

STATE OF NORTH CAROLINA
COUNTY OF WAKE

IN THE GENERAL COURT OF JUSTICE
SUPERIOR COURT DIVISION
21 CVS 015426
21 CVS 500085

NORTH CAROLINA LEAGUE OF
CONSERVATION VOTERS, et al.,

Plaintiffs,

vs.

REPRESENTATIVE DESTIN HALL, in his
official capacity as Chair of the House
Standing Committee on Redistricting, et al.,

Defendants.

REBECCA HARPER, et al.,

Plaintiffs,

vs.

REPRESENTATIVE DESTIN HALL, in his
official capacity as Chair of the House
Standing Committee on Redistricting, et al.,

Defendants.

**EXPERT REPORT OF
DR. JEFFREY B. LEWIS**

Pursuant to the North Carolina Rules of Civil Procedure and the Case Management Orders of the Court in the above-captioned matter, I, Jeffrey B. Lewis, provide the following written report:

1. I am a Professor of Political Science at the University of California, Los Angeles (UCLA). I am also the past department chair of UCLA's political science department and past president of the Society for Political Methodology. I have been a member of the UCLA faculty since 2001. Prior to that, I was an Assistant Professor of Politics and Public Affairs at Princeton University from 1998 to 2001. I earned my B.A. in Political

Science and Economics from Wesleyan University in 1990 and my Ph.D. in Political Science from the Massachusetts Institute of Technology (MIT) in 1998. My main area of specialization is quantitative political methodology with a focus on making inferences about preferences and behavior from the analysis of voting patterns in the mass public and in legislatures. I have published on the topic of ecological inference – the challenge that arises when one wants to know how individuals of different types voted in an election, but one can only observe electoral data aggregated to the precinct, county or other summary level. A true, accurate, and complete copy of my curriculum vitae is attached as Exhibit A.

2. I have previously been retained as an expert in relation to nine court cases: one involving allegations of voting machine failure in Florida (Jennings v. Elections Can-vassing Commission of State of Florida), four involving claims of minority vote dilution in California (Avitia v. Tulare Local Healthcare District; Satorre et al. v. San Mateo County Board of Supervisors et al.; Ladonna Yumori-Kaku v. City of Santa Clara); and Pico Neighborhood Association and Maria Loya v. City of Santa Monica), one involving claims of minority vote dilution in Texas (Perez, et al. v. Abbott, et al.), one involving claims of minority vote dilution in North Carolina (Common Cause, et al. v. Lewis), one involving claims of minority vote dilution in Washington (Aguilar v. Yakima County), and one involving the compactness of legislative districts in Illinois (Radogno et al v. Illinois State Board of Elections, et al.). I testified as an expert in the cases of Ladonna Yumori-Kaku v. City of Santa Clara and Pico Neighborhood Association and Maria Loya v. City of Santa Monica.
3. I am being compensated at a rate of \$550/hour.
4. In the attached tables and spreadsheet, at Exhibit B, I present summaries of the results of North Carolina general and Democratic primary election contests held in 2014, 2016, 2018, and 2020. In particular, I consider how each contest would have turned out if only the votes of those residing in each current and in each enacted State House, State Senate, and Congressional district had been counted.
5. This exercise allows us to consider the voting strength of the Black voters in each existing and proposed legislative district.

6. For each of these “reconstituted” election contest in each district, I used weighted ecological regression (ER) to estimate the degree of Black voter cohesion and non-Black voter crossover (hereafter “white crossover”). In some cases, the number of voting precincts available for the analysis was too small or Black share of voters was too small to meaningfully apply ER. I omit such contest-district combinations.
7. I further narrow the set of contests to partisan races for executive and legislative offices. And, I only “reconstitute” a given contest within a given district if the data indicate that at least 80 percent of the voters in the given election who resided the district, voted in the given contest.
8. I identify the “Black-preferred” candidate in each contest as the candidate estimated by ER to have received the largest share of Black votes in the given contest or, in the case of single-candidate elections, that candidate if they are a Democrat (single-candidate elections without a Democrat are considered not to have a Black-preferred candidate).
9. I also note whether each candidate is Black and whether each contest includes at least one Black candidate.
10. The tabulations and estimates are based on datasets that I downloaded from the North Carolina Board of Elections (SBOE) website with the exception of a crosswalk between the current and enacted legislative districts and voting precincts used in the 2014, 2016, 2018, and 2020 elections and estimates of Black Voting-Age population (VAP) by district that were provided by Clark Bensen of POLIDATA.
11. The race of each candidate was determined by looking up each candidate listed in the SBOE’s candidate list datasets on the North Carolina voter list (also from the SBOE). In some cases, a candidate’s race could not be determined because: their legal name matched no voter on the voter list, no race was indicated on the voter list, or they were matched to several voters of different races on the voter list. In total, over 1,800 Black candidates were identified (including many competing in contests not subsequently analyzed for the reasons described above).
12. The demographic composition of voters from each precinct needed to perform ER was derived by merging vote history records from the SBOE to the precinct election returns. Because some counties do not allocate “One Stop” and absentee votes back to precincts (and for other reasons), not all voters can be matched to a voting precinct and not all

precincts can be placed in legislative districts. Where One Stop and absentee ballots were allocated to regular voting precincts, the voting and demography within each precinct was broken down by voting method when performing ER. This is possible because the vote history records (which are used to estimate the fraction of voters in each precinct who were Black) are broken down by voting method (as sometimes are the election returns within each precinct). When a county reported One Stop or absentee votes without allocating them to precincts and where feasible, I aggregated the One Stop and absentee votes in the election returns and the One Stop and absentee voters into a single One Stop and a single absentee precinct. Given the need to break down the votes by legislative district, this was only feasible in counties that fall entirely within a single State House, State Senate, or Congressional district.

13. The attached tables summarize the reconstituted elections analysis. For each district, the tables show averages of many of the quantities described above as well as: the Black-preferred candidate “win rate” (the fraction of Black-preferred candidates who would have won if the contest had only been held in the given district); the percent of Black-preferred candidates who were Democrats; the average number of major-party candidates in the reconstituted contests; the average fraction of voters who were Black; and, an estimate of the average minimum fraction of those voting in the district that would have had to be Black in order for the Black-preferred candidate to expect to get at least 50 percent of the vote (based on the ER estimates and only applied in contests involving two major-party candidates).
14. The tables present separate results for primary and general elections. Separate tallies are also presented that include only those contests that included at least one Black candidate.
15. The attached spreadsheet *minority_preferred_candidates.csv* identifies the minority-preferred candidate in each of the reconstituted contests considered. It includes the following fields:
 - a. *district*, an identifier of the district including its chamber, plan, and number in which the contest is reconstituted.
 - b. *election_date*, the date of the election
 - c. *election_type*, primary or general
 - d. *contest*, the electoral contest being reconstituted.

- e. *minority_preferred_candidate*, the name of the minority preferred candidate (as identified by ER).
 - f. *minority_preferred_party*, the party of the minority-preferred candidate.
 - g. *cand_is_black*, whether the Black-preferred candidate is Black.
 - h. *has_minority_candidate*, whether the contest included a Black candidate.
 - i. *wonlost*, identifies the Black-preferred candidate as a “winner” or “loser” of the reconstituted election (highest-vote getter).
 - j. *pct_vote*, percent of vote won by the Black-preferred candidate in the reconstituted contest.
 - k. *ER.pct_black*, average share of voters in the ER analyses who were Black.
 - l. *ER.black_cohesion*, weighted Ecological Regression (ER) estimates of support for Black-preferred candidate among Black voters in the reconstituted election.
 - m. *ER.white_crossover*, weighted Ecological Regression (ER) estimates of support for the Black-preferred candidate among white (non-Black) voters in the reconstituted election.
 - n. *ER.black_pct_needed_for_majority*, Uses the ER estimates to infer the minimum share of the voters in the reconstituted election that would generate majority support for the minority-preferred candidate in the reconstituted election. Note that this is the estimated average percentage of Black voters in the contest needed for a majority, not the percentage of Black VAP existing in the district.
 - o. *Coverage*, the ratio of the total votes cast in the reconstituted election to the most votes cast in any reconstituted contest in the same district and election expressed as a percentage. In many cases, eligibility to participate in a particular contest will only partially overlap with the district in which the reconstituted election is considered. Because the area of overlap may encompass a set of voters who are not representative of the voters a district as whole when the overlap is small, I consider only contests for which this overlap or “coverage” exceeds 80 percent (for example, this include contests for statewide offices).
 - p. *number_of_candidates*, The number of major-party candidates in the contest.
16. This analysis goes beyond Professor Dunchin’s analysis to consider not just 4 primary and 4 general election contests, but over 420 individual contests including over 190 that

include a Black candidate. These contests include both endogenous and exogenous contests for legislative and executive offices ranging from a Recorder of Deeds to the US President. The analysis also expands on Professor Duchin's analysis by estimating the rate of support of each candidate in each contest within each district to capture variation in Black voter cohesion and white cross-over voting across the districts (whereas Professor Duchin estimates a single rate of cohesion and of cross-over voting statewide for the 8 contests that she considers).

17. Using (without endorsing) Professor Duchin's definition of "effective" Black districts (greater than 75 percent Black preferred win rate in races with minority candidates combined with greater than 25 percent Black voting-age population), an analysis of this larger set of election contests identifies as "effective" the enacted districts that Professor Duchin enumerates (with the exceptions of State Senate District 12 and State House District Districts 066 which do not exhibit a 75 percent win rate in the larger dataset and House District 039 for which too few data precinct points were available to apply ER to identify the Black-preferred candidates). It also identifies as "effective" by Duchin's definition as many as seven additional State House districts and four additional State Senate districts. *See* Table 1.
18. Relaxing Professor Duchin's requirement that an "effective" district must have more than 25 percent Black voting-age population, my more expansive analysis suggests the existence of one additional "effective" Congressional district, four additional "effective" State House districts, and two additional "effective" State Senate districts.
19. Further relaxing the definition of "effective" to those districts in which the Black preferred win rate exceeds 66 percent suggests the existence of seven more "effective" State Senate districts and 16 additional "effective" State House districts. *See* Table 1.
20. Increasing the set of contests considered to include contests without Black candidates further lifts the number of apparently "effective" districts under Duchin's definition.
21. Only two of the "effective" districts (by any of the above definitions) are majority Black VAP. Districts with Black-preferred win rates of over 75 percent in the reconstituted elections include two districts with Black voting-age populations below 7 percent and five districts with Black voting-age populations below 20 percent.

Table 1 – Duchin “Effective” Black Districts in Enacted Plans

	House	Senate	Congress
Number of “Effective” Black Districts in enacted plans using Duchin definition	29	12	2
Number of “Effective” Black Districts in enacted plans using Duchin definition but relaxing 25% BVAP and applying win rate of 66%	49	21	5
Number of “Effective” Black Districts in enacted plans using Duchin definition but relaxing 25% BVAP and applying win rate of 50%	88	40	11

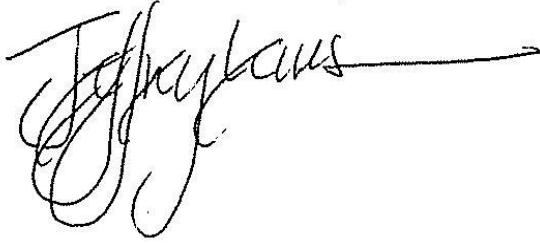
22. In no district, enacted or in 2020, does it appear that a majority Black VAP is needed for that district to regularly generate majority support for minority-preferred candidates in the reconstituted elections.

23. Black voters constitute a powerful political force in North Carolina electoral politics because of their numerical size and highly cohesive voting as well as the sizeable white (non-Black) cross-over vote for Black-preferred candidates that exists particularly in areas of the state in which Black voters are concentrated. As Professor Duchin documents, contemporary Black voting power in North Carolina is such that it is now even possible to draw a set of districts in which Black voters would have effective control (by her definition) of a share of the state’s legislative districts that meaningfully exceeds the size of the Black population.

24. I reviewed the “Addendum to Primary Expert Report of Jonathan C. Mattingly, Ph.D.” Dr. Mattingly appears to have reconstituted election results in different county cluster options and identified Black VAP in those same clusters. Dr. Mattingly’s Addendum is not a racially polarized voting analysis.

CERTIFICATION

I certify that the statements and opinions provided in this report are true and accurate to the best of my knowledge, information, and belief.

A handwritten signature in black ink, appearing to read "Jeffrey B. Lewis", followed by a long horizontal line extending to the right.

Jeffrey B. Lewis, Ph.D.

December 28, 2021

Date