

United States Court of Appeals For the First Circuit

No. 26-2029

LEAGUE OF WOMEN VOTERS OF MASSACHUSETTS; LEAGUE OF WOMEN VOTERS
LOTTE E. SCHARFMAN MEMORIAL EDUCATION FUND; LEAGUE OF WOMEN
VOTERS OF THE UNITED STATES; LEAGUE OF WOMEN VOTERS EDUCATION
FUND; ASSOCIATION OF AMERICANS RESIDENT OVERSEAS; U.S. VOTE
FOUNDATION; OCA-ASIAN PACIFIC AMERICAN ADVOCATES; DELTA SIGMA
THETA SORORITY, INC.,

Plaintiffs, Appellees,

v.

DONALD J. TRUMP, in the official capacity as President of the United States; UNITED
STATES POSTAL SERVICE; UNITED STATES POSTAL SERVICE BOARD OF
GOVERNORS; DAVID STEINER, in the official capacity as Postmaster General; DOUGLAS
A. TULINO, in the official capacity as Deputy Postmaster General; AMBER F.

MCREYNOLDS, in the official capacity as Chairwoman of the Board of Governors of the
United States Postal Service; DEREK T. KAN, in the official capacity as the Vice Chairman of
the Board of Governors of the United States Postal Service; RONALD A. STROMAN, in the
official capacity as a member of the Board of Governors of the United States Postal Service;
DANIEL M. TANGHERLINI, in the official capacity as a member of the Board of Governors of
the United States Postal Service; DEPARTMENT OF HOMELAND SECURITY;

MARKWAYNE MULLIN, in the official capacity as the Secretary of the Department of
Homeland Security; SOCIAL SECURITY ADMINISTRATION; FRANK J. BISIGNANO, in
the official capacity as Commissioner of the Social Security Administration; U.S. CITIZENSHIP
AND IMMIGRATION SERVICES; JOSEPH B. EDLOW, in the official capacity as Director of
U.S. Citizenship and Immigration Services,

Defendants, Appellants,

STATE OF MISSOURI; STATE OF ALABAMA; STATE OF FLORIDA; STATE OF
INDIANA; STATE OF KANSAS; STATE OF LOUISIANA; STATE OF MONTANA; STATE
OF NEBRASKA; STATE OF OKLAHOMA; STATE OF SOUTH CAROLINA; STATE OF
SOUTH DAKOTA; STATE OF TEXAS,

Defendants.

No. 26-2030

LEAGUE OF WOMEN VOTERS OF MASSACHUSETTS; LEAGUE OF WOMEN VOTERS
LOTTE E. SCHARFMAN MEMORIAL EDUCATION FUND; LEAGUE OF WOMEN
VOTERS OF THE UNITED STATES; LEAGUE OF WOMEN VOTERS EDUCATION
FUND; ASSOCIATION OF AMERICANS RESIDENT OVERSEAS; U.S. VOTE
FOUNDATION; OCA-ASIAN PACIFIC AMERICAN ADVOCATES; DELTA SIGMA
THETA SORORITY, INC.,

Plaintiffs, Appellees,

v.

STATE OF MISSOURI; STATE OF ALABAMA; STATE OF FLORIDA; STATE OF
INDIANA; STATE OF KANSAS; STATE OF LOUISIANA; STATE OF MONTANA; STATE
OF NEBRASKA; STATE OF OKLAHOMA; STATE OF SOUTH CAROLINA; STATE OF
SOUTH DAKOTA; STATE OF TEXAS,

Defendants, Appellants,

DONALD J. TRUMP, in the official capacity as President of the United States; UNITED
STATES POSTAL SERVICE; UNITED STATES POSTAL SERVICE BOARD OF
GOVERNORS; DAVID STEINER, in the official capacity as Postmaster General; DOUGLAS
A. TULINO, in the official capacity as Deputy Postmaster General; AMBER F.
MCREYNOLDS, in the official capacity as Chairwoman of the Board of Governors of the
United States Postal Service; DEREK T. KAN, in the official capacity as the Vice Chairman of
the Board of Governors of the United States Postal Service; RONALD A. STROMAN, in the
official capacity as a member of the Board of Governors of the United States Postal Service;
DANIEL M. TANGHERLINI, in the official capacity as a member of the Board of Governors of
the United States Postal Service; DEPARTMENT OF HOMELAND SECURITY;
MARKWAYNE MULLIN, in the official capacity as the Secretary of the Department of
Homeland Security; SOCIAL SECURITY ADMINISTRATION; FRANK J. BISIGNANO, in
the official capacity as Commissioner of the Social Security Administration; U.S. CITIZENSHIP
AND IMMIGRATION SERVICES; JOSEPH B. EDLOW, in the official capacity as Director of
U.S. Citizenship and Immigration Services,

Defendants.

No. 26-2031

STATE OF CALIFORNIA; COMMONWEALTH OF MASSACHUSETTS; STATE OF
NEVADA; STATE OF WASHINGTON; STATE OF ARIZONA; STATE OF COLORADO;
STATE OF CONNECTICUT; STATE OF DELAWARE; DISTRICT OF COLUMBIA; STATE
OF HAWAII; STATE OF ILLINOIS; STATE OF MAINE; STATE OF MARYLAND; STATE
OF MICHIGAN; STATE OF MINNESOTA; STATE OF NEW JERSEY; STATE OF NEW

MEXICO; STATE OF NEW YORK; STATE OF NORTH CAROLINA; STATE OF OREGON;
STATE OF RHODE ISLAND; STATE OF VERMONT; COMMONWEALTH OF VIRGINIA;
STATE OF WISCONSIN; JOSH SHAPIRO, in the official capacity as Governor of the
Commonwealth of Pennsylvania,

Plaintiffs, Appellees,

v.

US POSTAL SERVICE; DAVID STEINER, in the official capacity as Postmaster General,
Chief Executive Officer of the Postal Service, and Member of the Postal Service Board of
Governors; DOUGLAS TULINO, in the official capacity as Deputy Postmaster General, Chief
Operating Officer and Chief Human Resources Officer of the Postal Service and Member of the
Postal Service Board of Governors; AMBER MCREYNOLDS, in the official capacity as Chair
of the Postal Service Board of Governors; DEREK T. KAN, in the official capacity as Vice
Chairman of the Postal Service Board of Governors; RONALD STROMAN, in the official
capacity as a Member of the Postal Service Board of Governors; DANIEL MARK
TANGHERLINI, in the official capacity as a Member of the Postal Service Board of Governors,

Defendants, Appellants,

STATE OF MISSOURI; STATE OF INDIANA; STATE OF MONTANA; STATE OF
LOUISIANA; STATE OF KANSAS; STATE OF NEBRASKA; STATE OF ALABAMA;
STATE OF FLORIDA; STATE OF TEXAS; STATE OF OKLAHOMA; STATE OF SOUTH
DAKOTA; STATE OF SOUTH CAROLINA,

Defendants.

No. 26-2032

STATE OF CALIFORNIA; COMMONWEALTH OF MASSACHUSETTS; STATE OF
NEVADA; STATE OF WASHINGTON; STATE OF ARIZONA; STATE OF COLORADO;
STATE OF CONNECTICUT; STATE OF DELAWARE; DISTRICT OF COLUMBIA; STATE
OF HAWAII; STATE OF ILLINOIS; STATE OF MAINE; STATE OF MARYLAND; STATE
OF MICHIGAN; STATE OF MINNESOTA; STATE OF NEW JERSEY; STATE OF NEW
MEXICO; STATE OF NEW YORK; STATE OF NORTH CAROLINA; STATE OF OREGON;
STATE OF RHODE ISLAND; STATE OF VERMONT; COMMONWEALTH OF VIRGINIA;
STATE OF WISCONSIN; JOSH SHAPIRO, in the official capacity as Governor of the
Commonwealth of Pennsylvania,

Plaintiffs, Appellees,

v.

STATE OF ALABAMA; STATE OF FLORIDA; STATE OF INDIANA; STATE OF KANSAS; STATE OF LOUISIANA; STATE OF MISSOURI; STATE OF MONTANA; STATE OF NEBRASKA; STATE OF OKLAHOMA; STATE OF SOUTH CAROLINA; STATE OF TEXAS; STATE OF SOUTH DAKOTA,

Defendants, Appellants,

DEREK T. KAN, in the official capacity as Vice Chairman of the Postal Service Board of Governors; AMBER MCREYNOLDS, in the official capacity as Chair of the Postal Service Board of Governors; DANIEL MARK TANGHERLINI, in the official capacity as a Member of the Postal Service Board of Governors; DOUGLAS TULINO, in the official capacity as Deputy Postmaster General, Chief Operating Officer and Chief Human Resources Officer of the Postal Service and Member of the Postal Service Board of Governors; US POSTAL SERVICE; DAVID STEINER, in the official capacity as Postmaster General, Chief Executive Officer of the Postal Service, and Member of the Postal Service Board of Governors; RONALD STROMAN, in the official capacity as a Member of the Postal Service Board of Governors,

Defendants.

Before

Gelpí, Rikelman, and Aframe,
Circuit Judges.

ORDER OF COURT

Entered: September 10, 2026

About a week before the States were to begin mailing ballots for the upcoming federal election on November 3, 2026, the United States Postal Service (the "Postal Service" or "USPS") issued a new rule regulating voting by mail that could prevent millions of Americans from obtaining and returning their ballots for that election. See Ballot Mail for Federal Elections, 91 Fed. Reg. 54966 (Aug. 26, 2026) (to be codified at 39 C.F.R. pt. 111) (the "Final Rule"). Litigation ensued that resulted in a preliminary injunction preventing parts of the Final Rule from taking effect. The district court concluded that the Final Rule was likely unconstitutional because the United States Constitution assigns to the States the authority to administer elections subject to alterations imposed by Congress. The court determined that Congress had provided no authority for the Postal Service to promulgate a rule that regulates the manner of elections. It also found that, as a practical matter, it would be impossible for States to comply with the Final Rule's detailed requirements in the time remaining before the November 3 election, thus resulting in the potential disenfranchisement of millions of voters across the country. Appellants, various federal officials and entities as well as Intervenor States, have filed motions to stay the preliminary injunction. The Postal Service also requests an administrative stay. The motions are denied.

The preliminary injunction that appellants challenge runs in favor of appellees -- groups of States and organizations that have sued to contest the Final Rule's lawfulness. Under the Final Rule, ballots would not be delivered to voters unless a voter-specific Intelligent Mail barcode ("IMb") printed on outgoing and return ballot envelopes matches the IMb uploaded to a USPS database. Compliance with the Final Rule would also require state and local officials to obtain USPS approval for new ballot-envelope designs; to purchase new envelopes to replace those already ordered; to assure that there are technological systems in place adequate to generate IMbs; and to upload voter-specific information to a USPS online portal that is still not operational. The district court entered the preliminary injunction after rejecting appellants' challenge to the organizational appellees' standing and concluding that: (1) appellees have established a likelihood of success on the merits; (2) appellees also have established irreparable harm to themselves and those they represent if injunctive relief is denied; (3) the balance of relevant impositions strongly favors appellees; and (4) the public interest is served by injunctive relief. See Esso Standard Oil Co. (P.R.) v. Monroig-Zayas, 445 F.3d 13, 17-18 (1st Cir. 2006).

In evaluating whether appellants are entitled to a stay of the preliminary injunction, we consider (1) whether appellants have made a strong showing that they are likely to succeed on the merits by obtaining vacatur or reversal of the preliminary injunction; (2) whether appellants would be irreparably injured absent a stay; (3) whether issuance of a stay would substantially injure the other parties interested in the proceeding; and (4) where the public interest lies. Nken v. Holder, 556 U.S. 418, 425-26 (2009). Appellants bear the burden of showing that the circumstances justify an exercise of our discretion to grant a stay. Id. at 433-34.

Appellants have not demonstrated entitlement to a stay.¹ Most prominently, appellants have not made a strong showing that the district court erred in determining that the Final Rule is likely unlawful. The district court concluded, and we agree, that the Final Rule is likely a regulation of the manner of holding elections for members of Congress, which the Elections Clause of the Constitution assigns to the States and Congress, and not to an executive agency, such as the Postal Service, acting without congressional authorization.² See U.S. Const. art. I, § 4, cl. 1. Appellants seek to avoid the constitutional problem by denying that the Final Rule regulates the manner of holding elections. The district court charitably concluded that "[t]his denial rings hollow." League of Women Voters of Mass. v. Trump, Nos. 26-cv-11549, 26-cv-13917, 2026 WL 2620871, at *14 (D. Mass. Sep. 4, 2026). The title of the Final Rule is "Ballot Mail for Federal Elections," and the Final Rule explicitly and exclusively regulates election mail. 91 Fed. Reg. at 54966, 54990-92. It requires action by the States' "chief election official[s]" and its policy justification is "protect[ing] the integrity of federal elections." Id. at 54968-69; see also id. at

¹ Appellants' stay motion before this Court did not grapple with much of the district court's reasoning or its factual findings, and thus appellants have failed to meet their burden for disturbing any aspect of the district court's preliminary injunction order. Our focus here on certain issues merely reflects the emergency nature of the proceeding.

² We confine our likelihood of success analysis to the constitutional claim based on the Elections Clause. We therefore do not address the additional statutory claims which the district court found were also likely to succeed.

54966, 54976 (citing Exec. Order No. 14399, titled "Ensuring Citizenship Verification and Integrity in Federal Elections," as the source of the policy goals justifying the Final Rule). In short, the Final Rule targets election-related mail in a manner that affects the States' management of elections, and the Final Rule's asserted purpose relates to election integrity. To label this Final Rule as merely a "modest" regulation of the mails is to focus on the trees while ignoring the forest.

To the extent that appellants argue that we should read statutes authorizing the Postal Service to issue general postal regulations as supplying the necessary congressional authorization for the Final Rule, see 39 U.S.C. § 401(2) (authorizing USPS to make "such rules and regulations, not inconsistent with this title, as may be necessary in the execution of its functions"); id. § 401(10) (authorizing USPS to exercise "all other powers incidental, necessary, or appropriate to the carrying on of its functions or the exercise of its specific powers"); id. § 404(a)(1) (conferring on USPS the power "to provide for the collection, handling, transportation, delivery, forwarding, returning, and holding of mail, and for the disposition of undeliverable mail"), their argument likely fails. Appellants have not convinced us that it is likely that Congress would delegate constitutionally assigned tasks relevant to maintaining our electoral system to the Postal Service through the "wafer-thin reed" of a general grant of authority to manage the postal system. Biden v. Nebraska, 600 U.S. 477, 499 (2023). As appellees point out, Congress historically has been explicit in its exercise of authority under the Elections Clause when it seeks to displace the background assumption that the States will act as the primary regulator of elections. The general authority on which appellants rely here is far removed from that sort of specific congressional action.

While the failure to make a strong showing of a likelihood of success on the merits is sufficient to deny the stay motions, appellants also have not met their burden to show that the balance of equities favors stay relief. As to irreparable harm, another requirement for a stay, the district court's finding that the Final Rule could not be presently implemented undermines appellants' claim that they are harmed by an injunction preventing parts of the Final Rule from immediately going into effect. Moreover, appellants have failed to meet their burden to show that the "issuance of the stay will [not] substantially injure the other parties interested in the proceeding" and the public interest. Nken, 556 U.S. at 426 (quoting Hilton v. Braunskill, 481 U.S. 770, 776 (1987)). Appellants have not shown that the district court abused its discretion in determining that any harm to them would be substantially outweighed by the injury that would be caused to appellees and to the public interest, including the millions of Americans who vote by mail, were the Final Rule to take effect for the November 3 election.

In this regard, the district court made detailed findings about the chaos and widespread disenfranchisement that would occur between now and November 3 should the Final Rule take immediate effect, including the fact that it would be impossible for some States to reprint compliant envelopes; the likely delays in the required USPS envelope review process; the lack of a presently operative portal; and the herculean task that would confront the USPS in scanning tens of millions of ballot envelopes and reviewing for a match with information in the presently non-operative portal. There is no countervailing record evidence disputing the district court's findings on these points. Indeed, appellants have not even seriously challenged this aspect of the district court's ruling, much less demonstrated why it is clearly erroneous. And moreover, there is no record evidence of past fraud or a likelihood of impending fraud related to the November 3 election. Thus, we see no obvious error in the district court's conclusion that allowing this Final Rule to be

effective for the soon-arriving November 3 election will likely result in the disenfranchisement of millions of voters across the country while providing minimal -- if any -- gains in combating voter fraud.

Finally, appellants have not demonstrated that the preliminary injunction is unduly broad on the basis that the appellee organizations lack standing. Here, we confine our analysis to whether the district court properly found that the appellee organizations have organizational standing, because that conclusion is sufficient to support the scope of the injunction. To establish organizational standing, a plaintiff "must show [injury] 'far more than simply a setback to the organization's abstract social interests.'" FDA v. All. for Hippocratic Med. ("Hippocratic"), 602 U.S. 367, 394 (2024) (quoting Havens Realty Corp. v. Coleman, 455 U.S. 363, 379 (1982)). Nor can a plaintiff "spend its way into standing" by asserting that it has had to incur costs "opposing [the] polic[y]" being challenged, either through litigation or advocacy. Id. at 394-95; see also Equal Means Equal v. Ferriero, 3 F.4th 24, 30 (1st Cir. 2021) ("[A]n organization cannot establish standing if the 'only injury arises from the effect of a challenged action on the organizations' lobbying activities, or when the service impaired is pure issue-advocacy.'" (alteration adopted) (quoting PETA v. U.S. Dep't of Agric., 797 F.3d 1087, 1093-94 (D.C. Cir. 2015))). A plaintiff can establish organizational standing, however, by alleging that the challenged actions "directly affected and interfered with [the plaintiffs] core business activities" beyond issue-advocacy -- if, for instance, the challenged actions "perceptibly impair[]" a housing nonprofit's counseling and referral services. Hippocratic, 602 U.S. at 395 (quoting Havens Realty, 455 U.S. at 379).

Here, the appellee organizations have shown exactly that. The Final Rule does not merely require the appellee organizations to spend money advocating against the policy change; it interferes with the provision of their core services: conducting voter-registration drives; translating election-related materials; and educating the public on how to vote, including by mail. The district court specifically found -- based on the un rebutted declarations submitted by the appellee organizations -- that "[t]he chaos engendered by the Final Rule's immediate deadlines is significantly interfering with [the appellee organizations'] mission to provide [their] members with accurate and reliable information about how to vote, including by mail," such that the appellee organizations "do not know whether to advise their members to vote by mail, despite legal entitlement, due to the high risk of disenfranchisement." League of Women Voters of Mass., 2026 WL 2620871, at *11. For example, appellee League of Women Voters asserts that it will have to "updat[e] and reprint[] a range of educational resources that have already been distributed . . . and creat[e] new educational resources to update materials that have also already been distributed via video and social media." Appellee OCA-Asian Pacific American Advocates likewise will need to "recruit substantially more volunteers to provide in-person language assistance" and pay for expedited translations of already finalized voter guides. The Final Rule will also force the appellee organizations to pause, delay, or otherwise scale back planned activities. The state chapters of the League of Women Voters, for instance, have had to "cut back on the information they provide to avoid providing inaccurate or incomplete information" and have "paused the printing of voter education materials that reference absentee and mail voting procedures." Appellee Delta Sigma Theta has similarly had to "cut back on the information [it] provide[s], to avoid providing inaccurate or incomplete information" and "to delay education and outreach" efforts.

Appellants do not address these findings in their briefs. Instead, they attempt to cast the appellee organizations' activities as "merely engaging in public advocacy and public education

regarding governmental action." But this argument ignores the preliminary injunction record, the nature of the appellee organizations' injury, and the Supreme Court's holding in Hippocratic. Unlike the medical associations in Hippocratic, whose alleged injury consisted of "incurring costs to oppose [the] FDA's actions" including by "drafting citizen petitions to [the] FDA," 602 U.S. at 394 (emphasis added), the appellee organizations do not merely allege that they are engaging in education regarding the Final Rule itself. Rather, they claim they are engaging in education about how to register and cast ballots in light of the Final Rule. In other words, their "public advocacy and public education" are directed not at the challenged governmental action (i.e., the Final Rule) but at voting in general. Id. Appellee organizations' efforts to counsel their members and the public on how to vote under the Final Rule are no more "issue advocacy" than were the "counseling and referral services for low- and moderate-income homeseekers" in Havens Realty.³ Hippocratic, 602 U.S. at 395 (quoting Havens Realty, 455 U.S. at 379); see also Republican Nat'l Comm. v. N.C. State Bd. of Elections, 120 F.4th 390, 397 (4th Cir. 2024) (concluding that Hippocratic did not bar standing when organization's "core mission includes counseling interested voters and volunteers on election participation including hosting candidate and voter registration events, staffing voting protection hotlines, investigating reports of voter fraud and disenfranchisement"). We thus see no likely error in the scope of the injunction given the breadth of injury that was appropriately before the district court.⁴

The motions for a stay are denied. The USPS's request for an administrative stay is denied as moot.

By the Court:

Anastasia Dubrovsky, Clerk

cc: Hon. Indira Talwani, Robert Farrell, Clerk, United States District Court for the District of Massachusetts, Brenda Wright, Jessie J. Rossman, Adriel I. Cepeda Derieux, Leah C. Aden, Niyati Shah, Miranda Galindo, Theresa J. Lee, Sophia Lin Lakin, Suzanne Schlossberg, Clayton Pierce, Ming Cheung, Ethan Herenstein, William Miles Hughes, Wendy Weiser, Eliza Sweren-Becker, Andrew B. Garber, John Spencer Cusick, Sarah Brannon, Jonathan J. Topaz, Davin McKay Rosborough, Noah Baron, Ejaz H. Baluch Jr., Isabel Sara Rohani, Justin Lam, Donald Campbell Lockhart, Rayford A. Farquhar, Abraham R. George, Laura Myron, Jennifer Utrecht, Sophia Shams, Michael Velchik, Stephen Michael Pezzi, Esam Al-Shareffi, Michael S. Polito, Ian D. Prior, Louis Joseph Capozzi III, Graham Miller, John Michael Patton, Benjamin S. Gilberg, Alexander Barrett Bowdre, David M.S. Dewhirst, Jason J. Muehlhoff, James A. Barta, James R. Rodriguez, J. Benjamin Aguinaga, Christian B. Corrigan, Cody S. Barnett, Garry M. Gaskins II,

³ We recognize that the Court in Hippocratic characterizes Havens Realty as an "unusual case" specific to its context. 602 U.S. at 396. But this too is an unusual case, and the context here is, in our view, indistinguishable from Havens Realty for relevant purposes.

⁴ We note that the preliminary injunction does not bar voluntary compliance by States with the Final Rule; nor does it prohibit the Postal Service from continuing with the Final Rule's implementation for elections after November 2026, including by creating the portal and training staff on the Final Rule's requirements.

Joseph David Spate, Grant Michael Flynn, Monroe David Bryant Jr., Brandon Michael Hayes, Inga S. Bernstein, Richard D. Bernstein, Nancy A. Temple, Ana Isabel Munoz, Kyle R. Freeny, Samantha Bateman, Rosa Baum, Ruth M. Greenwood, Douglas Maynard Poland, Jeffrey A. Mandell, Rachel Elizabeth Snyder, Matthew James O'Brien, Jonathan Benjamin Miller, Alex Goldstein, Jon May, Tracy A. Miner, Daniel N. Arshack, Hassan Ahmad, Yevgeniy Pilipovskiy, David A. Russcol, Anna Marks Baldwin, Danielle Marie Lang, Norman Larry Eisen, Ben Phillips, Pooja Chaudhuri, Sejal S. Jhaveri, Valencia Richardson, Aseem Mulji, Beauregard Patterson, Ian Fein, Aaron Daniel Pennekamp, Anne P. Bellows, Kevin Lee Quade, Lisa Catherine Ehrlich, Malcolm Andreas Brudigam, Michael Surren Cohen, Robert William Setrakian, David C. Kravitz, Jared B. Cohen, Vanessa Arslanian, Gerard J. Cedrone, Phoebe Lockhart, Julia S. Canney, Kiel Ireland, Cristina Sepe, Karl D. Smith, Tera M. Heintz, Syreeta Tyrell, Kara M. Karlson, Karen J. Hartman-Tellez, Shannon Wells Stevenson, Peter Baumann, Maura Bridget Murphy, Vanessa L. Kassab, Ian R. Liston, Karthik P. Reddy, Kalikoonalani Diara Fernandes, Alex Hemmer, Vikas Didwania, Katherine Thompson, Virginia Anne Williamson, Neil Giovanatti, Angela Behrens, Lindsey E. Middlecamp, Allen Barr, Meghan Musso, Jonathan B. Mangel, James Grayson, Bailey Colfax, Colleen K. Faherty, Judith N. Vale, Daniel Paul Mosteller, Thomas H. Castelli, Megan Rok, Ryan P. Kane, Tillman J. Breckenridge, Megan C. Keenan, Lynn Kristine Lodahl, Michael J. Fischer, Bradley Hinshelwood, Kelsey L. Smith