lynch, "DEQ: Flint Water Fix Should Have Come by 2014," *Detroit News*, January 21, 2016.
16. In Wisely and Erb, "Chemical Testing."
17. Masten, Davies, and McElmurry, "Flint Water Crisis," 26.
18. Wisely, "Flint River Water."
19. Olson et al., "Forensic Estimates of Lead."
20. Marc Edwards, "Investigation of MDEQ's New 'Corrosion Control' Claim Reveals More Deception and Incompetence: Where Is the EPA?," October 4, 2015, <http://flintwaterstudy.org/2015/10/investigation-of-mdeqs-new-corrosion-control-claim-reveals-more-deception-and-incompetence-where-is-the-epa/>.
21. See, for example, Olson, "Science behind the Flint Water Crisis." The MDEQ itself used this language when it issued a *mea culpa* in October 2015. See Ron Fonger, "DEQ Replaces Water Official after State Acknowledges 'Mistake' in Flint," *MLive*, October 19, 2015, https://www.mlive.com/news/flint/index.ssf/2015/10/top_state_water_official_repla.html.
22. In Fonger, "DEQ Replaces Water Official." The "mistake" was so befuddling, however, that even some who were sympathetic to the technical narrative, like EPA on-scene coordinator Mark Durno, were willing to believe that more sinister motives may have been a factor. It was either "ignorance," he told me, or "some malicious reason" that "could have had to do with money." Mark Durno, phone interview with author, October 10, 2017.
23. Ron Fonger, "Documents Show Flint Filed False Reports about Testing for Lead in Water," *MLive*, November 12, 2015, https://www.mlive.com/news/flint/index.ssf/2015/11/documents_show_city_filed_fals.html.
24. Mark Brush, "Expert Says Michigan Officials Changed a Flint Lead Report to Avoid Federal Action," Michigan Radio, November 5, 2015. For a water system to be in compliance with the action level, 90 percent of homes tested must be below 15 ppb lead.

25. On June 25, 2015, MDEQ water quality analyst Adam Rosenthal wrote to employees at the Flint Water Treatment Plant that he was concerned that preliminary sampling had come in over the federal action level and hoped that subsequent samples would bring the city's ninetieth percentile back down. His remarks looked more incriminating in light of a 2008 email in which he suggested, in reference to lead levels in another city, tossing out a high result to avoid having to give "public notice." Ryan Felton, "Michigan Official Suggested Gaming Water Tests to 'Bump out' Lead Results," *Guardian*, April 27, 2016.

26. Susan Masten, personal interview with author, East Lansing, MI, December 5, 2017.

27. Milman and Glenza, "33 US Cities."

28. Vock, "In Flint's Aftermath."

29. This pledge ran into resistance on the part of Republican legislators citing the higher costs of compliance it would impose on municipalities. Jonathan Oosting and Michael Gerstein, "GOP Leaders Oppose Snyder's Lead Water Rule," *Detroit News*, March 23, 2017. At the federal level, Representative Dan Kildee sponsored a bill that would take the EPA action level down to 5 ppb by 2026.

30. It was the first element of what he described as the "perfect storm" that caused the crisis:

- a) Chronic underinvestment in water infrastructure
- b) Underappreciation of the role of corrosion control in sustaining urban potable water systems
- c) Increased corrosion due to higher chloride in Flint's new source water
- d) Failure to appropriately monitor for lead and opportunistic premise plumbing pathogens

See the Virginia Tech team's National Science Foundation Rapid Response Research grant proposal: Siddhartha Roy, "Our VT Team Wins \$50,000 Grant from the National Science Foundation to Study Flint Water," September 14, 2015, <http://flintwaterstudy.org/2015/09/our-virginia-tech-research-team-wins-a-50000-grant-from-the-national-science-foundation-to-study-flint-water/>.

31. Sarah Schuch, "Flint Residents Should Be Drinking Flint River Water by Mid-April, Officials Say," *MLive*, March 12, 2014, https://www.mlive.com/news/flint/index.ssf/2014/03/flint_residents_should_be_drin.html. In April 2017, Robert Kaplan of EPA Region 5 estimated the necessary cost to upgrade the plant adequately at around \$100 million. Ron Fonger, "Top EPA Official: 'No Reasonable Operator' Would Have Used Flint Water Plant," *MLive*, April 19, 2017, https://www.mlive.com/news/flint/index.ssf/2017/04/epa_regional_director_says_spe.html.

32. Paul Egan, "Water Plant Official: Move to Flint River 'Bad Decision,'" *Detroit Free Press*, March 29, 2016.

33. Matthew Dolan, "Flint Water Woes Reach beyond Lead in Drinking Supply," *Detroit Free Press*, June 5, 2016.

34. Ron Fonger, "Flint DPW Director Says Water Use Has Spiked after Hundreds of Water Main Breaks," *MLive*, April 22, 2015, https://www.mlive.com/news/flint/index.ssf/2015/04/flint_dpw_director_says_water.html. Bryce Feighner of the MDEQ broke with consensus, and garnered the opprobrium of the scientific community, when he argued that water main breaks and other infrastructural problems were the main source of the water's corrosivity (because they necessitated more chlorination), that orthophosphates would not have prevented the crisis, and that the city was largely to blame for what happened. See Ron Fonger, "Treating River Water Would Not Have Prevented Flint Crisis, DEQ Official Says," *MLive*, April 22, 2017, https://www.mlive.com/news/index.ssf/2017/04/bryce_feighner_mdeq_flint_wate.html. For Marc Edwards's response, see Ron Fonger, "Water Expert: 'No Known Relationship' between Main Breaks, Lead in Water," *MLive*, April 28, 2017, https://www.mlive.com/news/flint/index.ssf/2017/04/water_expert_no_known_relation.html.
35. For background on the use of lead in plumbing, see Troesken, *The Great Lead Water Pipe Disaster*.
36. A spring 2016 report by Rowe Engineering estimated that Flint's water infrastructure as a whole needed upward of \$214 million in repairs. See Dolan, "Flint Water Woes."
37. Tom Pelton, "What Flint and Baltimore Share in Common: Dangerously Neglected Plumbing," WYPR, January 20, 2016, <http://www.wypr.org/post/what-flint-and-balti-more-share-common-dangerously-neglected-plumbing>.
38. American Society of Civil Engineers, *ASCE 2017 Infrastructure Report Card*. See also US Government Accountability Office, *Water Infrastructure*.
39. For the lead service line estimate, see Cornwell, Brown, and Via, "National Survey." For the estimated cost, see Matthew Dolan, "U.S. Could Face a \$300B Lead Pipe Overhaul, Agency Warns," *Detroit Free Press*, March 4, 2016.
40. Olsen and Fedinick, "What's in Your Water?" See also Food and Water Watch, "U.S. Water Systems."
41. See 21st Century Infrastructure Commission, "21st Century Infrastructure Commission Report."
42. Ron Fonger, "Flint Water Line Replacements Have 22 Percent Failure Rate," *MLive*, May 17, 2017, https://www.mlive.com/news/flint/index.ssf/2017/05/1_in_5_flint_water_service_lin.html.
43. Frank Witsil, "Governor Rick Snyder Seeks to Map Michigan's Infrastructure," *Detroit Free Press*, April 3, 2017. Like Snyder's proposal to lower the lead action level, his proposals to step up investment in state infrastructure ran into pushback from Republican legislators.

44. As Michigan State University professor Janice Beecher put it, "At a very personal level for everyone, regardless of roles and responsibilities, the fundamental lesson is 'do your job.' Do what you were trained and hired to do because the public and the public interest depend on it, and the consequences of neglecting your duty can be dire." In McGuire et al., "Roundtable—The Flint Crisis."
45. Flint Water Advisory Task Force, *Final Report*, 29.
46. Paul Egan, "Gov. Rick Snyder Blames 'Career Bureaucrats' for Flint Water Crisis," *Detroit Free Press*, March 17, 2016.
47. Abby Goodnough, "Governor Snyder: E.P.A. Prolonged Flint Disaster," *New York Times*, March 17, 2016.
48. For example, in Josh Hakala, "Flint's Struggles Began with GM's Move to Suburbs in 1940s, Historian Says," Michigan Radio, February 8, 2016.
49. Highsmith, "Flint's Toxic Water Crisis."
50. Highsmith.
51. Highsmith, *Demolition*, 131.
52. Highsmith, 133.
53. Highsmith, 16.
54. See Dandaneau, *A Town Abandoned*. For further insight, see Jones and Bachelor, *The Sustaining Hand*.
55. Dandaneau, *A Town Abandoned*, 251.
56. Melissa Naan Burke, "EPA Email: Let's Not 'Go out on a Limb' for Flint," *Detroit News*, March 15, 2016.
57. In his account of the development of the waste management industry, David Pellow emphasizes "the importance of the *history* of environmental racism and the processes by which it unfolds." *Garbage Wars*, 7. For another model historical approach, consider the fusion of environmental and social history in Hurley, *Environmental Inequalities*.
58. "Crystal Clear: The Flint Water Crisis," panel discussion at the University of California, Irvine, March 10, 2016. For the definitive account of the "urban crisis," with direct relevance to Flint, see Sugrue, *Urban Crisis*.
59. Quote from Flint activist Tony Palladeno. See Steve Carmody, "Civil Rights Commission Draft Report Does Not Recommend Lawsuit in Flint Water Crisis," Michigan Radio, January 24, 2017.
60. Michigan Civil Rights Commission, *The Flint Water Crisis*, iv.

61. Michigan Civil Rights Commission, 84.
62. Michigan Civil Rights Commission, 84–85.
63. Michigan Civil Rights Commission, 117.
64. Michigan Civil Rights Commission, 119.
65. Michigan Civil Rights Commission, 124.
66. Michigan Civil Rights Commission, 128.
67. The MCRC did compensate for this somewhat, however, when it submitted an amicus brief in support of a writ of certiorari filed with the US Supreme Court in the case of *Bellant vs. Snyder*: see Sarah Cwiek, “Michigan Civil Rights Commission Urges U.S. Supreme Court to Review Emergency Manager Law,” Michigan Radio, April 25, 2017. The MCRC released a one-year follow-up report on March 26, 2018, in which it described its recommendations as “aspirational rather than practical” and acknowledged that they would “require not only legislative, structural, and institutional changes, but equally important cultural, interpersonal, and even intrapersonal changes.” Arbulu and Levy, “One-Year Update,” 1.
68. “Coalition of Clean Water’s Demands in Light of Serious Lead in Water Issues,” Flintwaterstudy.org, September 20, 2015, <http://flintwaterstudy.org/information-for-flint-residents/demands/>.
69. Marc Edwards, interview on Washington Journal, C-SPAN, February 29, 2016.
70. Ron Fonger, “Former Flint EM Says He Was ‘Unjustly Persecuted’ for Flint Water Crisis,” *MLive*, March 15, 2016, https://www.mlive.com/news/index.ssf/2016/03/former_flint_em_says_he_was_un.html.
71. The quote is from a tweet on March 6, 2016 (@onetoughnerd).
72. Chad Livengood and Jonathan Oosting, “Snyder to Flint: ‘I’m Sorry and I’ll Fix It,’” *Detroit News*, January 20, 2016.

3 Poisoned by Policy

1. PA 72 was an extension of PA 101 of 1988. PA 101 allowed EFMs for municipal governments; PA 72 of 1990 extended this to school districts.
2. Beata Mostafavi, “What Happened Last Time? A Look Back at Flint’s 2002 State Takeover,” *MLive*, November 10, 2011, https://www.mlive.com/news/flint/index.ssf/2011/11/what_happened_last_time_a_look.html.
3. Other “safety nets” built into PA 4 included requirements that all local governments balance their budgets and submit deficit reduction plans when deficits arose, as well as provisions for extra borrowing as a means of eliminating deficits. See the

report prepared for the Mackinac Center for Public Policy by Hohman, "Proposal 1 of 2012."

4. Office of Governor Rick Snyder, "Emergency Manager Legislation Will Give State Early Warning of Impending Trouble, Help Local Governments," press release, March 16, 2011, <https://www.michigan.gov/snyder/0,4668,7-277-57577-252799--,00.html>.

5. See, e.g., Representative Al Pscholka, quoted in Jonathan Oosting, "Michigan Decides 2012: Public Act 4 Emergency Manager Ballot Proposal," *MLive*, September 24, 2012, https://www.mlive.com/politics/index.ssf/2012/09/michigan_decides_2012_emergenc.html.

6. Berfield, "Financial Martial Law."

7. Candidates for EM positions have to possess at least five years' worth of business or government experience and complete a short training sequence. While these qualifications go beyond what an average citizen needs to run for office, whether they are sufficient to prepare EMs to exercise such broad powers has been much disputed by the law's critics. See Jeff Green and Jonathan Keehner, "Threat of Municipal Bankruptcy Makes Michigan Train Financial SWAT Teams," *Bloomberg News*, April 18, 2011.

8. The other notable restrictions PA 4 placed on EMs were arguably more favorable to residents: EMs were unable to reduce pension payments (these being protected by the state constitution) or unilaterally raise taxes.

9. Claire McClinton quoted in the ACLU documentary *Here's to Flint*. David Fasenfest writes that the first objective of the austerity measures imposed by EMs is to "preserve the financial interests of lenders and bond holders without exploring how those interests may have created the problem in the first instance." Fasenfest, "A Neoliberal Response," 4.

10. Kristin Longley, "Flint Could Be Test Case if New Emergency Financial Manager Bill Becomes Law," *MLive*, February 24, 2011, https://www.mlive.com/news/flint/index.ssf/2011/02/flint_could_be_test_case_if_ne.html.

11. For an overview of Flint's economic condition at this time, see Doidge et al., "The Flint Fiscal Playbook," and Scorsone and Bateson, "Long-Term Crisis." Figures on the median sales price of Flint homes are taken from a CNN analysis of RealtyTrac data. See Patrick Gillespie, "Flint, Michigan: A Hollow Frame of a Once Affluent City," *CNN Money*, March 7, 2016, <https://money.cnn.com/2016/03/06/news/economy/flint-economy-democratic-debate/index.html>.

12. Minghine, "The Great Revenue Sharing Heist."

13. Peter Luke, "Gov. Rick Snyder Signs Michigan Business/Income Tax Overhaul into Law," *MLive*, May 25, 2011, https://www.mlive.com/politics/index.ssf/2011/05/gov_rick_snyder_signs_michigan.html.

14. Lederman, "Flint's Water Crisis Is No Accident."
15. Flint Democracy Defense League, "The State of Flint under Emergency Management," read aloud in council chambers, Flint, MI, March 3, 2014.
16. Translating the activists' argument into legal scholar Richard Schragger's terms, the withdrawal of state revenue sharing stripped Flint of its *actual capacity* to govern itself, creating the conditions under which the removal of Flint's *formal authority* to govern itself could be justified. Schragger, *City Power*, 5.
17. Flint Financial Review Team, "Report of the Flint Financial Review Team," 4, accessed June 15, 2017, https://www.michigan.gov/documents/treasury/Flint-Review-TeamReport-11-7-%2011_417437_7.pdf. Site no longer available.
18. Flint Financial Review Team, "Report of the Flint Financial Review Team," 3.
19. Flint Financial Review Team, 6.
20. Flint Financial Review Team, 8.
21. Eng, "Editorial."
22. Josh Freeman, personal interview with author, Flint, MI, May 16, 2017.
23. Kristin Longley, "Emergency Financial Manager Recommended for Flint Same Day Mayor Dayne Walling Re-Elected," *MLive*, November 10, 2011, https://www.mlive.com/news/flint/index.ssf/2011/11/emergency_financial_manager_re.html.
24. Longley, "Emergency Financial Manager."
25. See Ford, "Dayne Walling."
26. It is worth noting that the state retained the power to overrule such choices.
27. For a fuller account of emergency management in Flint, and activists' responses to it, see Nickels, *Power, Participation, & Protest*.
28. See Mona Hanna-Attisha's statement from chapter 1.
29. "Gov. Snyder's Staff Responds to Questions about Flint Water Crisis," *MLive*, May 3, 2016, https://www.mlive.com/news/index.ssf/2016/05/gov_snyders_staff_responds_to.html.
30. Later charged by Attorney General Schuette with false pretenses, Croft was the main official at the city who helped push the water treatment plant into operation prematurely, insisted the water was safe, and resisted switching the city back to Detroit water.
31. Flint Water Advisory Task Force, *Final Report*, 2. And elsewhere: "The Flint water crisis occurred when state-appointed emergency managers replaced local representative decision making in Flint, removing the checks and balances and public accountability that come with public decision making" (1).

32. Hammer, "The Flint Water Crisis, the Karegnondi Water Authority and Strategic—Structural Racism," 37.

33. One major question to arise in retrospect was whether state actors were acting chiefly out of "economic" considerations or "political" ones. It could be argued that these motivations were inextricably intertwined, particularly under a corporate-friendly administration that had come into office pledging to run government like a business. However, in the discourse around the crisis, economic and political motivations were often differentiated. By some accounts, the crisis was the result of shortsighted penny pinching by officials who thought more like accountants than public servants. Others held that the crisis had nothing to do with money, and was instead part of an effort to further a more insidious political agenda. I treat both positions, however, as part of the political narrative because of their shared emphasis on the core themes considered in this chapter: the denial of local democracy and the determination of state actors to impose a preconceived agenda on Flint, even as the water situation began to spiral out of control.

34. Attorneys for EMs Earley and Ambrose sought to exploit this ambiguity when they argued, against a class-action suit brought by activists, that EMs were local officials. Gus Burns, "Emergency Managers Weren't State Employees, Lawyers Argue in Flint Water Lawsuit," *MLive*, January 9, 2018, https://www.mlive.com/news/detroit/index.ssf/2018/01/flint_water_lawsuit_likely_to.html. According to the theory of emergency management, the interests of the state and the interests of cities overlap because the state has a stake in the health of its cities. Insofar as that theoretical congruence breaks down in practice, however, there is always the possibility that an EM officially charged with doing what's best for the city will in fact do what's best for the state (and/or private interests with influence over the state). A report issued by the House Judiciary Committee Democratic Staff noted that even an internal Department of Treasury analysis found EMs would likely use the broad powers granted by the EM law "for their own gain" rather than in the interests of the local unit of government (House Judiciary Committee Democratic Staff, "Democracy for Sale," 9). In a sympathetic account of the logic of emergency management, legal scholar Clayton Gillette contends that "by addressing the political underpinnings of fiscal distress, takeover boards may be more capable of satisfying the interests of local residents for public goods than local elected officials, and may also represent the interests of nonresidents and creditors who are not considered by those officials." However, he continues, "The same conditions that invite intervention by central officials capable of countering the consequences of flawed local decision making also permit takeovers by less benevolent officials whose interests align poorly with those of the stakeholders in municipal fiscal health.... It is plausible that where the interests and local residents, state residents, and creditors diverge, a state-appointed takeover board may not identify its objective with the interests of the first group. Perhaps that result is acceptable on the assumption that the takeover board internalizes the interests of all those affected

by local fiscal distress. But there is a risk that takeover boards serve the interests of the state in more nefarious ways than marginally favoring creditors over local residents." Gillette, "Dictatorships for Democracy," 1, 11, 70, https://lsr.nellco.org/cgi/viewcontent.cgi?article=1373&context=nyu_lewp.

35. Flint Democracy Defense League, "The State of Flint."

36. Flint Democracy Defense League, "The State of Flint."

37. The claim that emergency management violates a human right to democracy was part of the basis for a petition to the Inter-American Commission on Human Rights submitted by Claire McClinton and a legal team from Loyola University on behalf of myself and a number of other residents: "Petition Alleging Violations of the Human Rights of Citizens of Flint, Michigan," November 27, 2017. One can also consider the question of whether there is a "right" to democracy from a domestic perspective. As Richard Schragger writes, despite the absence of a guarantee to local democracy in the US Constitution, constitutional scholars like nineteenth-century Michigan Supreme Court Chief Justice Thomas Cooley "argued persuasively that representative local government was a matter of 'absolute right' and could not be overridden by state legislative fiat." That notion lost popularity in the twentieth century, however, as cities came to be seen as "venal and corrupt," and as suspicions of local politics gave rise to a technocratic ideal of city government more amenable to top-down decision making. Schragger, "Flint Wasn't Allowed Democracy." State takeovers, then, were envisioned as "a technocratic solution to a political defect." Schragger, *City Power*, 242.

38. Highlighting the role of the city in creating the crisis was a conscious strategy on the part of Snyder's communications staff. See Jim Lynch, "Emails: Wide Support on Flint Switch from Detroit Water," *Detroit News*, February 26, 2016.

39. Pscholka said he was getting "Christmas lists" from Flint officials and that there would be no "blank checks" written by the state: "This was a local decision to take themselves off the Detroit system and join this pipeline, and that's what started this whole series of events." Anthony Pollreisz, "Pscholka to Flint: No Blank Checks from State to Solve Water Crisis," WKZO-AM, January 14, 2016.

40. For the official history of the Detroit water system, see Daisy, *Detroit Water and Sewerage Department*. For another take, see Green, "Detroit's Water System."

41. Wright, "The Flint Water Crisis, DWSD, and GLWA," 5. In Hammer's "Flint Water Crisis, KWA and Strategic-Structural Racism: A Reply to Jeff Wright," he points out that the DWSD, like other public utilities, is legally prohibited from turning a profit, and required to price its water according to the cost of delivery.

42. Wright, "The Flint Water Crisis, DWSD, and GLWA," 4.

43. Wright, 7.

44. See Ron Fonger, "50 Years Later: Ghosts of Corruption Still Linger along Old Path of Failed Flint Water Pipeline," *MLive*, November 12, 2012, https://www.mlive.com/news/flint/index.ssf/2012/11/ghosts_of_corruption_still_lin.html.
45. Wright, "The Flint Water Crisis, DWSD, and GLWA," 8.
46. Councilman Scott Kincaid said that for Flint to treat raw water at its own treatment plant would put it in "control" of its "own destiny." Shaun Byron, "Flint Council to Take up Proposed Pipeline Deal at Monday Meeting," *MLive*, March 20, 2013, accessed June 15, 2017.
47. Kristin Longley, "Here Are 7 Things to Know about Flint's Water Treatment Plant," *MLive*, October 12, 2012, https://www.mlive.com/news/flint/index.ssf/2012/10/here_are_7_things_to_know_abou.html.
48. Wright, "The Flint Water Crisis, DWSD, and GLWA," 8.
49. Wright, 10. Although officials in Flint seemed to buy Wright's argument about rates (see May, "Debunking 4 Claims"), members of the Flint Water Advisory Task Force determined that the KWA had never offered any significant cost savings and that local support for the project was a product of the desire for water independence. Counts, "Flint Water Crisis Got Its Start."
50. In January 2013, KWA received final approval from the Army Corps of Engineers to begin construction.
51. Jeff Wright, "Response to Bill Johnson and DWSD's Position on KWA," Genesee County Drain Commission press release, March 21, 2013.
52. See Kristin Longley, "Flint City Council Members Seek to Halt Emergency Financial Manager," *MLive*, September 10, 2012, https://www.mlive.com/news/flint/index.ssf/2012/09/flint_city_council_members_seek.html.
53. Tucker, Young, Jackson, Tull, Inc., *City of Flint Water Supply Assessment*.
54. Ron Fonger, "Detroit Claims Karegnondi Water Pipeline Plan in Genesee County 'Rife with Financial Discrepancies,'" *MLive*, March 19, 2013, https://www.mlive.com/news/flint/index.ssf/2013/03/detroit_claims_karegnondi_wate.html.
55. ROWE Professional Services Company, *Review of December 21, 2012 Presentation*.
56. Wright, "The Flint Water Crisis, DWSD, and GLWA," 23.
57. Some suspected Dillon of delaying his recommendation so he could make it under the new law, an accusation the Treasury Department denied. Dominic Adams, "State Treasury Department Expects Flint Water Source Recommendation 'Soon'," *MLive*, March 20, 2013, https://www.mlive.com/news/flint/index.ssf/2013/03/state_treasury_department_expe.html.
58. Wright, "The Flint Water Crisis, DWSD, and GLWA," 32.

59. Wright, 31. "As Drain Commissioner," he writes, "I insisted that the City Council vote because I believed that the City's permanent water source should be decided by Flint's elected representatives" (32).

60. Hammer, "Reply to Jeff Wright," 13.

61. Hammer, "The Flint Water Crisis, the Karegnondi Water Authority and Strategic-Structural Racism," 17. Wright says that Hammer's interpretation is wrong: "It wasn't close to done. At that time, Flint did not know what it wanted to do. Flint did not agree to buy water from KWA until April 2013. Between January 3, 2012, and April 2013, Flint negotiated with both DWSD and KWA. It also continued to consider going to the Flint River permanently. A done deal is not done until all parties to it agree that it is done" (Wright, "The Flint Water Crisis, DWSD, and GLWA," 19).

62. Hammer, "The Flint Water Crisis, the Karegnondi Water Authority and Strategic-Structural Racism," 12.

63. As Hammer points out, "no effort was made to help Flint finance these costs." "Reply to Jeff Wright," 23.

64. Dominic Adams, "Flint River Now an Option for Drinking Water Following Detroit's Termination of Contract," *MLive*, July 23, 2013, https://www.mlive.com/news/flint/index.ssf/2013/07/city_readying_water_plant_to_t.html. Former councilman Sheldon Neeley, despite lodging an affirmative vote, told me that retrospectively he did not think the council's vote was adequately informed. Sheldon Neeley, personal interview with author, Flint, MI, December 9, 2017. Former council president Josh Freeman, on the other hand, told me that the council had plenty of opportunities to study the KWA issue, that it was discussed many times, and that any claim about being rushed into a decision was a "lie." Freeman, interview, May 16, 2017.

65. The analysis hinges on a January 2012 email sent by KWA engineer John O'Malia describing EM Brown's intention to use such a strategy, calling it a "precaution." Hammer, "The Flint Water Crisis, the Karegnondi Water Authority and Strategic-Structural Racism," 19.

66. Hammer, "The Flint Water Crisis, KWA and Strategic-Structural Racism," 14.

67. Dominic Adams, "Flint City Council Approves Resolution to Buy Water from Karegnondi, State Approval Still Needed," *MLive*, March 25, 2013, https://www.mlive.com/news/flint/index.ssf/2013/03/flint_city_council_approves_re.html.

68. Allie Gross, "Docs Reveal Flint's EM Agreed to Buy \$1M Worth of Extra Water from the KWA—This Was Never about Saving Money," *Detroit Metro Times*, February 27, 2016.

69. Dominic Adams, "Flint City Council Modifies Water Pipeline Proposal, Sends Measure Back to Committee," *MLive*, March 18, 2013, https://www.mlive.com/news/flint/index.ssf/2013/03/flint_city_council_modifies_wa.html.

70. Hammer, "The Flint Water Crisis, KWA and Strategic-Structural Racism," 20.
71. Flint Democracy Defense League, "The State of Flint."
72. Guyette, "A Deep Dive."
73. Lynch, "Emails."
74. Paul Egan, "Records: Mich. Gov. Office in Loop on Flint Drinking-Water Decision," *Detroit Free Press*, November 22, 2015.
75. Jeff Wright and Ed Kurtz, "Joint Statement by Jeff Wright and Ed Kurtz Regarding Detroit's Final Offer on Water Service," Genesee County Drain Commission press release, April 16, 2013.
76. Jim Lynch and Jennifer Chambers, "Flint Crisis Charges Raise Scrutiny of EM Law," *Detroit News*, December 20, 2016.
77. Hammer, "Reply to Jeff Wright," 19.
78. Chad Livengood, "Ex-DEQ Staffer Denies 'Sweetheart' Flint Deal," *Detroit News*, May 12, 2016.
79. Wright, "The Flint Water Crisis, DWSD, and GLWA," 12. One KWA attorney mentioned ensuring that Flint had "debt capacity in the future" as a motivation. Paul Egan, "'Sweetheart' Bond Deal Aided Flint Water Split from Detroit," *Detroit Free Press*, May 11, 2016.
80. Hammer, "Reply to Jeff Wright," 18.
81. Charges available from www.michigan.gov/documents/ag/FINAL_Earley_et_al_Complaint_and_Warrant_121916_546055_7.pdf.
82. Hammer, "The Flint Water Crisis, KWA and Strategic-Structural Racism," 20–21.
83. Genesee County's backing was critical in getting the bonds a good rating, and thus a manageable interest rate. Ron Fonger, "Rating Agencies Take Notice as Genesee County Pledges to Cover Flint's Pipeline Borrowing," *MLive*, April 1, 2014, https://www.mlive.com/news/flint/index.ssf/2014/04/genesee_countys_pledge_to_cove.html.
84. Dayne Walling maintained that "the terms of the agreement are standard for a long-term capital project." Paul Egan and Matthew Dolan, "Official: Flint Will 'Lose Everything' if It Leaves KWA," *Detroit Free Press*, June 11, 2016.
85. Egan and Dolan, "Official."
86. As activist Quincy Murphy put it, "Really, to tell you the truth, I really think this emergency manager was put in place for the City of Flint to make sure the KWA [went forward]." Jim Lynch, "Flint Residents Criticize Staying with KWA Pipeline," *Detroit News*, May 18, 2016.

87. Allie Gross, "Emails Reveal Flint EM and State Advised Not to Join the KWA—It Was Never about Saving Money," *Detroit Metro Times*, February 13, 2016.

88. Maynard, "The Flint Water Crisis." The Young Turks also got in on the speculation, focusing on Snyder's corporate donors. Jordan Chariton, "Why Flint Water CRISIS Has Troubling Ties to Rick Snyder's Pro-Fracking Donors," Medium, March 28, 2017, https://medium.com/@marketing_75534/why-flint-water-crisis-has-troubling-ties-to-rick-snyders-pro-fracking-donors-a02119fa8b1f.

89. Leonard N. Fleming, "Flint's Weaver: Stick with Detroit Water," *Detroit News*, April 18, 2017. Flint activist Melissa Mays told me that DWSD "fell apart" because KWA took away its largest customer, "And now it's regionalized to the Great Lakes Water Authority [GLWA]." "Both [the KWA and GLWA] are regionalized systems," she pointed out, which "opens the door to privatization, which is the worst thing that could possibly happen to us. But I think that was the state's plan all along." Melissa Mays, personal interview with author, Flint, MI, February 17, 2016.

90. See Kornberg, "The Structural Origins of Territorial Stigma."

91. The quote is taken from Walling's responses to questions from the Michigan Joint Select Committee on the Flint Water Public Health Emergency, available from www.senate.michigan.gov/committees/files/2016-SCT-FLINT-03-29-1-08.PDF.

92. Kristin Longley, "Water Pipeline vs. Flint River: City of Flint Studying Its Drinking Water Options," *MLive*, January 22, 2011, https://www.mlive.com/news/flint/index.ssf/2011/01/water_pipeline_vs_flint_river.html. Councilman Sheldon Neeley was blunt: "My preference is for whatever option is going to save us the most money."

93. Longley, "Water Pipeline vs. Flint River."

94. ROWE Professional Services Company, *Analysis of the Flint River*.

95. Jeff Wright claimed that "many in Flint wanted to use the river permanently and pay for the maximum improvements" ("The Flint Water Crisis," 13). At the very least, some local politicians wanted residents to appreciate the value of the water treatment plant as one of the city's major assets. Councilman (and later State Representative) Sheldon Neeley, for example, took groups on tours of the water plant so they could see its capabilities firsthand and sample treated river water. On one of these tours in October 2012, he lamented the widespread belief that "the Flint River is an awful source of water," insisting that "it's not awful. It's safe to drink." He also pointed out that in the recent past Flint had used river water for a short period during repairs to the DWSD main, with no apparent ill effects or complaints from residents. Kristin Longley, "Flint Water Plant in Spotlight as City Weighs Drinking Water Options," *MLive*, October 12, 2012, https://www.mlive.com/news/flint/index.ssf/2012/10/flint_water_plant_heralded_as.html. Neeley told me that in talking up the treatment plant to residents he was in no way advocating that the city use the river or any other specific water source. Neeley, interview, December 9, 2017.

96. Dayne Walling, responses to Michigan Joint Select Committee.
97. Even after local officials rejected the possibility, EMs Brown and Kurtz both eyed the river as a cheaper long-term water source. In his first Flint Deficit Elimination Action Plan, Brown noted the cost savings that could be realized by using the river, which “would allow for funds to upgrade the plant, provide funds to enable a concentrated effort on reducing water leakage, and make debt service payments on the Financial Stabilization Bonds” (quoted in Hammer, “The Flint Water Crisis, the Karegnondi Water Authority and Strategic–Structural Racism,” 23). Kurtz considered using the river in late 2012 as a long-term source but consulted with the MDEQ and rejected the idea as infeasible. Guyette, “Exclusive: Gov. Rick Snyder’s Men Originally Rejected Using Flint’s Toxic River.”
98. Kristin Longley, “Flint Asks Detroit for Permission to Blend Treated Flint River Water with Water from Detroit,” *MLive*, October 9, 2012, https://www.mlive.com/news/flint/index.ssf/2012/10/flint_asks_detroit_for_permis.html.
99. Former council president Josh Freeman penned a forceful response to Earley’s misrepresentation of the council vote: “At no time have the elected leaders of the city of Flint voted to use the Flint River as our primary drinking source. The documented facts show the decision to move to the Flint River was made solely by emergency managers sent to run the city on behalf of the state of Michigan.” Joshua Freeman, “City Council President: Emergency Manager Set Flint on Path to River Water,” *MLive*, October 29, 2015, https://www.mlive.com/opinion/flint/index.ssf/2015/10/city_council_president_emergen.html.
100. City of Detroit, Water and Sewerage Department, “Water War Undermines Flint-DWSD Relations,” news release, April 1, 2013, http://voiceofdetroit.net/wp-content/uploads/water_war_undermines_flint-dwsd_relations-2013-14.pdf.
101. Ron Fonger, “Detroit Was ‘Mad, Angry, Vindictive’ in Flint Water Talks, Former EM Claims,” *MLive*, May 2, 2017, https://www.mlive.com/news/flint/index.ssf/2017/05/former_flint_em_told_congress.html.
102. Freeman, interview, May 16, 2017.
103. Hammer, “The Flint Water Crisis, the Karegnondi Water Authority, and Strategic–Structural Racism,” 22. Wright’s retort: “Leaving aside whether the termination notice caused officials in Flint to believe DWSD would really try to cut off drinking water (some did believe DWSD might), it certainly caused them a great deal of anxiety. They seriously thought that DWSD might actually force them to turn to the Courts to enjoin a shutoff. Also, the termination notice caused them to think about their alternatives, what they could do in response to the notice. Many Flint officials were truly offended by the letter” (“The Flint Water Crisis, DWSD, and GLWA,” 22). “They also feared the notice might be a ruse to allow DWSD to raise their rates for years after April 17, 2014, which it was” (23).

104. Darnell Earley, Emergency Manager, email to Sue McCormick, Detroit Water and Sewerage Department, March 7, 2014.

105. Ron Fonger, “20 Percent Increase: Detroit Hikes Price of Water for Genesee County Suburbs,” *MLive*, July 7, 2014, https://www.mlive.com/news/flint/index.ssf/2014/07/20_percent_price_hike_detroit.html.

106. The Flint Water Advisory Task Force was clear in its final report: “Emergency managers, not locally elected officials, made the decision to switch to the Flint River as Flint’s primary water supply source” (*Final Report*, 7). See also *Bridge Magazine’s* vetting of this claim: Michigan Truth Squad, “Who Approved Switch to Flint River? State’s Answers Draw Fouls,” *Bridge Magazine*, January 21, 2016.

107. In Wright’s words, “It was in this resolution on June 26, 2013, that the City of Flint decided to go to the River. GCDC, KWA, and I had nothing to do with that decision” (“The Flint Water Crisis, DWSD, and GLWA,” 24).

108. In its final report, the Flint Water Advisory Task Force wrote that “Flint EM Ed Kurtz authorized use of the Flint River as a water source for Flint, as clearly indicated by his approval of a sole-source contract for the engineering firm Lockwood, Andrews, and Newnam (LAN) to prepare the Flint [water treatment plant] for full-time treatment of Flint River water,” *Final Report*, 40.

109. Ron Fonger, “Former Flint EM: ‘My Job Did Not Include Ensuring Safe Drinking Water,’” *MLive*, May 2, 2017, https://www.mlive.com/news/flint/index.ssf/2017/05/former_flint_em_my_job_did_not.html.

110. Hammer maintains that while the KWA decision was “political,” “the decision to use the Flint River and the question of how to finance necessary improvements to the [water treatment plant] were driven by financial concerns” (“The Flint Water Crisis, the Karegnondi Water Authority and Strategic–Structural Racism,” 23). The City of Flint’s own 2014 Annual Water Quality Report stated that “the use of the Flint River as a source water for the City of Flint Water Treatment Plant” was “driven largely by economics and the financial state of the City.” In January 2016, the media confusingly conflated the debate over the cost savings of switching to the KWA with the cost savings of switching to the river temporarily. Articles began to appear claiming that the switch to the river was not, in fact, about saving money, but what was meant was that the switch to the KWA was not—at least according to DWSD’s critique of the project—about saving money. For example, Allie Gross, “New Emails Reveal the Switch to the Flint River Was Not about Saving Money,” *Detroit Metro Times*, January 25, 2016.

111. Ron Fonger, “Company Says Flint EM Told Employees: Keep Water Work to Minimum Required,” *MLive*, June 29, 2016, https://www.mlive.com/news/index.ssf/2016/06/flint_consultant_says_former_e.html.

112. Ron Fonger, “Flint Water Problems: Switch Aimed to Save \$5 Million—But at What Cost?,” *MLive*, January 23, 2015, https://www.mlive.com/news/flint/index.ssf/2015/01/flints_dilemma_how_much_to_spe.html.

113. March 2015 memo to Deputy Treasurer Wayne Workman, quoted in May, “Debunking 4 Claims.” Jerry Ambrose summed up the logic of the switch in his Congressional testimony: “You know, the long and short of it is, they came back and said, yes, we can make this work for a short period of time. . . . We realized that that would generate some financial savings for us over the next couple years. . . . And so we said, I mean, why would we not try it?” Ron Fonger, “Flint Emergency Manager Told Congress He Never Met or Talked to Gov. Snyder,” *MLive*, January 23, 2017, https://www.mlive.com/news/flint/index.ssf/2017/01/flint_emergency_manager_told_c.html.

114. See ROWE Professional Services Company, *City of Flint Water Reliability Study*.

115. For a polemical (and not entirely accurate) account of the water crisis as a product of austerity and the “politics of disposability” associated with it, see Giroux, *America at War with Itself*. For the connection between austerity and public health, see Stuckler and Basu, *The Body Economic*.

116. Fonger, “Former Flint EM.” Note that Darnell Earley seems to have taken a different position: “The EM obviously is the person responsible for making sure that those things get done, and I’ve always accepted that.” US House Committee on Oversight and Govt. Reform March 15, 2016 Transcript, p. 32, <https://www.flintwatercommittee.com/wp-content/uploads/2016/05/FLINT-HEARING-OF-MARCH-15-FINAL-with-cover-sheet.pdf>.

117. Fonger, “Flint EM Told Employees.”

118. Flint Water Advisory Task Force, *Final Report*, 27.

119. As Dayne Walling told *East Village* magazine: “I can’t see any scenario where myself and Flint City Council would have supported going back to the Flint River; and that’s probably not based on any science. . . . The perceptions of the Flint River in this community—it’s getting better for fishing and canoeing—but beyond that the idea of drinking the Flint River water is something that most people in this community start off not liking. . . . I don’t think elected officials could’ve made that decision.” Quoted in Ford, “Dayne Walling.”

120. As Mays put it, “You can push the button any time and get water—good water.” Ron Fonger, “Flint Residents Say They’ll Meet to Fight High Prices, ‘Plummeting Water Quality,’” *MLive*, January 5, 2015, https://www.mlive.com/news/flint/index.ssf/2015/01/flint_residents_say_theyll_mee.html.

121. Ron Fonger, “Detroit Water Chief Says She’s Willing to Sell Emergency Water to Flint—No Strings Attached,” *MLive*, January 26, 2015, https://www.mlive.com/news/flint/index.ssf/2015/01/detroit_water_chief.html.

122. As Jerry Ambrose said, “It’s not possible to just push a button and go back.” Ron Fonger, “Flint Emergency Manager Says There Are Two Big Reasons Not to Reconnect Detroit Water,” *MLive*, January 29, 2015, https://www.mlive.com/news/flint/index.ssf/2015/01/flint_extends.html.

123. Bishop Bernadel Jefferson, personal interview with author, Flint, MI, May 17, 2017. When Earley sold the asset, he did so against the protestations of the City Council, which voted against the sale 7 to 2 (but was unable, under the terms of PA 436, to come up with an alternative that was equally financially advantageous). The activists' opposition to the sale stemmed, in part, from the feeling that the county was taking advantage of Flint and that at most the pipe should be leased. Ron Fonger, "Flint City Council Turns down \$3.9 Million Offer for Water Pipeline," *MLive*, May 20, 2014, https://www.mlive.com/news/flint/index.ssf/2014/05/flint_city_council.html.

124. As Curt Guyette ("A Deep Dive") put it, "That stipulation sealed the city's fate, locking it into using the river water."

125. The council voted to support the loan but was not informed of the critical condition imposed by Ambrose. Emily Lawler, "State Loan Prohibited Flint from Rejoining Detroit Water System," *MLive*, March 2, 2016, https://www.mlive.com/news/index.ssf/2016/03/state_loan_prohibited_flint_fr.html.

126. Including hiring for top executive positions, the resolution of litigation and labor disputes, and the budget process. Ron Fonger, "Exiting Flint Emergency Manager Issues Final Orders on Transition," *MLive*, May 6, 2015, https://www.mlive.com/news/flint/index.ssf/2015/05/departing_flint_emergency_mana.html.

127. Laura Sullivan, personal interview with author, Flint, MI, November 14, 2016.

128. May, "Debunking 4 Claims." Similarly, the Treasury Department predicted that if Flint were to switch back to DWSD for eighteen months, it would end up costing the city \$18 million.

129. *Bridge Magazine* Staff, "The Latest on What Key Snyder Aides Knew about Flint and When," *Bridge Magazine*, March 1, 2016.

130. Email from Dennis Muchmore to Brad Wurfel, Dennis Muchmore, David Murray, and Sara Wurfel, February 5, 2015.

131. Email from Terry Stanton (of the Treasury Department) to Brad Wurfel, Dennis Muchmore, David Murray, and Sara Wurfel, February 5, 2015.

132. Bebow, John. "How Snyder's Chief of Staff Wrestled with Flint Water, with Few Victories," *Bridge Magazine*, March 2, 2016.

133. In Congressional testimony, Ambrose said, paraphrasing, that "it has less to do with the vote that they took than with the manner in which they took it." Ron Fonger, "Congressman Wants Federal Criminal Investigation of Three Former Flint EMs," *MLive*, January 18, 2017, https://www.mlive.com/news/flint/index.ssf/2017/01/congressman_wants_federal_pros.html.

134. Peter Hammer concludes that "Flint residents had knowledge of the water crisis almost immediately upon the switch to the Flint River, but they lacked the power

to influence the decision making of the Emergency Managers, Treasury, [MDEQ], or the Governor" ("The Flint Water Crisis, the Karegnondi Water Authority and Strategic-Structural Racism," 35).

135. Hammer, "The Flint Water Crisis, the Karegnondi Water Authority and Strategic-Structural Racism," 39.

136. See, for example, Schmitt, *The Concept of the Political*; Agamben, *State of Exception*; and the considerable commentary these works have inspired.

137. Anderson, "Democratic Dissolution."

138. Anderson, 610.

139. Honig, *Emergency Politics*, xv.

4 The Pro-Democracy Struggle in Michigan and the Prehistory of the Water Movement in Flint

1. Nayyirah Shariff, personal interview with author, Flint, MI, April 20, 2016.

2. The transcript of Snyder's speech is available from [www.legislature.mi.gov/\(S\(dpua wbkxbzdov3qy5ixuwdu\)\)/documents/2011-2012/Journal/House/htm/2011-HJ-01-19-004.htm](http://www.legislature.mi.gov/(S(dpua wbkxbzdov3qy5ixuwdu))/documents/2011-2012/Journal/House/htm/2011-HJ-01-19-004.htm).

3. "Hundreds Protest Emergency Manager Bills," *Lansing State Journal*, March 9, 2011. There was much discontent around the proposed budget as well. Claire McClinton told the *Flint Journal* that "it boils down to the same thing—our government is taking care of corporations and they're not taking care of working class people who make the community what it is." Kayla Habermehl, "Local UAQ Joining State Budget Protest," *Flint Journal*, March 15, 2011.

4. Available from www.michigan.gov/documents/snyder/EMF_Fact_Sheet2_347889_7.pdf.

5. Berfield, "Financial Martial Law in Michigan."

6. Activists sometimes framed the struggle against the law as part of a new civil rights movement, implying that in Michigan, African Americans had to struggle for their right to vote (or at least their right to vote for people who would exercise actual power) all over again.

7. Quoted in Steve Neavling, "Michigan Civil Rights Leaders Plan an Occupy Protest at Gov. Rick Snyder's Home on Martin Luther King Jr. Day," *Detroit Free Press*, December 13, 2011.

8. Savage, "Michigan GOP."

9. See Savage, "Michigan Rising."

10. Krista Gjestland, "Protesters Gather for March outside Gov. Snyder's House," *News-Herald*, January 17, 2012, http://www.thenewsherald.com/news/protesters-gather-for-march-outside-gov-snyder-s-house-with/article_172ede4a-1b7e-55e1-8c06-2b72e6237ab7.html.
11. Klein, *The Shock Doctrine*. Commenting on Michigan's PA 4 on *Democracy Now!* in March 2011, Klein described it as "a frontal assault on democracy. It's a kind of a corporate coup d'état at the municipal level." For further reflections on the relationship between neoliberalism and democracy, see Brown, *Undoing the Demos*.
12. Patrick Sullivan, "Dictatorship or Democracy? Push to Repeal the Emergency Manager Law Goes Local," *Northern Express*, June 26, 2011.
13. Greg Bowens, phone interview with author, January 30, 2017.
14. Brandon Jessup, phone interview with author, January 27, 2017.
15. American Civil Liberties Union of Michigan, "ACLU Seeks Records about Emergency Financial Manager Law," April 7, 2011, <http://www.aclumich.org/article/aclu-seeks-records-about-emergency-financial-manager-law>.
16. See coverage on *Electablog* by Chris Savage: "Imposition of an Emergency Manager"; "Think Emergency Managers Are Only for 'Black' Schools and Cities?"; and "Another Michigan City."
17. Erik Kain, "Teachers and Tea Partiers Unite to Repeal Michigan Emergency Manager Bill," *Forbes*, April 6, 2011.
18. Bishop Bernadel Jefferson, interview with author, Flint, MI, May 17, 2017.
19. Kristin Longley, "Report: Font Expert Says Emergency Manager Law Petitions Had Correct Size," *MLive*, June 8, 2012, https://www.mlive.com/news/flint/index.ssf/2012/06/font_expert_says_emergency_man.html.
20. Bob Mabbitt, personal interview with author, Flint, MI, June 15, 2017.
21. Nayyirah Shariff, personal interview with author, Flint, MI, July 6, 2017.
22. Alec Gibbs, phone interview with author, February 10, 2017.
23. Jonathan Oosting, "Snyder Signs Replacement Emergency Manager Law: We 'Heard, Recognized and Respected' Will of Voters," *MLive*, December 27, 2012, https://www.mlive.com/politics/index.ssf/2012/12/snyder_signs_replacement_emerg.html.
24. Oosting.
25. The appropriation, amounting to \$5,780,000, was ostensibly to cover EM salaries and other costs of administering the law.
26. The first challenge to the constitutionality of the law, to my knowledge, was that levied in April 21 by two pension boards representing Detroit public employees:

the Detroit General Retirement System (for general employees) and the Police and Fire Retirement System. See Savage, "Benton Harbor/Emergency Financial Manager."

27. Joining in the suit were the Goodman & Hurwitz PC (on behalf of the National Lawyers' Guild), the Center for Constitutional Rights, and lawyers associated with AFSCME: Herb Sanders and Miller Cohen. As in the case of the repeal, AFSCME's involvement represented a critical endorsement by organized labor. But AFSCME Council 25 Legal Director Herb Sanders insisted that the legal challenge was about fundamental matters of right and wrong rather than traditional union politics.

28. *Brown et al. vs. Snyder et al.*

29. Kristin Longley, "Flint Resident Joins Effort against Michigan's Emergency Financial Manager Law," *MLive*, June 22, 2011, https://www.mlive.com/news/flint/index.ssf/2011/06/flint_resident_joins_effort_to.html.

30. Center for Constitutional Rights, "MI Citizens Take Emergency Manager Law to Court, Citing Unconstitutional Power Grab," June 22, 2011, <https://ccrjustice.org/home/press-center/press-releases/mi-citizens-take-emergency-manager-law-court-citing>.

31. John Philo, phone interview with author, February 3, 2017.

32. *Phillips et al. vs. Snyder et al.*

33. "Order Granting in Part and Denying in Part Defendants' Motion to Dismiss (document no. 41) and Denying Defendants' Motion to Stay Proceedings (document no. 47)," available from www.voiceofdetroit.net/wp-content/uploads/Steeh-rulgin-EM-lawsuit-11-19.pdf.

34. Bolstering the case for discrimination was evidence that fiscally troubled black cities were more likely to get EMs than fiscally troubled white cities. The predominantly white cities, like Allen Park and Hamtramck, that *had* received EMs had asked the state for them. See Kirkpatrick and Breznau, "The (Non)Politics of Emergency Political Intervention," and Lee et al., "Racial Inequality," 1-7. The Detroit Branch of the NAACP also filed a lawsuit alleging infringement on African Americans' voting rights. See Khalil AlHajal, "NAACP Lawsuit Claims Emergency Manager Law Violates Voting Rights of Half Michigan's African Americans," *MLive*, May 13, 2013, https://www.mlive.com/news/detroit/index.ssf/2013/05/naacp_lawsuit_claims_emergency.html.

35. Philo, interview, February 3, 2017.

36. The decision outlined a variety of ways in which citizens could express their will under emergency management: "Citizens can still advocate for the removal of state-appointed managers and can vote out local officials who allowed the emergency, legislators who approved the law or the governor who made the appointment." Jonathan Oosting, "Appeals Court Upholds Mich. Emergency Manager Law," *Detroit News*, September 12, 2016.

37. This argument did not go far with residents trapped in the gerrymandered blue districts around Michigan's major urban centers, who were at an inherent disadvantage within state electoral politics. See Ted Roelofs, "Gerrymandering in Michigan Is among the Nation's Worst, New Test Claims," *Bridge Magazine*, April 13, 2017.

38. Oostin, "Appeals Court." For another perspective, see Nick Krieger, "What's Next for Opponents of Michigan's Emergency Manager Law?," *Fix the Mitten*, September 13, 2016, <https://www.fixthemitten.com/blog/whats-next-for-opponents-of-michigans-emergency-manager-law>.

39. In March 2017, they filed a writ with the Supreme Court. Ron Fonger, "Supreme Court Could Decide if Michigan EM Law Violates Voting Rights Act," *MLive*, March 31, 2017, https://www.mlive.com/news/flint/index.ssf/2017/03/supreme_court_asked_to_hear_mi.html. In October, the court declined to hear the case. Todd Spangler, "U.S. Supreme Court Rejects Challenge to Michigan's Emergency Manager Law," *Detroit Free Press*, October 2, 2017. Attorneys then moved forward with the racial discrimination claim. Brian McVicar, "Michigan's Emergency Manager Law Is Racist, Lawsuit Argues," *MLive*, December 6, 2017, https://www.mlive.com/news/index.ssf/2017/12/michigans_emergency_manager_la.html.

40. Philo, interview, February 3, 2017. "From the time we filed that first case ... to today," he said, "there's been a complete flip in the public perception of that law. It's hard to find people who defend it anymore."

41. When Kevyn Orr took office in Detroit in March 2013, for example, he was "cautious," John Philo told me, compared to EMs in other cities who had come in like "bulls in the china closet." Philo, interview, February 3, 2017.

42. Video of Sanders's comments is available from <https://www.youtube.com/watch?v=Gu3fHnSmmM>.

43. Speaking of the relationship between an EM and elected officials at a training session for prospective EMs, Harris said, "You don't have to do *anything* with these guys.... The fact of the matter is, the city manager is now gone—I am the city manager. I replaced the finance director. So I'm the finance director and the city manager. I am the mayor and I am the commission and I don't need them. All I need is the expertise." Savage, "Benton Harbor."

44. Savage, "Protest Rick Snyder."

45. Savage, "Some Thoughts."

46. Claire McClinton, personal interview with author, Flint, MI, June 7, 2017.

47. For a general history of the city that highlights its relations with its predominantly white neighbor St. Joseph, see Kotlowitz, *The Other Side of the River*.

48. Mahler, "Now That the Factories Are Closed."

49. For example, his stacking of the local planning commission and redevelopment authority with individuals friendly to his agenda. See Savage, "MI Gov. Rick Snyder's Takeover." With the help of some misleading national coverage by Rachel Maddow, the issue of PA 4 came to be conflated with the issues surrounding the park (which was leased out years before PA 4 went into effect). The park served a useful lightning rod for activists, however, as they sought tangible ways of illustrating the dangers of PA 4. In Flint, activists would make use of controversies around public assets in much the same way.

50. Brendan Savage, "Occupy the PGA Marches in Downtown Benton Harbor to Protest Senior PGA's Use of Park Land," *MLive*, May 26, 2012, https://www.mlive.com/news/index.ssf/2012/05/occupy_pga_marches_in_downtown.html.

51. Reverend Pinkney's association with the League of Revolutionaries for a New America was one of the things that tied him to McClinton. The league's national monthly, *People's Tribune*, served as one of the chief organs for Flint activists and McClinton (a longtime contributor) in particular during the water crisis. For a highly sympathetic account of Pinkney, see Bassett, *Soldier of Truth*.

52. McClinton, interview, June 7, 2017.

53. An interesting question is why the state's first takeover of Flint in 2002 did not provoke similar resistance. Paul Jordan remembers the actions of EFM Ed Kurtz as being more "surgical," limited to "budget control." Elected officials were "shackled" but not "totally disabled" and "there wasn't a sense of being totally disenfranchised." Paul Jordan, personal interview with author, Flint, MI, December 21, 2016. Claire McClinton told me that there was "some resentment but not resistance." McClinton, interview, June 7, 2017.

54. Reverend Dr. Reginald Flynn, "A Letter from the Flint City Jail," *People's Tribune*, August 7, 2012.

55. See Kristin Longley, "Judge Overrules Flint Emergency Manager's Order on Retiree Prescription Drugs; City Appealing Decision," *MLive*, January 7, 2013, https://www.mlive.com/news/flint/index.ssf/2013/01/judge_overrules_flint_emergenc.html.

56. Shariff, interview, April 20, 2016.

57. Shariff, interview, April 20, 2016.

58. See Kristin Longley, "Flint Emergency Manager Michael Brown Talks Public Safety, Taxes, Water Pipeline at First Public Meeting," *MLive*, February 2, 2012, https://www.mlive.com/news/flint/index.ssf/2012/02/flint_emergency_manager_michae_12.html. Activist Melodee Mabbitt remembers that Brown would get "laughed out" of some places by hostile members of the audience. Melodee Mabbitt, personal interview with author, Flint, MI, June 15, 2017. Shariff described public

meetings under emergency management as a kind of charade. She recounted one instance in particular when she and other activists had to “mic-check” Brown at a public hearing to expose the fact that he had already adopted the budget on which he was inviting public comment. Shariff, interview, April 20, 2016.

59. Shariff, interview, April 20, 2016.

60. Kristin Longley, “Group Protests Flint Emergency Manager on Flint City Hall Lawn,” *MLive*, April 30, 2012, https://www.mlive.com/news/flint/index.ssf/2012/04/group_protests_flint_emergency.html. Morten’s 2013 play *State of Emergency* chronicles the pro-democracy movement from a Flint perspective, featuring some of the Flint activists as characters.

61. The performance also riffed on the “no taxation without representation” theme prominent within the pro-democracy movement. As Shariff pointed out, “Our Flint income taxes are due April 30. As things stand now, because we have an emergency manager, we will have no say in how those taxes are spent.” “FLINT PROTEST: Michigan Emergency Manager Law (P.A. 4) Amounts to ‘Taxation without Representation,’” announcement available from <http://publicdevelopment.blogspot.com/2012/04/flint-protest-michigan-emergency.html>.

62. As part of the deal, which preceded Uptown’s much-anticipated relocation of the Flint Farmer’s Market (the management of which was taken over by Uptown in 2002 when the city could no longer afford it), the city agreed not to support the establishment of any other farmer’s market in the city. Melodee Mabbitt led a petition drive to try to stop the relocation of the market, and the development of a market in north Flint in defiance of the agreement became a focus of residents on that side of town. See Morckel, “Patronage and Access to a Legacy City Farmers’ Market.”

63. “They’re stealing small today so they can steal big tomorrow,” said Councilman Sheldon Neeley after the food bank deal. Kristen Longley, “Flint Emergency Manager Allows Food Bank to Pave Part of Brennan Park for Parking Lot in Exchange for Upgrades,” *MLive*, August 23, 2012, https://www.mlive.com/news/flint/index.ssf/2012/08/flint_emergency_manager_grants.html.

64. Khalil AlHajal, “Food Bank Faces Some Opposition in Leasing Part of Brennan Park for Hunger Center Parking Lot,” *MLive*, June 14, 2012, https://www.mlive.com/news/flint/index.ssf/2012/06/food_bank_faces_some_oppositio.html. Residents did not prevent the lease but they did get the food bank to build another playground in the park.

65. Scott Atkinson, “Flint’s Santa Has a New Job as a Temp after Years of Secluded Retirement,” *MLive*, February 27, 2015, https://www.mlive.com/news/flint/index.ssf/2015/02/the_true_story_of_one_santa_cl.html.

66. As Alec Gibbs put it to me, the activists were looking for “key entry points for public acts that would draw attention to [emergency management]” (Gibbs, interview, February 10, 2017). Activists were also trying to bring attention to the ways in which emergency management in Flint, as in Benton Harbor, was being used to

advance a local agenda of what Kettering University anthropologist Laura Jordan calls “neoliberalism writ small.” See Jordan, “Neoliberalism Writ Large and Small.” The activists of the FDDL claimed that “most of the time the emergency manager answers to Uptown Reinvestment and all of its shell corporations.” Flint Democracy Defense League, “The State of Flint under Emergency Management,” transcript of speech delivered at Flint City Hall, March 3, 2014.

67. Flint Democracy Defense League, “The State of Flint under Emergency Management.”

68. Flint Democracy Defense League, “The State of Flint under Emergency Management.”

69. The human right FDDL singled out as a priority in its visioning statement was the right to “safe, clean, accessible, and affordable drinking water and sanitation.” That right was rendered moot, the group maintained, when people did not have a say in government or in the price they paid for their water.

70. Longley, “Flint Emergency Manager Michael Brown.”

71. Nayyirah Shariff, personal interview with author, Flint, MI, July 6, 2017.

72. Dominic Adams, “Flint Group Wants Public Vote on Using Tax Money to Pay for Water Pipeline,” *MLive*, October 11, 2013, https://www.mlive.com/news/flint/index.ssf/2013/10/residents_want_to_vote_on_pote.html.

73. I was unable to ask Wright to comment on this claim, as he did not respond to my request for an interview.

74. Ron Fonger, “Attempt Fails to Force Public Vote in Flint on Using Tax Money to Pay for Water Pipeline,” *MLive*, November 26, 2013, accessed July 1, 2017.

75. McClinton, interview, June 7, 2017.

76. Kristin Longley, “Flint Water, Sewer Rates Increasing 35 Percent,” *MLive*, August 16, 2011, https://www.mlive.com/news/flint/index.ssf/2011/08/flint_water_sewer_rates_increa.html.

77. Kristin Longley, “Flint Water Rate Hikes Lead to Influx of Well Drilling Inquiries,” *MLive*, May 6, 2012, https://www.mlive.com/news/flint/index.ssf/2012/05/drill_baby_drill_flint_water_r.html. EM Brown tried to justify the city’s retail rate hikes by pointing to wholesale rate hikes by Detroit, as well as infrastructural issues like water loss (the city was losing about 30 percent of water to leaks at the time). But the activists framed the issue of water rates differently: rates were being raised not “to cover the cost of water,” but to “plug the deficit” created by Snyder’s pro-business tax cuts and withdrawal of revenue sharing. Flint Democracy Defense League, “The State of Flint under Emergency Management.”

78. As of December 2012, the city consistently averaged about 120 shutoffs for nonpayment each week. See Kristin Longley, “Agencies Fielding Pleas for Help with

Higher Flint Water Bills," *MLive*, December 26, 2012, https://www.mlive.com/news/flint/index.ssf/2012/12/higher_flint_water_rate_leads.html.

79. Molly Young, "Flint Officials Confirm 'Massive' Water Theft Investigation, Crackdown," *MLive*, September 17, 2014, https://www.mlive.com/news/flint/index.ssf/2014/09/flint_officials_confirm_massiv.html. The city continued to pay for these investigations even after the water was deemed unsafe to drink in October 2015. Gary Ridley, "Flint EM Spent More than \$52K on Theft Probes after Water Was Deemed Unsafe," *MLive*, February 10, 2016, https://www.mlive.com/news/flint/index.ssf/2016/02/flint_em_spent_more_than_52k_o.html.

80. Kristin Longley, "Flint Raising Rental Home Water Deposits to \$350," *MLive*, February 25, 2013, https://www.mlive.com/news/flint/index.ssf/2013/02/flint_raising_rental_home_wate.html.

81. Dominic Adams, "Flint Monthly Water and Sewer Bills Highest in Genesee County by \$35," *MLive*, June 1, 2014, https://www.mlive.com/news/flint/index.ssf/2014/06/post_386.html.

82. The city's water revenue was still, somewhat mysteriously, considerably lower than projected, and the utility was still not managing to cover its costs. Dominic Adams, "Flint Still Looking for Leaks in Revenue Stream for Water and Sewer Service," *MLive*, April 15, 2014, https://www.mlive.com/news/flint/index.ssf/2014/04/water_rate_increases_loom_for.html. See also Dominic Adams, "Flint Water Rate Questions Abound on Eve of Switch away from Detroit and to River," *MLive*, April 17, 2014, https://www.mlive.com/news/flint/index.ssf/2014/04/questions_abound_on_water_rate.html.

83. For an overview of the relationship between Detroit and Flint activists, see Howell, Doan, and Harbin, "Detroit to Flint and Back Again."

84. Interviewed by Laura Bonham and Egberto Willieson, Move to Amend Reports, September 1, 2014, <http://www.blogtalkradio.com/movetoamend/2014/08/01/move-to-amend-reports-wlaura-bonham-egberto-willies>.

85. "Claire McClinton Speaking after the Water March 08 08 2014," August 10, 2014, video, 3:47, https://www.youtube.com/watch?v=IL3l0CNWoSI&index=3&list=PLw0o_su0zH0EnK4hruzAqtNNcFp-Leo6p.

86. "Nayyirah Shariff Speaking after the Water March 08 08 2014," August 10, 2014, video, 1:30, <https://www.youtube.com/watch?v=1vtjKI7AbUg>.

87. "Eric Mays Speaking after the Water March 08 08 2014," August 10, 2014, video, 7:56, https://www.youtube.com/watch?v=3bpb_4pVsdY&list=PLw0o_su0zH0EnK4hruzAqtNNcFp-Leo6p&index=6.

88. Under the terms of PA 436, elected officials in Flint had the option of voting out an EM after eighteen months with the support of six council members and the

mayor. Mays was able to rally five of his colleagues around the idea, but encountered resistance from Mayor Walling. Gary Ridley, "Flint City Council Members Rally for Removal of State-Appointed Emergency Manager," *MLive*, October 6, 2014, https://www.mlive.com/news/flint/index.ssf/2014/10/flint_city_council_members_cal.html.

5 The Rise of the Water Warriors

1. Mays, "Flint Mom Shares the Heartbreak."
2. Mark Bashore, "Despite Health Issues, Flint Activist Plays Pivotal Role," WKAR, April 27, 2016, <http://www.wkar.org/post/despite-health-issues-flint-activist-plays-pivotal-role#stream/0>.
3. I have taken the actual quotes from the above-cited interview with The Stir. Other details of Mays's story are from Melissa Mays, personal interview with author, Flint, MI, February 17, 2016.
4. Melissa Mays, interview with Jack Olmstead, GMO Free News, November 17, 2015.
5. LeeAnne Walters, testimony to the Michigan Joint Select Committee on the Flint Water Public Health Emergency, Flint, MI, March 29, 2016.
6. Numerous details in this section are taken from LeeAnne Walters, personal interview with author, Flint, MI, October 11, 2016.
7. See Smith, "This Mom Helped Uncover."
8. Lurie, "Meet the Mom."
9. Otiko, "Residents Say."
10. Environmental contamination that disrupts the rhythm of everyday life and invades the private realm of home and family often leads to the political mobilization of individuals with little to no experience with politics. See Cole and Foster, *From the Ground Up*, 152.
11. I cannot here mount a full methodological defense of this manner of proceeding. Suffice to say that I believe a phenomenological approach to theorizing the development of political agency is especially relevant to environmental contamination events and consistent with the ethnographic approach described in the introduction. For examples of the application of phenomenological analysis to the experience of environmental contamination, see Dorya et al., "Lived Experiences"; Dorya et al., "A Phenomenological Understanding"; and Seamon, "Lived Bodies." For phenomenology and the ethnographic study of the meanings of illness, see Kleinman, *The Illness Narratives*. I have also taken some inspiration from the discussion of phenomenology and political theory in Krupp, "Phenomenology."

12. On the concept of “political etiology,” see Hamdy, “When the State and Your Kidneys Fail.” On analyzing suffering as the embodiment of structural violence, see Farmer, *Pathologies of Power*.

13. These terms, and other descriptive details in this section, are derived primarily from an analysis of posts to the Flint Water Class Action Facebook page from fall 2014 to winter 2015.

14. Ron Fonger, “City Adding More Lime to Flint River Water as Resident Complaints Pour in,” *MLive*, June 12, 2014, https://www.mlive.com/news/flint/index.ssf/2014/06/treated_flint_river_water_meet.html.

15. See Zahran, McElmurry, and Sadler, “Four Phases of the Flint Water Crisis,” and Christensen, Keiser, and Lade, “The Effects of Information Provision.”

16. Christina Zdanowicz, “Flint Family Uses 151 Bottles of Water per Day,” CNN, March 7, 2016, <https://www.cnn.com/2016/03/05/us/flint-family-number-daily-bottles-of-water/index.html>.

17. For a useful analysis of the significance of water within the gendered space of the household, see Kaika, *City of Flows*, ch. 4. In her congressional testimony before the House Oversight and Government Reform Committee on February 3, 2016, Lee-Anne Walters dramatized the psychological effect of her family’s loss of confidence in the security of their own home: “My home used to be a place of comfort and safety for my family. It used to be what a home should be: a place of peace and protection from the outside world. That was taken from us—and not just from my family but from every home and every citizen in Flint. Now my home is known as ‘ground zero.’”

The idealized imagery of a happy, healthy family life disturbed by the intrusion of new and unanticipated threats played an important role in residents’ efforts to convey the significance of the water crisis to those who had not personally experienced it. Just as traditional environmentalism has often relied upon a romanticized vision of unspoiled nature in order to present environmental destruction as desecration, residents like Walters made use of a similar narrative of harmony shattered, with the home figured as a sacred space defiled by destructive external forces.

18. Mays, “Flint Mom Shares the Heartbreak.”

19. Some scholars have estimated that as many as 70 percent of the members of local and statewide environmental justice groups are women. See, for example, Brown and Ferguson, “Making a Big Stink,” 149.

20. See Belenky, Clinchy, Goldberger, and Tarule, *Women’s Ways of Knowing*. For mothers, specifically, see Ruddick, *Maternal Thinking*. For a useful discussion, see Code, *What Can She Know?*, ch. 1. For an example of the application of the “ways of knowing” framework to environmental justice, see Brown and Ferguson, “Making a Big Stink.” I do not wish to enter into the contentious debate about whether this

epistemological characterization is accurate, only to put it forward as a hypothesis that would help to explain women's prominent role in environmental justice struggles.

21. See Gibbs, *Love Canal*, and Harr, *A Civil Action*. There is debate within the social movements literature over whether mothers, particularly those with young children, are more likely than women generally to be concerned about local environmental contamination. See Hamilton, "Concern about Toxic Wastes," and responses to Hamilton's work—for example, Blocker and Eckberg, "Environmental Issues as Women's Issues."

22. Bishop Bernadel Jefferson, personal interview with author, Flint, MI, May 17, 2017.

23. Jefferson, interview, May 17, 2017.

24. Maegan Wilson, personal interview with author, Flint, MI, September 15, 2016.

25. Laura Gillespie MacIntyre, personal interview with author, Flint, MI, August 29, 2016.

26. For useful accounts of perceptions of risk, see Douglas and Wildavsky, *Risk and Culture*; Beck, *Risk Society*; and Adams, *Risk*. For an illuminating case study, see Auyero and Swistun, *Flammable*.

27. Although the near-ubiquitous dichotomy between victimhood and agency has sometimes been challenged by political theorists (e.g., Nussbaum, *Upheavals of Thought*), it is less common to argue that a sense of victimhood might actually *enhance* agency. For exceptions, see Stringer, *Knowing Victims*; Jacoby, "A Theory of Victimhood"; and Jeffery and Candea, "The Politics of Victimhood." For an account of the water crisis that preserves the traditional distinction between victimhood and agency, see Jackson, "Environmental Justice?"

28. Similarly, in *Life Exposed*, Petryna writes of the importance of Chernobyl victims being seen as "recognized sufferers of the state" as a basis for making political demands (xx).

29. Brown, Morello-Frosch, Zavestoski, and the Contested Illnesses Research Group, *Contested Illnesses*, 22.

30. Brown et al., *Contested Illnesses*, 22.

31. For examples, see King, "Michigan Gov. Rick Snyder"; Eligon, "A Question of Environmental Racism in Flint"; Craven and Tynes, "The Racist Roots of Flint's Water Crisis"; Ross and Solomon, "Flint Isn't the Only Place With Racism in the Water"; New York Times Editorial Board, "The Racism at the Heart of Flint's Crisis"; Wernick, "This Professor Says"; Pulido, "Flint, Environmental Racism, and Racial Capitalism"; Mascarenhas, "The Flint Water Crisis"; Zimring, *Clean and White*; and Benz, "Toxic Cities." Flint's congressional representative Dan Kildee went so far as to claim that

race was “the single greatest determinant of what happened in Flint.” Quoted in Eligon, “A Question of Environmental Racism in Flint.” Robert Bullard has influentially defined environmental racism as “any policy, practice, or directive that differentially affects or disadvantages (whether intended or unintended) individuals, groups, or communities based on race or color.” Bullard, *Dumping in Dixie*, 98. On environmental racism in general, see Cole and Foster, *From the Ground Up*; Taylor, *Toxic Communities*; and Bullard, *Confronting Environmental Racism*.

32. For example, Hill, *Nobody*.

33. Susan J. Douglas, “Without Black Lives Matter, Would Flint’s Water Crisis Have Made Headlines?,” *In These Times*, February 10, 2016. The Black Lives Matter “Solidarity Statement with Flint, Michigan,” released in January 2016, made the point that “Black people in America—especially those living in rural and poor areas—have long been denied the same access to clean drinking and water for bathing and sanitation as everyone else. The crisis in Flint is not an isolated incident. State violence in the form of contaminated water or no access to water at all is pervasive in Black communities.”

34. Nakiya Wakes, personal interview with author, Flint, MI, September 7, 2016.

35. For an intriguing parallel, consider the 1974 blaxploitation film *Three the Hard Way*, in which white supremacists plot to eliminate the black residents of three major American cities (including Detroit) by poisoning their municipal water supplies with a chemical mixture that only affects the black population.

36. Michigan Civil Rights Commission, *The Flint Water Crisis*, 2. For commentary, see Kaffer, “It’s Time to Speak Up.” Part of the problem with making a civil rights charge stick, MCRC Chair Agustin Arbulu explained to me, is the American legal system’s insistence upon proof of malicious intent (i.e., in this case, racial animus). In my own comments to the commission after the release of its report, I argued that it was a mistake to jump to the conclusion that present-day discrimination is merely “implicit” and unintentional in the absence of legally incriminating instances of racism, for it means overlooking the phenomenon of *covert* bias—i.e., biases of which an individual is conscious and acts upon but are not openly admitted. My comments are referenced in Worth-Nelson, “Longstanding Systemic Racism.” Peter Hammer took the analysis of structural racism a step further by proposing the idea of “strategic-structural racism”: while structural racism explains present-day patterns of injustice through a historical lens, “strategic racism” refers to the actions of contemporary actors who take advantage of those patterns. Although calling racism “strategic” would seem to imply conscious wrongdoing, Hammer maintains that anyone who profits economically or politically off of racial disadvantage or prejudice is acting as a “strategic” racist, “regardless of whether the actor has express racist intent,” and argues that some of the key decisions leading up to the Flint water crisis—notably, the financial finagling involved in the construction of the Karegnondi Water Authority pipeline—evidence precisely this kind of strategically racist action. Hammer, “The Flint Water Crisis, the Karegnondi Water Authority and Strategic–Structural Racism,” 2.

37. Carly Hammond, "EXCLUSIVE: Flint Official Says Water Crisis Caused by 'Ni**ers Not Paying Their Bills,'" *Flint Talk*, June 4, 2017, <http://www.flinttalk.com/viewtopic.php?p=80342>.
38. Melissa Naan Burke, "EPA Email: Let's Not 'Go out on a Limb' for Flint," *Detroit News*, March 15, 2016.
39. Matthew Dolan, "Residents Raise Race as Factor in Flint Water Crisis," *Detroit Free Press*, April 28, 2016.
40. On one occasion, in the lead-up to an action at the Michigan State Capitol, we had to drop one of our planned chants ("Water is a human right, not just for the rich and white!") because of the vociferous objections of an activist—a white woman, but backed up by multiple black activists—who complained that it was "so racist" because it implied (she felt) that people like her were not victims of the water.
41. Walters, interview, October 11, 2016.
42. Salmon, "American Genocide."
43. Gina Luster, personal interview with author, Flint, MI, September 7, 2016.
44. Undated conversation with Claire McClinton. For a class-oriented socialist critique of the MCRC's conclusions, see Brewer, "Michigan Blames Flint Water Crisis."
45. Mays, interview, February 17, 2016.
46. Abel Delgado, interview with author, Flint, MI, December 7, 2016.
47. Desiree Duell, interview with author, Flint, MI, August 24, 2016.
48. Luster, interview, September 7, 2016.
49. Ron Fonger, "Flint Councilman Equates Water Troubles to 'Genocide' by Governor," *MLive*, April 6, 2015, https://www.mlive.com/news/flint/index.ssf/2015/04/flint_councilman_claims_govern.html.
50. Steve Carmody, "Flint Councilman Stands by 'Genocide' Charge," *Michigan Radio*, April 10, 2015.
51. Wantwaz Davis, interview with author, Flint, MI, November 11, 2017.
52. Author's field notes, Flint Democracy Defense League meeting, August 27, 2016.
53. This is from a social media post by someone I wish to keep anonymous. Facebook, February 17, 2017.
54. Sam Gringlas, "Will the Water Crisis Finally Secure More than Band-Aids for Flint?," *Belt Magazine*, June 27, 2016.
55. Author's field notes, Water Is Life: Strengthening the Great Lakes Commons (conference), Woodside Church, Flint, MI, September 29, 2017.

56. Duell, interview, August 24, 2016, and Laura Gillespie McIntyre, personal interview with author, Flint, MI, August 29, 2016.
57. Fricker, *Epistemic Injustice*, 1.
58. Figures taken from census data.
59. Fricker, *Epistemic Injustice*, 36.
60. For influential accounts of the concept, see Taylor, “The Politics of Recognition”; Young, *Justice*; Honneth, *The Struggle for Recognition*; and Fraser, “Rethinking Recognition.”
61. Lawrence Reynolds, interview with author, Flint, MI, July 12, 2017.
62. Mays, interview, February 17, 2016.
63. Walters, interview, October 11, 2016.
64. I take the distinction from the classic discussion by Mills in *The Sociological Imagination*.
65. Rauch, “When Your Water Poisons Your Children.”
66. As Brown and Mikkelsen define it, popular epidemiology is “the process by which laypersons gather scientific data and other information and direct and marshal the knowledge and resources of experts to understand the epidemiology of disease.” *No Safe Place*, 125–126. The authors describe the phenomenon as “an extremely significant advance for both public health and popular democratic participation” (127).
67. One might describe this as converting a collective experience of illness into a *politicized* illness experience that links disease to the “social determinants of health.” Brown, *Toxic Exposures*, 30.
68. Mays, interview, February 17, 2016.

6 Demanding the Impossible

1. Gertrude Saunders, “Flint City Council 012615,” January 26, 2015, video, 1:36:51, <https://www.youtube.com/watch?v=Z-7MmKfjanI>.
2. Claire McClinton, interview with author, Flint, MI, June 7, 2017.
3. In John Dryzek’s terminology, emergency management has very little inbuilt “deliberative capacity.” Dryzek, “Democratization as Deliberative Capacity Building.”
4. Dryzek, “Democratization as Deliberative Capacity Building.”
5. Brown, “Popular Epidemiology and Toxic Waste Contamination.”
6. Even when activist interventions were discursively oriented—seeking to reframe the water situation as a “crisis,” for example—they had a coercive rather than a

deliberative character, aiming to counteract the discursive power of others. For discussion of this tactic, see Dodge, "Environmental Justice and Deliberative Democracy." Contemporary theorists of deliberation have begun to evaluate activism from the perspective of deliberative democratic "systems," in recognition of the fact that activities relevant to the deliberative health of a body politic take place at many sites, and may themselves lack traditionally deliberative virtues. See especially Mansbridge et al., "A Systemic Approach to Deliberative Democracy." Given the "inside-out" orientation of this book, I instead adopt the *anti*-systemic perspective of the activists, evaluating their activities as efforts to contest not only particular policies but also the underlying logic of the emergency manager system. The activists certainly did not see the EM system as a "deliberative system" they had any interest in trying to improve.

7. One could argue that, in some ways, residents were "impossible subjects" under emergency management to begin with. For a parallel to another kind of "impossible activism" carried out from a marginalized position, see Nyers, "Object Cosmopolitanism."

8. These details are culled from 1,600 pages of emails released to *The Detroit News*. See Chad Livengood, "Emails: Flint Water Warnings Reached Gov's Inner Circle," *Detroit News*, February 26, 2016.

9. Dayne Walling, interview with author, Flint, MI, March 9, 2016.

10. All quotations in this and the following paragraphs are from video records of the water quality meeting, Flint City Hall, Flint, MI, January 21, 2015.

11. Ron Fonger, "Flint Water Advisory Committee Formed by Mayor, Emergency Manager," *MLive*, February 17, 2015, https://www.mlive.com/news/flint/index.ssf/2015/02/40-member_citizen_water_commit.html.

12. "I was trying to create a forum for community dialogue that was more like the participatory process we had around the master plan," Walling told me. "I was the one who pushed for the community advisory meetings, the creation of a technical task force. I was the one who demanded that these groups meet in public ... that the public be able to attend and participate, just like we had done with the master plan." Walling, interview, March 9, 2016.

13. Nayyirah Shariff, who served on two master plan advisory groups, told me that their apparent participatory qualities masked hidden interests operating behind the scenes, particularly those associated with the Uptown developers. She came away from the experience "very dissatisfied," concluding that the master planning process was another attempt to apply a false democratic veneer to life under emergency management in Flint. Nayyirah Shariff, interview with author, Flint, MI, April 20, 2016. I heard similar comments on the master plan from Desiree Duell, another participant in the process, who told me that the end result was "not completely authentic." Desiree Duell, interview with author, Flint, MI, August 24, 2016.

14. McClinton, "No Safe Affordable Water."
15. Ron Fonger, "Water Consultant Recommends Flint Make Changes in Treatment, Distribution," *MLive*, March 4, 2015, https://www.mlive.com/news/flint/index.ssf/2015/03/flint_water_consultant_tells_c.html.
16. Laura Sullivan, interview with author, Flint, MI, March 25, 2016.
17. When this was pointed out in the press, Florlisa Fowler and Nayyirah Shariff reacted in different ways. Fowler: "I wrote [the mayor] an email, requesting an invitation—politely.... I asked if he could pick me or another group member.... We should have at least one." Shariff: "My concern with this whole process is what will be the purpose of the committee? ... When I looked at most of those groups [that were invited] they've been silent [on the water issues]." Others made the all-important point that many of the people on the committee didn't live in Flint. Ron Fonger, "Some Flint Water Activists Didn't Get Invitation, but Mayor Says Advisory Committee Could Expand," *MLive*, February 17, 2015, https://www.mlive.com/news/flint/index.ssf/2015/02/flint_water_activists_dont_get.html.
18. Jiquanda Johnson, "Flint Water Advisory Committee's First Meeting Erupts in Shouting Match," *MLive*, March 5, 2015, https://www.mlive.com/news/flint/index.ssf/2015/03/flint_residents_say_committee.html.
19. A clip featuring this remark is included in the ACLU documentary *Here's to Flint* (Curt Guyette and Kate Levy, *Here's to Flint*, ACLU of Michigan, March 8, 2016, 44:54).
20. Ron Fonger, "Flint Water Committee Meets, but Some Residents Don't See Progress," *MLive*, March 19, 2015, https://www.mlive.com/news/flint/index.ssf/2015/03/flint_water_committee_meets_bu.html.
21. Ron Fonger, "Flint Mayor Ready to Talk about Changing Water Advisory Committee Format," *MLive*, March 24, 2015, https://www.mlive.com/news/flint/index.ssf/2015/03/flint_mayor_ready_to_talk_abou.html.
22. Ron Fonger, "Lead Revives Flint's Dormant Expert Committee on Water," *MLive*, October 5, 2015, https://www.mlive.com/news/flint/index.ssf/2015/10/flints_expert_committee_on_wat.html.
23. Walling, interview, March 9, 2016.
24. Laura Sullivan's feeling, informed by her interactions with Walling and observations of him in closed-door meetings, was that he was not actually committed to having a conversation about the water, treating it as a nonissue. Generally speaking, activists attributed his dispassionate demeanor not to his stated belief in a civil and cooperative politics, but to either a weakness of will or to his being a collaborator with the state. Sullivan also recalls numerous instances of other officials putting on an amiable face in public settings but treating residents' concerns with condescension and

contempt in private ones, apparently convinced that residents' health symptoms were either psychosomatic or being exaggerated for cynical reasons. She remembers feeling embarrassed when she encountered these attitudes, having at first reassured the activists that those in charge were paying attention and trying to do the right thing. In one instance, when Howard Croft was rolling his eyes about residents' rash complaints, she told him that "you are in charge of more than the water, you are in charge of people's trust in the water, and if you have such disregard for their concerns, there's no way in the world you'll ever have their trust." Laura Sullivan, interview with author, Flint, MI, November 14, 2016.

25. Young, "Activist Challenges to Deliberative Democracy," 684.

26. As Jason Corburn points out, a *coproduction* model of expertise, in contrast to this unidirectional flow of expert knowledge, requires a "deliberative politics" in which local knowledge is valued and participation solicited. Corburn, *Street Science*, 41. Resident knowledge of water quality at the tap was critical to an understanding of the situation, Laura Sullivan told me, because no one "at the plant level had any clue that there were actually things showing up in the water downstream because of the interaction of that water with our pipes." Laura Sullivan, interview with author, Flint, MI, November 14, 2016.

27. Walling, interview, March 9, 2016.

28. Ron Fonger, "Flint Residents Call for Investigative Hearings into 'Water Crisis'," *MLive*, January 5, 2015, https://www.mlive.com/news/flint/index.ssf/2015/01/state_deq_high_levels_of_disin.html; Ron Fonger, "Flint Democracy Defense League Plans Four Meetings on City's Water Problems," *MLive*, January 29, 2015, https://www.mlive.com/news/flint/index.ssf/2015/01/flint_democracy_defense_league_1.html.

29. Nayyirah Shariff, Facebook post, January 5, 2015. In another post from February 23, 2015, Shariff wrote that "we don't do hierarchies; we are all members." On the importance of "free spaces" to democratic movements, see Evans and Boyte, *Free Spaces*.

30. Eric Dresden, "Flint Residents Protest Drinking Water Problems outside City Hall," *MLive*, January 12, 2015, https://www.mlive.com/news/flint/index.ssf/2015/01/clean_water_is_a_right_and_a_p.html.

31. At least this is the way the story of the group's origins was told originally. After the contentious breakup between Mays and Walters (explained in the next chapter), and after the third member of the group drifted away from water activism and began to excoriate both of them, Mays began to say that the group had been formed by herself and her husband, Adam.

32. William E. Ketchum, "People Take to Streets to Protest Flint Water Quality," *MLive*, February 14, 2015, https://www.mlive.com/news/flint/index.ssf/2015/02/flint_residents_protest_citys.html.

33. Ron Fonger, "Flint Pastors Tell State Officials: Get Us off Flint River Water Now," *MLive*, February 5, 2015, https://www.mlive.com/news/flint/index.ssf/2015/02/flint_pastors_tell_state_offic.html.

34. Later, it was revealed that the conference had cost Reverend Alfred Harris a spot on the Receivership Transition Advisory Board. "I take that as a great compliment," Harris said. "If it cost me, it cost me. They understood my interest was strictly for the people ... not what the state wanted me to do." Ron Fonger, "Pastors Paid Price from Governor's Staff for Activism in Flint Water Crisis," *MLive*, February 29, 2016, https://www.mlive.com/news/flint/index.ssf/2016/02/pastors_paid_price_from_govern.html.

35. Coalition for Clean Water, "Coalition for Clean Water."

36. The coalition did not come to a perfect consensus, however. For Tru Saunders, the "hook" stretched credulity—it implied that the city was continuing to distribute water that its own data showed was harmful, even though the city did not see it that way. Although Saunders believed as much as anyone that the water was bad, she accused the coalition of dishonestly misrepresenting the city's position, and, after an argument, left the group and did not come back. Gertrude Saunders, interview with author, Flint, MI, June 6, 2017.

37. Randy Conat, "Coalition Wants Flint to Return to Detroit Water," ABC12, June 5, 2015, <https://www.abc12.com/home/headlines/Coalition-wants-Flint-to-return-to-Detroit-water-306325041.html>. Surrounded by activists on the steps of the Genesee County Circuit Court, attorney Trachelle Young argued that the range of problems with the water evident over the preceding months was suggestive of a "structural problem." It was better to return to Detroit, which had indicated its willingness to accept a short-term arrangement "with no obligations and no strings attached," than it was to continue to entrust the health of residents to the inexperienced operators of Flint's water system. Gary Ridley, "Lawsuit Seeks End to Flint River Drinking Water, Return to Detroit," *MLive*, June 5, 2015, https://www.mlive.com/news/flint/index.ssf/2015/06/lawsuit_seeks_end_to_flint_riv.html. See also Coalition for Clean Water, "Coalition for Clean Water."

38. The suit ran into difficulties when US District Judge Stephen J. Murphy III determined that the coalition's legal argument was "completely undeveloped." Ron Fonger, "Judge Won't Force Flint to Return to Buying Detroit Water," *MLive*, June 23, 2015, https://www.mlive.com/news/flint/index.ssf/2015/06/judge_says_flint_doesnt_have_t_1.html. For follow-up coverage, see Ron Fonger, "Water Coalition Drops Federal Claim, Flint Calls Lawsuit 'Baseless,'" *MLive*, July 16, 2015, https://www.mlive.com/news/flint/index.ssf/2015/07/water_coalition_drops_federal.html; and Ron Fonger, "Lawsuit Aimed at Forcing Flint to End Use of Flint River Dismissed," *MLive*, September 15, 2015, https://www.mlive.com/news/flint/index.ssf/2015/09/lawsuit_aimed_at_forcing_flint.html.

39. Ron Fonger, "Flint Mayor Accepts Petitions but Not Call to End Use of Flint River," *Mlive*, August 31, https://www.mlive.com/news/flint/index.ssf/2015/08/flint_mayor_accepts_petitions.html.
40. Guyette, "Corrosive Impact."
41. Miguel del Toral, personal interview with author, Flint, MI, May 6, 2016.
42. See Curt Guyette and Kate Levy's short film for the ACLU of Michigan, "Hard to Swallow: Toxic Water in a Toxic System in Flint," 2015.
43. Lindsey Smith, "Leaked Internal Memo Shows Federal Regulator's Concerns about Lead in Flint's Water," Michigan Radio, July 13, 2015.
44. A Freedom of Information Act request for the city's sampling data filed by Curt Guyette proved these fears to be well founded when it revealed that the city's ninety-th percentile had been falsified through the conscious exclusion of two critical data points.
45. Laura Sullivan, personal interview with author, Flint, MI, November 14, 2016.
46. Sullivan, interview, November 14, 2016.
47. Laura Sullivan, personal interview with author, Flint, MI, March 25, 2016.
48. Email from Dennis Muchmore to Harvey Hollins, August 5, 2015.
49. Email from Harvey Hollins to Dennis Muchmore, August 5, 2015. As part of bringing the water issue to "closure," Muchmore and Hollins offered to donate 1,500 filters to residents through the Concerned Pastors (rather than the Coalition for Clean Water, *per se*). The condition was that the pastors tell people the filters had come from an "anonymous donor." Ron Fonger, "Concerned Pastors planning water filter giveaway in Flint," *Mlive*, August 26, 2015, https://www.mlive.com/news/flint/index.ssf/2015/08/concerned_pastors_say_theyll_a.html. There was some controversy over the way in which the filters were distributed. For some activists, particularly those who had prior suspicions of the Concerned Pastors, the "hush-hush filters" episode became evidence of the pastors' inclination toward backroom deals and excessively cozy relationships with political elites.
50. LeeAnne Walters, personal interview with author, Flint, MI, October 11, 2016.
51. A National Science Foundation Rapid Response Grant awarded to the Virginia Tech team in September 2015 would ultimately cover the cost.
52. Curt Guyette, personal interview with author, Flint, MI, December 8, 2016.
53. Walters, interview, October 11, 2016.
54. Siddhartha Roy, interviewed by Philip Silva, "The Flint Water Crisis Illuminated by Citizen Science," The Nature of Cities podcast, February 29, 2016, <https://www.thenatureofcities.com/2016/02/29/the-flint-water-crisis/>.

55. Marc Edwards, Siddhartha Roy, and William Rhoads, "Lead Testing Results for Water Sampled by Residents," September 2015, <http://flintwaterstudy.org/information-for-flint-residents/results-for-citizen-testing-for-lead-300-kits/>.
56. Coalition for Clean Water joint press conference, Flint City Hall, September 15, 2015, available from <https://www.youtube.com/watch?v=xwg5L3mYUEI>.
57. Ron Fonger, "Feds Sending in Experts to Help Flint Keep Lead out of Water," *MLive*, September 10, 2015, https://www.mlive.com/news/flint/index.ssf/2015/09/university_researchers_dont_dr.html.
58. Ron Fonger, "Watch: Flint News Conference on Lead in Water Issues," *MLive*, September 25, 2015, https://www.mlive.com/news/flint/index.ssf/2015/09/watch_live_flint_lead_in_water.html.
59. Molly Young, "Clean Water Activists Demand Detroit Reconnection in Flint after Lead Study," *MLive*, September 28, 2015, https://www.mlive.com/news/flint/index.ssf/2015/09/coalition_for_clean_water_dema.html.
60. The petition was cosponsored by the ACLU and the Natural Resources Defense Council. See "Petition for Emergency Action under the Safe Drinking Water Act, 42 U.S.C. § 300i, to Abate the Imminent and Substantial Endangerment to Flint, Michigan Residents from Lead Contamination in Drinking Water," October 1, 2015, <https://www.nrdc.org/sites/default/files/petition-for-emergency-action-under-the-safe-drinking-water-act-20170302.pdf>.
61. Ron Fonger, "State Offers City Cash for Filters, but No Break from Flint River," *MLive*, October 2, 2015, https://www.mlive.com/news/flint/index.ssf/2015/10/state_rolls_out_flint_water_pl.html.
62. Ron Fonger, "Pastors Threaten Lawsuit over Flint River Water, Demand Reconnection to Detroit System," *MLive*, April 8, 2015, https://www.mlive.com/news/flint/index.ssf/2015/04/pastors_threaten_lawsuit_over.html.
63. The cost was \$12 million, \$6 million of which would be provided by the state, \$4 million by the Charles Stewart Mott Foundation, and \$2 million by the City of Flint.
64. Damon Maloney, "Concerned Pastors, Residents Claim Victory over Return to Detroit Water," ABC12, October 8, 2015, <https://www.abc12.com/home/headlines/Concerned-pastors-residents-claim-victory-over-return-to-Detroit-Water-331475132.html>.
65. Dayne Walling, interview with author, Flint, MI, March 9, 2016.
66. Susan Hedman of EPA Region 5 had told Walling that the city and county were already doing (with help from the state and the nonprofit sector) everything the EPA might have ordered them to do. Walling, interview, March 9, 2016.

67. Ron Fonger, “Karen Weaver Makes History, Elected Flint’s First Woman Mayor,” *MLive*, November 4, 2015, https://www.mlive.com/news/flint/index.ssf/2015/11/karen_weaver_makes_history_ele_1.html. Walling told me that, in his view, “the activism certainly had an effect on the election.” Walling, interview, March 9, 2016.

68. Guyette, “Flint’s State of Emergency Is a Sign.”

69. Walling, interview, March 9, 2016.

70. Melissa Mays and Nayyirah Shariff acted as advisors to the screenwriters of the movie (*Flint*). Despite being major characters in the film, LeeAnne Walters refused to participate officially and Claire McClinton told me she was never contacted by the producers (or the other activists involved).

71. For an especially egregious example—though one among many, many others—see Campbell, *Poison on Tap*.

7 The Water Is (Not) Safe

1. Coalition for Clean Water joint press conference, Flint City Hall, September 15, 2015, available from <https://www.youtube.com/watch?v=xwg5L3mYUEI>.

2. For example, in Ashley O’Brien, “Transformed by Water and Politics, Walters Fights On,” *East Village Magazine*, November 16, 2015.

3. Relevant here are Steven Epstein’s insights about debates over science as “credibility struggles.” Epstein defines credibility as “the believability of claims and claims-makers ... the capacity of claims-makers to enroll supporters behind their arguments, legitimate those arguments as authoritative knowledge, and present themselves as the sort of people who can voice the truth” (*Impure Science*, 3). The credibility of a speaker, he writes, “can rest on academic degrees, ‘anointment’ by the media, or the speaker’s access to esoteric forms of communication; the credibility of any knowledge claim can depend on who advances it, how plausible it seems, or what sort of experimental evidence is invoked to support it” (3). The central role of credibility in the reception of scientific knowledge reflects the extent to which the communication and transmission of that knowledge is dependent upon trust. See Hardwig, “The Role of Trust in Knowledge.”

4. On scientific standards as potential barriers to lay participation in science, see Ottinger, “Buckets of Resistance.”

5. LeeAnne Walters estimates that they succeeded about 85 percent of the time. Interview with author, Flint, MI, October 11, 2016.

6. Claire McClinton, interview with author, Flint, MI, September 6, 2018.

7. McClinton, interview, September 6, 2018.

8. Governor Snyder pledged that “no arbitrary decision would be made” about when the water was safe and that the state “would let the science take us to that conclusion.” Office of Governor Rick Snyder, “City of Flint’s Water Quality Restored, Testing Well below Federal Action Level for Nearly Two Years,” press release, April 6, 2018, https://www.michigan.gov/snyder/0,4668,7-277-57577_57657-465766--,00.html.
9. Quoted in Wang, “The Engineered Crisis in Flint.”
10. Marc Edwards, “Lead in Drinking Water and Public Health: A Scientist’s Descent into the Activist Netherworld,” talk delivered at Goddard Space Flight Center, Greenbelt, MD, February 2, 2009.
11. See the exchange between Edwards, David Sedlak, and a number of other interlocutors, beginning with Sedlak’s editorial “Crossing the Imaginary Line” and including Marc A. Edwards, Amy Pruden, Siddhartha Roy, and William J. Rhoads, “Engineers Shall Hold Paramount the Safety, Health and Welfare of the Public—but Not If It Threatens Our Research Funding?,” October 10, 2016, <http://flintwaterstudy.org/2016/10/engineers-shall-hold-paramount-the-safety-health-and-welfare-of-the-public-but-not-if-it-threatens-our-research-funding/>. Edwards claimed at one point that the Virginia Tech team “ended up leading a lot of the activism that occurred in Flint” (“The Crowd and the Cloud Live Aftershow,” April 13, 2017, Facebook video, 1:02:52, <https://www.facebook.com/crowdandcloudTV/videos/1953213671579827/>).
12. Marc Edwards, interview on *The Tom Sumner Show*, July 27, 2018.
13. Ron Fonger, “Erin Brockovich Investigator Says Tweaks Can Fix Flint River Water,” *MLive*, February 11, 2015, https://www.mlive.com/news/flint/index.ssf/2015/02/erin_brockovich_investigator_s.html.
14. Bowcock’s talk is available from <https://www.youtube.com/watch?v=k3nh1P12huQ>.
15. See Veolia, *Flint, Michigan Water Quality Report*.
16. Bob Bowcock, phone interview with author, December 1, 2016.
17. Bowcock explained to me that he and Brockovich, as a two-person team, have to be “selective” about which of the many contamination cases around the country they get involved in (about five hundred requests for help come in each day, he said). Among their criteria for intervention is that an affected community has to be “forming an organization,” with community members “starting to meet in people’s homes and ... starting to want to take action.” In cases where residents are trying to get an organizing effort off the ground but “don’t understand the science,” Bowcock comes in as a consultant “to help the community take some immediate action to at a minimum remediate some of the problems occurring,” preferring to work with the water utility but resorting to coercive measures like legal injunctions when necessary. Bowcock, phone interview, December 1, 2016.

18. May, "Marc Edwards: Corrosion Man."
19. August, "The Plumbing Professor."
20. Home-Douglas, "The Water Guy."
21. Colby Itkowitz, "The Heroic Professor Who Helped Uncover the Flint Lead Water Crisis Has Been Asked to Fix It," *Washington Post*, January 27, 2016.
22. Marc Edwards, interview with author, Ann Arbor, MI, October 26, 2016.
23. Edwards, "Institutional Scientific Misconduct."
24. Burke, "Flint Water Crisis Yields Hard Lessons."
25. Marc Edwards, interview with RT America, February 26, 2016.
26. See Home-Douglas, "The Water Guy."
27. Russell, "Clean Water Warrior Wins."
28. As Edwards put it to C-SPAN, "we dropped everything and ... tried to even the odds on behalf of Flint residents so they could find out the truth about their drinking water." *Washington Journal*, February 29, 2016.
29. Edwards, interview, October 26, 2016.
30. Marc Edwards and Siddhartha Roy, "Is Unfiltered Flint Water Safe to Drink?—New FAQ for Flint Residents," May 4, 2017, <http://flintwaterstudy.org/2017/05/faq-may-2017/>.
31. Robby Korth, "Virginia Tech Water Study Team Faces Financial Struggles," *Roanoke Times*, April 13, 2016.
32. Walters, interview, October 11, 2016.
33. McClinton, interview, September 6, 2018.
34. In conceptualizing his intervention in Flint, Edwards took inspiration from a former collaborator, medical anthropologist Yanna Lambrinidou, and the course they once taught together at Virginia Tech, "Engineering Ethics and the Public: Learning to Listen." In my view, the Flint Water Study team's aggressive promotion of the "citizen science" frame, which contributed to the underlying narrative disconnect between its account of the water crisis and that of the activists, was one among other impediments to the kind of deep, ethnographic listening espoused by Lambrinidou. As the relationship with Edwards went downhill, I repeatedly heard activists say that Edwards was *not* listening to people within the community. Worried that Edwards was usurping resident voices in Flint, Lambrinidou became an outspoken critic of his intervention. See her "On Listening, Science, and Justice" and "When Technical Experts Set Out to 'Do Good,'" as well as Kolowich, "The Accidental Ethicist," and Hohn, "Flint's Water Crisis."

35. Edwards, interview, October 26, 2016.
36. On the tendency to treat Walters as the face of the grassroots struggle in Flint, see Jackson, "The Goldman Prize Missed the Black Heroes of Flint."
37. Siddhartha Roy, presentation at 2017 McComas Staff Leadership Seminar, Virginia Tech, Blacksburg, VA, April 26, 2017, <https://vtechworks.lib.vt.edu/handle/10919/80929>.
38. "WASA" is the District of Columbia Water and Sewer Authority.
39. Steven Epstein points out that a social movement's "possession of its own media institutions" is critical to its ability to construct its own credibility. *Impure Science*, 22. The closest the activists came to this was the Water You Fighting For? website, but posts to Flintwaterstudy.org had much greater reach, even within local social media networks.
40. Nayyirah Shariff, interview with author, Flint, MI, September 15, 2018.
41. Edwards and Pruden, "We Helped Flint Residents," 12057.
42. Cooper and Lewenstein, "Two Meanings of Citizen Science," 59. The awarding institutions that chose to honor Edwards and his team rarely, if ever (from what I could tell), took the time to talk to members of the community or look more deeply into the details.
43. On the ways in which credibility excess "undermin[es] and creat[es] obstacles for dissenting voices" and exacerbates epistemic injustice, see Medina, "The Relevance of Credibility Excess," 18.
44. See Edwards and Roy, "Academic Research in the 21st Century." Edwards's frequent invocations of the "public good" made for a head-scratching complement to his ideological inclinations, which included affection for the egoist hero-worship of Ayn Rand (he was known to recommend *Atlas Shrugged* to his colleagues and even give copies as gifts). As is well known, Rand did not believe the concept of the "public" was coherent to begin with, much less the concept of a public "good." See Rand, *The Virtue of Selfishness*.
45. Itkowitz, "The Heroic Professor."
46. Washington Journal on C-SPAN interview, February 29, 2016. For a somewhat more guarded Edwards, see Gary Ridley, "Beginning of the End for Flint Water Crisis Health Disaster, Edwards Says," *MLive*, August 11, 2016, https://www.mlive.com/news/flint/index.ssf/2016/08/flint_in_beginning_of_the_end.html.
47. Edwards and Roy, "Is Unfiltered Flint Water Safe to Drink?"
48. Pam Radtke Russell, "Clean Water Warrior Wins 2017 ENR Award of Excellence," *Engineering News-Record*, April 13, 2017.

49. Marc Edwards, "Flint's New GAC Treatment Filter Is Helping Meet EPA's THM Standards," August 31, 2015, <http://flintwaterstudy.org/2015/08/flints-new-gac-treatment-filter-is-helping-meet-epas-thm-standards/>.

50. The presentation is available at <http://flintwaterstudy.org/2015/09/distribution-of-lead-results-across-flint-by-ward-and-zip-codes/>.

51. By the end of 2016, the official consensus was that the city's ninetieth percentile for lead was solidly below the federal action level. Ron Fonger, "Virginia Tech: Testing Shows 'Amazing' Flint Water Improvements," *MLive*, December 2, 2016, https://www.mlive.com/news/flint/index.ssf/2016/12/virginia_tech_testing_shows_fl.html.

52. One person told me that Edwards made such a remark publicly as early as January 2016, although I did not hear it myself. The main controversy came toward the end of the year, when a news article appeared that highlighted this position. For his response to the fallout, see Marc Edwards, "Understanding Flint's Water Infrastructure Crisis: Water Infrastructure Inequality in America," December 9, 2016, <http://flintwaterstudy.org/2016/12/understanding-flints-water-infrastructure-crisis-water-infrastructure-inequality-in-america/>; and Marc Edwards, "The Flint Infrastructure Crisis: Two Dinners with Flint Residents," December 19, 2016, <http://flintwaterstudy.org/2016/12/the-flint-infrastructure-crisis-two-dinners-with-flint-residents/>.

53. Matthew Dolan, "Researcher: Flint Water 'Like Russian Roulette'," *Detroit Free Press*, April 12, 2016.

54. Edwards, interview, October 26, 2016.

55. Marc Edwards, interview on Washington Journal, C-SPAN, February 29, 2016.

56. Marc Edwards, Flint Water Study team press conference, August 11, 2016. <https://youtu.be/77CW8rBq2oo?t=2558>

57. Holly Fournier, "Edwards' Team Shows Dramatic Drop in Flint Lead Levels," *Detroit News*, December 2, 2016.

58. Regina H. Boone, "Free Press Photo Helps Define Flint Tragedy for Nation," *Detroit Free Press*, January 21, 2016.

59. Darcey Rakestraw, "Exclusive: Water Defense Video Shows Tar Balls, Oil Slicks near Kern County Irrigation Site," Food and Water Watch, May 26, 2015, <https://www.foodandwaterwatch.org/news/exclusive-water-defense-video-shows-tar-balls-oil-slicks-near-kern-county-irrigation-site>.

60. Dana C. Silano, "SBA Recognizes Local Business Owner for Flood Recover Efforts," *Times Telegram*, April 29, 2008. See also Smith's Opflex Solutions bio, available from www.cctechcouncil.org/wp-content/uploads/2012/09/PDF-Scott-Smith-Bio.pdf. Opflex eventually became embroiled in a dispute over rent and, ironically, environmental cleanup at its former New York headquarters, eventually relocating

to Indianapolis: Jeff Swiatek, "Rent Dispute in N.Y., Tax Abatement in Indy for Foam Maker," *Indystar*, April 30, 2015.

61. "Collect Plastics LLC Signs 5-Year \$30 Million Contract for Global Supply of Opflex™ The Green Stuff™ with ClearWater Environmental Technologies Inc.," *Business Wire*, July 30, 2010, <https://www.businesswire.com/news/home/20100730006059/en/Collect-Plastics-LLC-Signs-5-Year-30-Million>.

62. From Smith's LinkedIn profile, accessed June 2017, www.linkedin.com/in/scott-smith-1b100776/.

63. See the nod to Smith's work in *USA Today*: Julie Schmidt, "After BP Oil Spill, Thousands of Ideas Poured in for Cleanup," November 15, 2010.

64. Valerie Mohler, "Meet the Man Mark Ruffalo Hand-Picked to Fight for Clean Water: Q&A with Water Defense Chief Scientist Scott Smith," *DiscountFilterStore.com*, March 12, 2014, <http://blog.discountfilterstore.com/blog/mark-ruffalo-hand-picked-scott-smith-clean-water-fight/>.

65. See "Mark Ruffalo, Back Again on Reddit. Let's Talk Water Defense with Scott Smith," *Reddit*, May 6, 2015, https://www.reddit.com/r/IAMA/comments/351yxe/mark_ruffalo_back_again_on_reddit_lets_talk_water/.

66. Rakestraw, "Exclusive."

67. "Mark Ruffalo, Back Again on Reddit."

68. Rebecca Ford, "Mark Ruffalo on the Hulk's Future, the Dangers of Fracking and 'Smear Campaigns' against Actor Activists," *The Hollywood Reporter*, October 30, 2014. The second quote is from a video subsequently removed. See also Cliff Weathers, "Mark Ruffalo and Scott Smith Boldly Fight for Clean Water," *Alternet*, June 13, 2014, <https://www.alternet.org/environment/mark-ruffalo-and-scott-smith-why-direct-action-critical-keeping-our-water-safe>. During an April 2016 community meeting in Flint, Smith stoked residents' sense of empowerment by saying, "Everyone should be proud—this is about the community leading it, and just maybe, maybe, all these other experts, and the EPA and your own agencies are gonna learn from *you*." Author's field notes, Scott Smith presentation, St. Michael's Church, Flint, MI, April 9, 2016.

69. Weathers, "Mark Ruffalo and Scott Smith."

70. In a 2015 year-end recap of Water Defense's work, Ruffalo wrote that the WaterBug would "empower individuals and groups to address their own local water concerns" and help "create the most comprehensive independent source of water quality data available to the public." Ruffalo, "Our Work in 2015."

71. "Our Work," Flint Water Defense Info, available from <https://flintwaterdefense.info.wordpress.com/information/our-work/>.

72. Joe Guillen, "State Removes Criticized Flint Water Poster," *Detroit Free Press*, January 9, 2016.

73. In January 2016, the union purchased and distributed \$20,000 worth of bottled water. Later, they mobilized plumbers from all over the area to install filters and new faucets free of charge.

74. The partnership with the plumbers also became a way for Smith to illustrate the value of putting water sampling technology and know-how into the hands of nonexperts. As the plumbers shadowed Smith, they were struck by the simplicity of his sampling procedures. As Harold Harrington put it to me, "If I'da known back then what I know now I'da been out testing the water, cause I'd seen the brown water coming out of my house. But I listened to officials that were supposed to know better. That's why I think you should have the knowledge. ... You should be able to go test your own water. I mean, it's not rocket science ... but nobody knows how to do it." The impulse to make sampling more widespread led to an idea: plumbers spent every day working on water infrastructure—why not enable them to assess the quality of the water running through it? In April, Water Defense and the UA entered into a national agreement whereby Smith would train UA plumbers in water sampling so that they could offer it as a service to their customers. Harold Harrington, interview with author, Flint, MI, October 27, 2016.

75. "Nonprofit: Concerning Levels of Chemicals Found in Water," WNEM, February 18, 2016.

76. Stephanie Parkinson, "Actor Mark Ruffalo Calls on Obama to Declare National Disaster in Flint Water Crisis," NBC25News, March 7, 2016, <https://nbc25news.com/news/local/actor-mark-ruffalo-calls-on-obama-to-declare-national-disaster-in-flint-water-crisis>. Later, Flint Rising partnered with Ruffalo and Green for All on a petition calling for Governor Snyder to comply with their demands. Roberto Acosta, "Mark Ruffalo, Van Jones Petition in Flint Water Crisis to Fix Service Lines," *MLive*, March 28, 2016, https://www.mlive.com/news/flint/index.ssf/2016/03/mark_ruffalo_van_jones_start_p.html.

77. Kristin Aguirre, "Actor Mark Ruffalo Reveals New Findings in Contaminated Flint Water," NBC25News, March 9, 2016, <https://nbc25news.com/news/nbc25-today/actor-mark-ruffalo-reveals-new-findings-in-flint-water>. Smith later claimed vindication when Edwards admitted that orthophosphates were not working well on galvanized pipes. Once again, from the activists' perspective, their independent "expert" was out in front of the academicians. See Ilse Hayes, "More Troubles for Flint Residents: Interior Galvanized Pipes Also Need Replacement," NBC25News, February 6, 2017, <https://nbc25news.com/news/nbc25-today/more-troubles-for-flint-resid-more-troents-interior-galvanized-pipes-also-need-replacement>.

78. Josh Sidorowicz, "Flint Families Pleading to Speak with Gov. Snyder while in D.C.," Fox17, March 16, 2016, <https://fox17online.com/2016/03/16/flint-families-pleading-to-speak-with-gov-snyder-while-in-d-c/>.

79. Author's field notes, Scott Smith presentation, St. Michael's Church, Flint, MI, April 9, 2016.

80. For example, "Smith warned residents that it is not safe to bathe in the water because it had not been tested for the full spectrum of chemicals." Amanda Emery, "Water Defense Investigator Talks Bathing during Flint Water Crisis," *MLive*, April 9, 2016, https://www.mlive.com/news/flint/index.ssf/2016/04/water_defense_investigator_tal.html.

81. Marc Edwards, interview with author, Ann Arbor, MI, October 26, 2016.

82. LeeAnne Walters, interview with author, Flint, MI, October 11, 2016.

83. Marc Edwards, "A-List Actor but F-List Scientist: Mark Ruffalo Brings Fear and Misinformation to Flint," May 16, 2016, <http://flintwaterstudy.org/2016/05/a-list-actor-but-f-list-scientist-mark-ruffalo-brings-fear-and-misinformation-to-flint/>.

84. As CDC medical epidemiologist Jevon McFadden put it, "The epidemiological evidence from the shigellosis outbreak investigation does not support the hypothesis that it was caused by altered hygienic practices such as changes in bathing or hand washing." Email correspondence with Yanna Lambrinidou, April 18, 2017.

85. Marc Edwards, "In Flint Water Disaster Response, Ruffalo is a Bad Actor," May 23, 2016, <http://flintwaterstudy.org/2016/05/in-flint-water-disaster-response-ruffalo-is-a-bad-actor/>.

86. "Aquaflex Update: Water Expert Scott Smith Launches Aquaflex™, Brings Clarity to Water Crisis," *Business Wire*, May 13, 2016, <https://www.businesswire.com/news/home/20160513005406/en/Aquaflex-Update-Water-Expert-Scott-Smith-Launches>.

87. Delaney, "Mark Ruffalo's Water Nonprofit."

88. Edwards, "A-List Actor but F-List Scientist." Note the qualification: *regulated* safety. Part of Smith's appeal to the activists was precisely that he was testing in *unregulated* parts of the home—showers, bathtubs, hot water heaters—for which EPA standards did not exist. His credibility did not stand or fall with them, then, based on how his numbers compared to existing regulations.

89. Rebecca Williams, "Water Experts Say Non-Profit Group's Flint Water Test Lacks Credibility," Michigan Radio, June 7, 2016.

90. Edwards, "A-List Actor but F-List Scientist."

91. Edwards, "A-List Actor but F-List Scientist."

92. See also Allen et al., "Showering in Flint, MI."

93. Marc Edwards and Siddhartha Roy, "Citizen Science in Flint: Triumph, Tragedy and Now Misconduct?," September 26, 2017, <http://flintwaterstudy.org/2017/09/citizen-science-in-flint-triumph-tragedy-and-now-misconduct/>. Firm distinctions

between science and pseudo-science have famously eluded generations of philosophers of science. For discussion, see Gordin, *The Pseudoscience Wars*. It is useful in this context, perhaps, to think of efforts to make such distinctions as “boundary-work” aimed at the construction of scientific authority. See Gieryn, “Boundary-Work and the Demarcation of Science.”

94. See, in this connection, Edwards’s pillorying of The Young Turks’s Jordan Chariton for the latter’s Smith-inspired attempt at water sampling. Marc Edwards, “EXCLUSIVE! Mark Ruffalo’s WATER DEFENSE Sampling Methods Revealed,” May 9, 2017, <http://flintwaterstudy.org/2017/05/exclusive-mark-ruffalos-water-defense-sampling-methods-revealed/>.

95. “Scientist,” Wikipedia entry, <https://en.wikipedia.org/wiki/Scientist>.

96. “Our Work,” Flint Water Defense Info.

97. Edwards told me to provide him with the evidence of Bowcock’s statements about bathing and showering and he would “call [him] out.” I decided that helping Edwards open up a new front in his campaign against so-called bad actors was not in the best interests of the community, and I never followed up with the relevant information. Author’s email correspondence with Marc Edwards, October 26, 2016.

98. Numerous residents worked on the project as water samplers, community navigators, and community health resource specialists. Although the study did not originate in the community, it also had a “citizen science” component in the sense that the team trained lay residents (including me) to assemble sampling kits and collect samples. All participating residents received IRB training and were considered “key personnel” (i.e., integral to the success of the research).

99. Harrington, interview, October 27, 2016.

100. That conclusion was based on Sullivan’s tangible distaste for Smith (she initially thanked Edwards for calling him out) in addition to circumstantial evidence, like Edwards CCing us on an email prior to a Flint Water Study press conference (an email that ended up in Mays’s hands).

101. Jiquanda Johnson, “Flint Leaders Upset after State Asks City Official to Leave Water Meeting,” *MLive*, March 3, 2017, https://www.mlive.com/news/flint/index.ssf/2017/03/state_asks_flint_official_to_1.html.

102. See “Global Priority List of Antibiotic-Resistant Bacteria to Guide Research, Discovery, and Development of New Antibiotics,” www.who.int/medicines/publications/WHO-PPL-Short_Summary_25Feb-ET_NM_WHO.pdf.

103. Eden Wells, chief medical executive at MDHHS, told the team that sampling the filters was a “red line” it could not cross. Ron Fonger, “Witness Says State Fought Testing Flint Faucet Filters for Legionella,” *MLive*, November 15, 2017, https://www.mlive.com/news/flint/index.ssf/2017/11/prof_says_state_officials_obje.

html. McElmurry later testified that MDHHS Director Nick Lyon objected to filter sampling because he “did not want to find more legionella” in Flint. Ron Fonger, “Witness Says MDHHS Director Didn’t ‘Want to Find More Legionella’ in Flint,” November 17, 2017, https://www.mlive.com/news/flint/index.ssf/2017/11/prof_felt_mdhhs_director_didnt.html. For a useful discussion of the concept of “black boxes,” see Latour, *Science in Action*. See also the notion of “undone science” in Hess, *Undone Science*.

104. For background on the microbial colonization of filters, drawing from Ann Arbor data, see Wu et al., “The Microbial Colonization of Activated Carbon.” See also Nriagu et al., “Influence of Household Water Filters.”

105. For he and the team’s final take on the number of cases that year (sixteen), see Rhoads et al., “Distribution System Operational Deficiencies,” 11986.

106. Edwards, Flint Water Study team press conference, August 11, 2016.

107. In published papers, Edwards began to date the crisis as 2014–2016. For an example, see Parks et al., “Potential Challenges.”

108. Oona Goodin-Smith, “Water Filters Could Increase Bacteria in Flint Water, Researchers Say,” *MLive*, December 14, 2016, https://www.mlive.com/news/flint/index.ssf/2016/12/state-provided_water_filters_i.html.

109. When FACHEP released its recommendations for best practices with the filters, it did not tell residents not to use the filters, but rather to flush them for fifteen seconds before use to clear out the highest concentrations of bacteria. On flintwaterstudy.org, Edwards endorsed the recommendation but referred to it condescendingly as a “reminder,” pointing out that filter manufacturers already advised flushing. Flint residents, however, had never been officially instructed to flush the filters previously. “Supporting Wayne State University and University of Michigan’s Flushing Reminder,” May 12, 2017, <http://flintwaterstudy.org/2017/05/supporting-wayne-state-university-and-university-of-michigans-flushing-reminder/>.

110. Nancy Love, interview with author, Ann Arbor, MI, July 26, 2017.

111. Skepticism around the filters cropped up almost immediately: Carrie Laine, “Brita Spokesperson Disputes Concerns over Water Filters,” *WNEM*, October 7, 2015.” One major concern was that the levels of lead being detected in some homes were higher than 150 ppb, the highest level for which the filters were certified: Matthew Dolan, “EPA: High Lead Levels in Flint Exceed Filters’ Rating,” *Detroit Free Press*, January 29, 2016. Although EPA testing determined that the filters were able to handle even very high lead levels, residents still mistrusted them—according to a phone poll taken five months into the filter distribution, some 70 percent of residents: Paul Egan, “Poll: Flint Residents Don’t Trust Water Filters,” *Detroit Free Press*, June 2, 2016. See also Sarah Hulett, “In Flint, Trust in Filters—and Government—Elusive,” *Michigan Radio*, June 30, 2016.

112. World Health Organization, “Heterotrophic plate count measurement in drinking water safety management,” *WHO Public Health Expert Report* (April 2002), 4, http://www.who.int/water_sanitation_health/dwq/WSH02.10.pdf.

113. The unfamiliarity of filters factored into another problem: their improper use. As emphasized by Michael Hood of the humanitarian group Crossing Water: “‘Anywhere from 50 to 70 percent of folks that we’re seeing have filters that are not working,’ Hood says, adding that it’s irresponsible to tell people it’s safe to drink filtered water when so many people aren’t using filters correctly. ‘They are broken. They are not installed properly. Don’t have faucets that accommodate them. Or they (Flint residents) can’t read the instructions because there’s a very high illiteracy rate in the city of Flint.’” Hulett, “In Flint.”

114. For coverage of some of the issues with the filters—technical and otherwise—see Brian Barrett, “The Flint Water Crisis Is Bigger than Elon Musk,” *WIRED*, July 12, 2018; and Auditi Gupta, “State Water Filters Prove Lacking in Flint, a City ‘Full of Forgotten People,’” *Rewire News*, August 16, 2018.

115. Genesee County Health Department, “Reminder Regarding Flint Water Emergency Declaration and Recommendations,” press release, May 16, 2018, https://gchd.us/wp-content/uploads/2018/05/GCHD-FLINT-WATER-ER-DECLARATION-RECOMMENDATIONS_5.16.18.pdf.

116. Email correspondence between Marc Edwards and Shawn McElmurry, May 27, 2017.

117. The implication that FACHEP was withholding information from residents was, said Nancy Love, “100 percent untrue.” Love, interview, July 26, 2017. At least some of the frustration the resident felt with the team was understandable, however. It was taking far longer than expected to analyze definitively (or as definitively as possible) some of the bacterial samples—a product of limited funds, limited manpower, and technical challenges in the lab. The delay was a gift to Edwards and Walters, who could use it to argue that the team either did not know what it was doing or was not being forthcoming about the results it had in its possession. This issue aside, only one of the eleven items in the FOIA had anything to do with the resident’s sampling results—the others being designed, seemingly, to dig up dirt on the team, particularly on Laura Sullivan (an increasingly outspoken critic of Edwards). When Wayne State was slow to comply with the request, Edwards teamed up with the right-wing think tank Mackinac Center to sue the university. It was another scandal within the activist community—while Edwards was “hollerin’ about ethics,” Claire McClinton said, he himself made the “unethical” decision to work with the “architects of the emergency manager [law] that created the Flint water crisis.” McClinton, interview, September 6, 2018.

118. Walters also proposed to do a GoFundMe to raise \$10,000 in support of the FOIA for the nonexistent documents the resident was demanding (a proposal Edwards

distanced himself from as soon as she mentioned it). After I stressed to Walters at length that I thought the GoFundMe would be unethical, she backed off the idea.

119. Marc Edwards, keynote address at Microbiology of the Built Environment Conference, Washington, DC, October 24, 2017.

120. Byrne et al., “Prevalence of Infection-Competent Serogroup 6 *Legionella pneumophila*,” and Zahran et al., “Assessment of the Legionnaires’ Disease Outbreak.”

121. MDHHS Response to Flint Area Community Health and Environment Partnership, Proceedings of the National Academy of Sciences Article, February 5, 2018, www.michigan.gov/documents/mdhhs/MDHHS_Response_to_FACHEP_Proceedings_of_the_National_Academy_of_Sciences_Article_FINAL_613088_7.pdf; MDHHS Response to Flint Area Community Health and Environment Partnership, American Society for Microbiology mBio Article, February 5, 2018, https://www.michigan.gov/documents/mdhhs/MDHHS_Response_to_FACHEP_American_Society_for_Microbiology_mBio_Article_rev_21318_613639_7.pdf; KWR Watercycle Research Institute, “Assessment of the Study on Enhanced Disease Surveillance and Environmental Monitoring in Flint, Michigan,” October 2017, https://www.michigan.gov/documents/mdhhs/171108_KWR_2017.081_final_report_scoping_mission_DEF_613090_7.PDF.

122. FACHEP broke things off with the state entirely in December 2017, turning down \$900,000 in grant money.

123. When Judge David Goggins decided to bind Lyon over for trial in August, despite Edwards’s sympathetic testimony, activists were overjoyed. I was there in the packed courtroom when Goggins delivered his decision, prompting tears and exclamations of “*Thank you!*” from the activists in attendance. Disgusted that Edwards was on the other side during this critical moment in activists’ fight for accountability, Claire McClinton called it the clearest indication yet that he had “join[ed] the enemy.” McClinton, interview, September 6, 2018.

124. Ann Pierret, “Virginia Tech Researcher Praises Michigan Department of Health and Human Services,” ABC12, March 26, 2018, <https://www.abc12.com/content/news/Virginia-Tech-researcher-sings-praises-of-Nick-Lyon-during-testimony-477978693.html>; Ron Fonger, “Researcher Says Wells Tried to Find the Truth in Flint Water Crisis,” *MLive*, March 27, 2018, https://www.mlive.com/news/flint/index.ssf/2018/03/edwards_files_complaint.html.

125. *The People of the State of Michigan vs. Nicolas Leonard Lyon*, 2018; statement of Edwards, *The People of the State of Michigan vs. Eden Victoria Wells*, 2018; statement of Edwards.

126. Marc Edwards and Siddhartha Roy, “Considering the Unimaginable: Did McElmurry Completely Fabricate His Story of Work ‘IN FLINT’ from 2010–2014?,” March 31, 2018, <http://flintwaterstudy.org/2018/03/considering-the-unimaginable-did-mcelmurry-completely-fabricate-his-story-of-work-in-flint-from-2010-2014/>.

127. Edwards and Roy, “Considering the Unimaginable.”
128. Marc Edwards, comment on “Wayne State University Response to Questions,” April 4, 2018, <http://flintwaterstudy.org/2018/04/wayne-state-university-response-to-questions/>.
129. Edwards, interview on *The Tom Sumner Show*, July 27, 2018.
130. McClinton, interview, September 6, 2018.
131. Gina Luster, interview with author, Flint, MI, November 1, 2017.
132. The letter is available from flintcomplaints.com.
133. Marc Edwards, “Citizen Engineering Comes to Flint—Disrupting Communities by Undermining Engineering Expertise,” June 2, 2018, <http://flintwaterstudy.org/2018/06/citizen-engineering-comes-to-flint-disrupting-communities-by-undermining-engineering-expertise/>. The two main examples Edwards singled out as constituting deliberate defamation are instructive. He said it was defamatory to claim that “Mr. Edwards has repeatedly spoken and written about how there are no bacteria or dangerous pathogens in Flint residents’ water.” When seen from residents’ perspective, however, the claim was entirely understandable. Residents were repeatedly told, beginning in 2015, that the Flint Water Study team was finding “no” *legionella pneumophila* in Flint’s water: see Emily Garner, “Results from Field Sampling in Flint (Aug 17–19 2015): Opportunistic Pathogens,” August 29, 2015, <http://flintwaterstudy.org/2015/08/results-from-field-sampling-in-flint-aug-17-19-2015-opportunistic-pathogens/>; Fournier, “Edwards’ Team Shows Dramatic Drop” (“In November [2016], we were not able to detect any culturable Legionella inside the house at all”); Ann Pierret, “Latest Virginia Tech Flint Water Tests Show Safe Lead Levels, No Legionella Bacteria,” ABC12, September 15, 2017, <https://www.abc12.com/content/news/Virginia-Tech-expert-declares-qualified-end-to-water-crisis-in-Flint-444683013.html>. Edwards and his team were of course entitled—and indeed, obligated—to report their results to the community, whatever they were. The point is that the message residents heard from him was that there was “no” *legionella pneumophila* in the water, whereas the message they heard from others, namely FACHEP, was that there was at least some. Edwards, during his testimony on behalf of MDHHS director Nick Lyon, wondered from the stand why FACHEP was “sampling so extensively where the legionella were not [present],” but the bacteria were present in homes—in 12 percent of the homes the team sampled in 2016, for example. Edwards also scoffed at the idea that there might be harmful bacteria in the filters, saying there was “no evidence” that the filters were “dangerous” (*The People of the State of Michigan vs. Nicolas Leonard Lyon*, 2017; statement of Edwards), despite the risks the Genesee County Medical Society said the bacteria posed to vulnerable populations.

The other claim that particularly rankled Edwards was that he had portrayed residents as being “dumb” and “dirty” for supposedly making themselves sick by

changing their bathing and showering habits. (He told me in October 2016 that he was “very angry” about the accusation and had never said anything that could be construed that way. Edwards, interview, October 26, 2016.) The claim was not, of course, meant to be an exact quote, but rather an interpretation of the upshot of Edwards’s own claim about the implications of residents’ changing personal hygiene practices—a claim for which activists (and the CDC) felt there was insufficient evidence and which they thought was insulting.

While I felt the phrasing of the letter could have been improved in places, I also felt that its claims represented authentic, evidence-based perceptions and interpretations of Edwards’s words and actions, rendered in the rhetorical style typical of activist culture in Flint. I did not see the letter, therefore, as dishonest or as a deliberate attempt to defame (the signatories had, in fact, risked defamation themselves by stepping into Edwards’s line of fire). The letter was also a potentially powerful vehicle for publicizing concerns that activists (and other residents) had been raising for years but that had received little to no attention from the outside world. For these reasons, I signed it after it was posted online. Edwards’s objections to the letter, incidentally, were posted to the same website for anyone to see.

134. Worth-Nelson, “Activists’ Letter Aims Grievances.” I knew by then from over two years of ethnographic work that the list of signatories only scratched the surface of the discontent residents felt toward Edwards. I knew numerous people who chose not to sign the letter simply because of its tone, or, alternately, because of their personal distaste for Melissa Mays, whose participation Edwards successfully foregrounded in his efforts to discredit the letter.

135. The letter is available from flintaccountability.org.

136. Nidhi Subbaraman, “A Scientist Is Suing Flint Activists for Defamation. They Say His Ego Is out of Control,” *Buzzfeed News*, July 26, 2018, <https://www.buzzfeednews.com/article/nidhisubbaraman/marc-edwards-flint-lawsuit>.

137. Robby Korth, “Virginia Tech’s Flint Research Professor Accuses Ex-colleagues of Defamation,” *Roanoke Times*, July 26, 2018.

138. See Marc Edwards and Siddhartha Roy, “Is This Flint Photo from 2015?,” June 29, 2018, <http://flintwaterstudy.org/2018/06/is-this-flint-photo-from-2015/>; and Marc Edwards and Siddhartha Roy, “Highlights of a Typical Week of ‘Citizen Engineering’ in Flint,” July 5, 2018, <http://flintwaterstudy.org/2018/07/highlights-of-a-typical-week-of-citizen-engineering-in-flint/>.

139. Bill Moran (@BillMoranWins), “Day 65 Cont.: Virginia Tech’s Marc Edwards, who is suing a Flint Mom for \$3 million, has his students create fake Facebook pages to monitor Flint activists,” Twitter, September 5, 2018, 10:57 a.m., <https://twitter.com/billmoranwins/status/1037399379102113795?lang=en>.

140. Flint Water Study (@flintwaterstudy), “Mr. Smith @WaterWarriorOne’s example is something we should all applaud and emulate. It is so refreshing, in this post-truth

world, to see someone admit mistakes and take responsibility," Twitter, July 13, 2018, 12:16 p.m., <https://twitter.com/flintwaterstudy/status/1017850284213702656>.

141. Introduction to Scott C. Smith, "Lessons I Learned in Flint and Clarifying the Facts," July 11, 2018, <http://flintwaterstudy.org/2018/07/scott-smith-flint-guest-post/>.

142. Prior to the grant collaboration, Cooper nominated Edwards for the American Association for the Advancement of Science's "Freedom and Responsibility" award, which he won in February 2018.

143. Caren Cooper (@CoopSciScoop), "Bravo! for a courageous step & cheers to uniting for #CitizenScience!," Twitter, July 12, 2018, 6:25 a.m., <https://twitter.com/CoopSciScoop/status/1017399599689097216>.

144. According to an attorney retained briefly by Smith, the latter had explored the possibility of suing Edwards for defamation just a few days earlier. See Bill Moran, "The Tale of Honest Iago: Marc Edwards' New Pet 'Unethical Opportunist' Scott Smith," Medium, July 27, 2018, <https://medium.com/@BillMoranWrites/the-tale-of-honest-iago-marc-edwards-new-pet-unethical-opportunist-scott-smith-c04f7bbac76e>.

145. Scott Smith, "Draft Lessons I Learned in Flint ME edits 06-18-18" (unpublished manuscript, June 18, 2018), Word file. Smith originally wrote, "In no way did I ever claim to have a PhD or be trained as [a] PhD or other officially trained scientist." Edwards changed it to, "In retrospect, I should not have approved and used a title implying that I was a trained scientist." Scott Smith, "Draft Lessons I Learned in Flint and Clarifying the Facts 06-24-18 ME scs redlines 06-26-18," (unpublished manuscript, June 26, 2018), Word file.

146. Scott Smith, "Draft Lessons I Learned in Flint and Clarifying the Facts 06-24-18 ME scs redlines 06-26-18."

147. Scott Smith, "Forgot to Tell You that You and I Are Tied Together with Devos Family and Mott Family Foundation," email to Marc Edwards, July 16, 2018, forwarded to Susan Masten, Amy Pruden, Siddhartha Roy, and Kasey Faust.

148. Shariff, interview with author, September 15, 2018. How the Virginia Tech team's intervention in Flint came to be described as a "gold standard" despite its lack of these protections is a curious aspect of the STEM community's eager embrace of Edwards.

149. Shariff, interview, September 15, 2018.

150. McClinton, interview, September 6, 2018.

151. McClinton, interview, September 6, 2018.

152. "The Virginia Tech Research Team," n.d., <http://flintwaterstudy.org/about-page/about-us/>. Emphasis in original.

153. Edwards, “Citizen Engineering Comes to Flint.” Much of this analysis hinged on the supposed influence of Donna Riley, dean of engineering education at Purdue University, who happened to be a friend of Yanna Lambrinidou. See Marc Edwards et al., “Bizarre Attack on FlintWaterStudy, Rigor, and Purdue Slide Rules: An Epic Failure to Measure Up,” January 16, 2018, <http://flintwaterstudy.org/2018/01/bizarre-attack-on-flintwaterstudy-rigor-and-purdue-slide-rules-an-epic-failure-to-measure-up/>. To my knowledge, Riley had no personal involvement in Flint whatsoever, and her only comment on the record explicitly about Edwards or Virginia Tech was the rather sympathetic one she gave to the *Chronicle of Higher Education* in Kolowich, “The Accidental Ethicist.”

154. Quincy Murphy, interview with author, Flint, MI, May 27, 2018.

155. The idea that it was in the interest of the community to have multiple voices speaking to the science of the water reflected the sense that “controversies enrich democracy”; as Callon, Lascoumes, and Barthe write, controversies generate a fuller inventory of actors, problems, and solutions, promote learning as laypeople and experts learn from each other, break down simple oppositions, and make new compromises and alliances possible. *Acting in an Uncertain World*, 28. When health symptoms are imperfectly explained by scientific understanding, efforts to shut down scientific controversy can, in Steven Epstein’s words, seem like the “stifling of democratic openness of opinion and the authoritarian imposition of closure.” This is why empowering communities through science necessitates that community members have a say about “how scientific controversies end.” *Impure Science*, 29. See also Irwin’s distinction between “Enlightenment” and “critical” science in *Citizen Science*.

156. It should be said, however, that FACHEP’s attempt to cultivate a low profile was also part of a concerted effort to avoid attracting too much credit or attention for its work—a reaction against the Flint Water Study team’s heavy self-promotion. When FACHEP’s legionella papers were published, for example, several members of the team battled the media people at their respective universities to tone down the standard celebratory press blast touting the contributions of university faculty, maintaining that the focus should be on Flint.

157. “If you wanted to say, like, what would a fair sort of solution look like it’d be something like Flint,” he told me. Edwards, interview, October 26, 2016. In all my interviews and ethnographic interactions, I did not encounter a resident of Flint who agreed with this view.

158. Edwards, interview, October 26, 2016.

8 From Poisoned People to People Power

1. Rick Snyder, testimony to House Oversight and Government Reform Committee, March 17, 2016, <https://www.flintwatercommittee.com/wp-content/uploads/2016/05/FLINT-HEARING-OF-MARCH-17-FINAL-with-cover-sheet.pdf>. Snyder continued

to tout what he considered the successes of the EM law in other Michigan cities, but did not seem eager to apply it in the wake of the crisis. Some of the people I talked to believed the water crisis had rendered Flint, especially, immune from future state takeovers: “I don’t think we’re ever going to be under an emergency ever again,” Paul Jordan told me. Jordan, interview with author, Flint, MI, December 21, 2016.

2. None of these state bodies recommended abolishing the EM law, however. Suggestions included replacing lone EMs with three-person financial management teams including a local ombudsman, opening EMs up to civil liability, instituting an appeals process whereby a majority of local elected representatives could appeal a decision directly to the governor, creating a website for public comment on proposed EM actions, requiring EMs to consult with subject matter experts before making decisions, and forbidding EMs from changing drinking water sources without the approval of experts and a majority of electors in a locality. Proposals for reform failed to gain traction in either state legislative body, despite polling data showing bipartisan support for them. See Ivacko and Horner, “Local Leaders More Likely to Support than Oppose,” and Jonathan Oosting, “Reforms Languish in Wake of Flint Water Crisis,” *Detroit Free Press*, April 21, 2017.

3. Weaver came into office saying she did “not embrace the current governance model on a moral or political basis.” Steve Carmody, “Flint’s New Mayor Wants Total Local Control Restored,” Michigan Radio, November 9, 2015, <http://www.michiganradio.org/post/flints-new-mayor-wants-total-local-control-restored>.

4. Gary Ridley, “Power Not Restored to Flint Mayor Despite Calls from Gov. Rick Snyder,” *MLive*, January 13, 2016, https://www.mlive.com/news/flint/index.ssf/2016/01/no_powers_restored_to_flint_ma.html.

5. In May, Snyder came out in favor of restoring the council’s powers. Gary Ridley, “Snyder Supports Return of Flint City Council Powers,” *MLive*, May 12, 2016, https://www.mlive.com/news/flint/index.ssf/2016/05/snyder_supports_return_of_flin.html. Shortly thereafter, RTAB did so, reluctantly. Jiquanda Johnson, “State Oversight Board Restores Power to Flint City Council despite concerns,” *MLive*, May 26, 2016, https://www.mlive.com/news/flint/index.ssf/2016/05/flint_city_council_powers_rest.html. RTAB denied that criticism of the EM system because of the water crisis put added pressure on the board to restore local control, but each move in this direction was signaled by Snyder, who was clearly under pressure to end the state takeover as a gesture of good will. Josh Hakala, “The Next Steps in Flint’s Transition Back to Local Control,” Michigan Radio, February 1, 2016.

6. For my critique of the latter decision, see Pauli, “Gov. Snyder’s Flint Oversight.”

7. On the concept of political opportunity structures and their relation to activism, see Meyer and Minkoff, “Conceptualizing Political Opportunity,” and Meyer, “Protest and Political Opportunities.” For connections between this concept—as well as social movement theory more generally—and environmental justice activism, see

Taylor, "The Rise of the Environmental Justice Paradigm"; Pellow, *Resisting Global Toxics*; and Scotte and Brulle, "Social Movements for Environmental Justice."

8. See the "Water Is a Human Right" bill package introduced, in its second incarnation, as Michigan Senate Bill 466.

9. See the Water Affordability, Transparency, Equity, and Reliability (WATER) Act introduced by US Representatives Keith Ellison and Ro Khanna as H.R. 5609.

10. Nayyirah Shariff, interview with author, Flint, MI, July 6, 2017.

11. Author's field notes, Flint Rising meeting, Flint, MI, n.d.

12. Blee, *Democracy in the Making*. Blee writes that democracy in a social movement context "is a verb, not an adjective. It is the action of people as they deliberate and work together to affect society rather than a form of governance. Activism-as-democracy is not institutional or structural. It is a process, ever being made" (4). Later, she writes, "Activist groups don't just support democratic institutions; when they are open to a full array of new possibilities, grassroots groups make democracy anew" (138).

13. I wish to make clear that in focusing on those I describe as "activists," I do not mean to shortchange the many other people and institutions from the grassroots who contributed to the crisis response: the churches that turned themselves into distribution sites, the people who went door to door to check on their neighbors and deliver bottled water, the groups that organized recreational events for children so the latter could take their minds off the crisis. There was ample evidence in Flint that crisis gives rise to new forms of community. See Solnit, *A Paradise Built in Hell*. For more on the importance of community in weathering disaster, see Klinenberg, *Heat Wave*.

14. I am ashamed to say I did not try to count, so I have taken the estimate from Paul Egan, "Flint Water Protestors: Snyder Should Resign, Face Charges," *Detroit Free Press*, January 8, 2016.

15. The two main outcomes activists believed would result from a disaster declaration were faster pipe replacements, courtesy of the Army Corps of Engineers, and the provision of "water buffalos," portable tanks of clean water residents could tap into in preference to bottled water.

16. Claire McClinton, personal interview with author, Flint, MI, June 7, 2017.

17. For more on Baird, see Bomey, *Detroit Resurrected*.

18. As Laura Sullivan put it, "Soon after the mayor named a state of emergency, the governor proposed to come into town with his team to assess the situation from their own angle and make recommendations on their own, and kind of take over rather than empower Flint." Bendix, "How Flint Citizens Are Working Together."

19. Author's field notes, Two Years Too Long Coalition meeting, Woodside Church, Flint, MI, September 11, 2016.

20. One of the inspirations for the activists' use of this term was INCITE! Women of Color Against Violence, *The Revolution Will Not Be Funded*.

21. On different occasions, activists considered disrupting the Community Partners meetings to make a point. They actually planned a protest for mid-May but called it off after the plans were inadvertently leaked. My tangential involvement in this incident (I was CCed on the offending email) set me back somewhat in building credibility within the activist community, creating the unfortunate impression for a while that I could not be trusted with sensitive information. Activists claimed at least a partial victory when the meetings were subsequently relocated to a more accessible location (the Dome at City Hall).

22. It is worth pointing out that many of the "groups" in Flint were primarily individual projects, without any real membership, or regular meetings, or formal incorporation. For this reason, I have benefitted from Blee's analysis, in *Democracy in the Making*, of "tiny and incipient" groups (6). When groups are this small and depend so heavily on single individuals, unpredictable interpersonal dynamics become more important to coalition building than the more predictable intergroup dynamics pinpointed by social movement scholars (see Van Dyke and McCammon, *Strategic Alliances*).

23. The full list is as follows:

1. The Flint water catastrophe should be declared a major disaster area and not simply an emergency.
2. The pipes throughout the city of Flint must be changed.
3. The State of Michigan has not put in any serious resources currently to adequately address citizen needs in Flint.
4. An independent external auditor is needed to monitor the influx of government capital to ensure it reaches the citizens.
5. A maximum amount of funds should be kept in the City of Flint and the greater Flint area so that labor and contracts keep the money in Flint.

24. Niraj Warikoo, "Flint Immigrants Struggle to Get Help, Info on Water," *Detroit Free Press*, February 4, 2016.

25. Wheeler, "What Government Owes."

26. At an environmental justice summit in Flint, a representative from the EPA said the agency had decided to schedule its own canvassing around Flint Rising's, taking the weekdays rather than the weekends, because the coalition was doing such an efficient job.

27. Michigan Faith in Action began in 2007 as Flint Area Congregations Together, a group started by deputy director of PICO Gordon Whitman. For background on PICO, see Wood, *Faith in Action*. In May 2018, the PICO National Network changed its name to Faith in Action.

28. Richard Wood notes that statewide and national interlinkages allow activists to "project democratic power into higher-level arenas" (*Faith in Action*, 51), and that organizing federations can act as "bridging institutions" (143) linking civil society to political society to the state.

29. Robert Allen, "NAACP Threatens Civil Disobedience over Flint Pipes," *Detroit Free Press*, February 15, 2016.
30. Author's field notes, Flint Rising meeting, St. Michael's Church, Flint, MI, May 28, 2016.
31. See the organizer's handbook, adapted from the work of Ganz, *Organizing: People, Power, Change*, 25. For other accounts of community organizing as a distinctive method of creating social change, see Boyte, *The Backyard Revolution*; Smock, *Democracy in Action*; and Swarts, *Organizing Urban America*. Despite its focus on "broad-based" organizing rather than "community" organizing *per se*, useful reflections can also be found in Stout, *Blessed Are the Organized*.
32. Emerging scholarship has sought to understand the importance of community organizing in post-disaster situations. As Pyles writes ("Community Organizing"), "There are clearly differences between managing a disaster and organizing communities to advocate for policy and program changes related to community revitalization needs after a disaster. In addition, organizing after disasters must go beyond just including vulnerable members and focus activities on transforming the hegemonic structures and policies that perpetuate such injustice, if it is to address development problems and other inequities" (325).
33. PICO did send in a number of organizers in early 2016, however. Sharon Allen remembers that they "helped us organize our thoughts, because at that point we were pulling our hair out." Allen, interview with author, Flint, MI, December 2, 2016.
34. For more on Ganz, see *Why David Sometimes Wins*. For another perspective on stories and narrative in social movements, see Polletta, *It Was Like a Fever*.
35. Author's field notes, Flint Rising community meeting, St. Michael's Church, Flint, MI, February 27, 2016.
36. Nakiya Wakes, interview with author, Flint, MI, September 7, 2016.
37. Wakes, interview, September 7, 2016.
38. Another, Abel Delgado, questioned whether the focus on stories was appropriate at all: "I think a lot of the thing with the water crisis is just based upon story and I really don't like that. ... I mean, yeah, those stories do need to be told but just because we hear a story doesn't make them a leader, doesn't make them a revolutionary." Interview with author, Flint, MI, December 7, 2016. Several people involved in Flint Rising complained to me that their skills, experience, and political savvy were being treated as if they had less value than compelling personal stories.
39. Author's field notes, Flint Rising meeting, St. Michael's Church, May 28, 2016.
40. Laura Gillespie MacIntyre, interview with author, Flint, MI, August 29, 2016.
41. Shariff, interview, July 6, 2017.

42. Saul Alinsky makes a classic argument for the need to fight winnable battles in his *Rules for Radicals*.
43. Delgado, interview, December 7, 2016.
44. McClinton, interview, June 7, 2017.
45. See Han, *How Organizations Develop Activists*.
46. For more on organizing vs. activist logics, see Chambers, *Roots for Radicals*, ch. 5.
47. Dillon Davis, “Kellogg Foundation Gives \$7 Million for Flint Recovery,” *Detroit Free Press*, August 9, 2016. Kellogg channeled the money through the Tides Foundation and the c4 nonprofit infrastructure organization the Advocacy Fund (Flint Rising began to describe itself as a “project of the Advocacy Fund”). On general funding dilemmas faced by environmental justice movements, including the tradeoff between capacity-building and cooptation, see Faber and McCarthy, “Breaking the Funding Barriers.”
48. Shariff, interview, July 6, 2017.
49. See the work of the psychologist Marshall Rosenberg.
50. Shiva, *Water Wars*.
51. Sharp, *The Role of Power in Nonviolent Struggle*.
52. McKnight, “Services Are Bad for People.”
53. Stedile, “Landless Battalions.”
54. For the classic account of prefiguration in a social movement context, see Breines, *Community and Organization in the New Left, 1962–1968*.
55. Shariff, interview, July 6, 2017.
56. Shariff, interview, July 6, 2017.
57. Jessica Glenza, “Nestlé Pays \$200 a Year to Bottle Water Near Flint—Where Water Is Undrinkable,” *Guardian*, September 29, 2017.
58. Matthew Dolan, “Michigan Battles Order to Deliver Bottled Water to Flint Residents,” *Detroit Free Press*, November 17, 2016.
59. Detroit Free Press staff, “Here’s What Flint’s \$87M Water Settlement Means,” *Detroit Free Press*, March 28, 2017.
60. McClinton, interview, June 7, 2017.
61. Susan Whalen and Aaron Kottke, interview with author, Flint, MI, November 12, 2017.
62. The letter explicitly compared the lack of popular participation in the water source decision to the experience of emergency management, maintaining that

“residents of Flint have been shut out of communication surrounding the contract with GLWA” and lamenting that “since the time we were under emergency management and now under RTAB... we have had no say in our own future.” Letter to the Honorable David M. Lawson from Residents of Flint, represented by the Democracy Defense League, Water You Fighting For, Flint Water Class Action Group, Michigan United, Citizens Advocating United To Inform and Organize for New Direction (CAUTION), and others. November 16, 2017. p. 2. The letter was mailed as a physical letter. The text here is taken from a Facebook post by Claire McClinton on November 19, 2017.

63. Eric Mays, long an ally of the activists but also a loyal ally of the mayor, became a particular target after he said the people at the town hall meeting deserved to be arrested.

64. David Schwenk, “Promise in the Land of Despair: The Crisis is Not over in Flint, Michigan,” *Common Dreams*, June 9, 2017.

65. Author’s field notes, Flint Rising meeting, Mott Community College, Flint, MI, February 22, 2018.

66. Author’s field notes, Flint Rising meeting, February 22, 2018.

Conclusion

1. Flint helped to inspire the EPA’s *Lead and Copper Rule Revisions White Paper*.
2. Todd Spangler, “U.S. Supreme Court Rejects Challenge to Michigan’s Emergency Manager Law,” *Detroit Free Press*, October 2, 2017.
3. Marc Edwards, for example, repeatedly used the term “miracle” to describe the “critical mass of moral courage” reached in 2015, uniting the activists with allies like Miguel del Toral, Curt Guyette, Virginia Tech, and Mona Hanna-Attisha to break the news about systemic lead contamination. See his talk “Truth-Seeking in an Age of Tribalism: Lessons from the Flint Water Crisis,” Swarthmore College, Swarthmore, PA, February 20, 2018, <https://www.swarthmore.edu/news-events/listen-engineer-marc-edwards-truth-seeking-age-tribalism>.
4. Paul Jordan, interview with author, Flint, MI, December 21, 2016.