Alaska Racially Polarized Voting Analysis for 2021 Redistricting

Executive Summary

In redistricting, compliance with the Voting Rights Act of 1965 (VRA) is one of the non-negotiable tasks for the Alaska Redistricting Board (ARB). To enable and inform such compliance, the ARB tasked its Voting Rights consultants to analyze Alaska election results to determine if voting in the State is racially polarized, as the VRA and federal courts require. The ARB's consultants produced a report entitled, "Alaska Racially Polarized Voting Analysis for 2021 Redistricting."

The U.S. Supreme Court, in its key decision of *Thornburg v. Gingles*, 478 U.S. 30 (1986), decided that one of the most important factors in a VRA analysis of redistricting plans is "'the extent to which voting in the elections of the state or political subdivision is racially polarized." Such polarization is what the ARB's consultants determined is present in Alaska elections.

In their report, the ARB's consultants conclude that numerous election results analyzed reveal evidence of statistically significant racially polarized voting, particularly in statewide races. In the analyzed elections, an estimated majority of Alaska Natives voted for one candidate, typically the one identifying as Alaskan Native, while a majority of non-Alaska Natives voted for another candidate. Therefore, consultants concluded that there is racially polarized voting in Alaska elections.

In their report, the consultants used Ecological Inference analysis of contested elections where there was at least one candidate who identifies as Alaska Native on the ballot. Ecological Inference or EI infers voting behavior by estimating how groups of voters, say Alaska Natives and Others (i.e., non-Alaska Natives), voted in a given election by observing precinct level election returns and the demographic makeup of voting precincts. EI is recognized and approved by federal courts and the U.S. Department of Justice as a statistically sound method of VRA and racially polarized voting analysis for redistricting

Among the elections analyzed are the 2014 election for Senate District C between Dorothy J. Shockley and Click Bishop, the 2016 House District 6 election between Jason Land and David Talerico, and the 2014 and 2018 gubernatorial elections, all of which revealed racially polarized voting.

What do the consultants' finding mean for Alaska redistricting?

Section 2 of the Voting Rights Act of 1965 prohibits, among other things, any electoral practice or procedure that minimizes or cancels out the voting strength of members of racial or language minority groups in the voting population. This phenomenon is known as vote dilution. Redistricting plans cannot crack, or pack a geographically concentrated minority community across districts or within a district in a manner that dilutes their voting strength.

In *Thornburg v. Gingles*, 478 U.S. 30 (1986), the Supreme Court set out the framework for challenges to such practices or procedures. In *Brnovich v. Democratic National Committee*, 141 S. Ct. 2321, 2337 (2021), the Supreme Court described *Gingles* as "our seminal § 2 vote dilution case" and recognized that "[o]ur many subsequent vote dilution cases have largely followed the path that *Gingles* charted."

Analysis begins by considering whether three *Gingles* preconditions exist. First, the minority group must be sufficiently large and geographically compact to constitute a majority of the voting age population in a single-member district. Second, the minority group must be politically cohesive. Third, the majority must vote sufficiently as a bloc to enabled it usually to defeat the minority group's preferred candidate.

The consultants' conclusion that racially polarized or racial bloc voting exists in Alaska elections and that such racial polarization has prevented Alaska Natives from electing their candidates of choice in given elections is legally significant.

Pursuant to Section 2 of the Voting Rights Act of 1965, districts must be created to provide Alaska Natives with the opportunity to elect candidates of choice to overcome cohesive racial bloc voting by white voters that prevents them from doing so.

A racial bloc voting analysis, such as the consultants conducted, is used to determine whether minority voters are politically cohesive, voting together to support minority community preferred candidates and if white voters bloc vote to usually defeat minority preferred candidates. The ARB's racial bloc voting (RBV) analysis determined that voting is racially polarized, and candidates preferred by a politically cohesive minority group are usually defeated by non-minority voters not supporting these candidates, a district(s) that offers minority voters an opportunity to elect their candidates of choice must be drawn. If such districts already exist, and minority-preferred candidates are winning only because these districts exist, then these districts must be maintained in a manner that continues to provide minority voters with an opportunity to elect their preferred candidates.

Alaska Racially Polarized Voting Analysis for 2021 Redistricting

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1 Introduction

This report presents results of a racially polarized voting analysis of elections in Alaska. The analysis focuses on elections for the State House and Senate that must be redrawn because of the release of the 2020 Federal Census. We analysed all contested elections between 2014 and 2018 for either office where at least one candidate on the ballot was identified as Alaska Native. Given the large number of absentee ballots in 2020 because of the pandemic, it was not possible to analyze any of these elections. Further, given data limitations, we also analyzed the statewide elections for Governor/Lt.Governor in 2018 and 2014 that featured a ticket that included at least one Alaska Native candidate.

Several of the studied election show evidence of statistically significant racially polarized voting, particularly in the statewide races. That is, an estimated majority of Alaska Natives voted for one candidate, typically the one identifying as Alaska Native, whereas a majority of non-Alaska Natives voted for another candidate. Therefore, we conclude that there is racially polarized voting in elections in the state.

The next section reviews the methods for estimating voting behavior from aggregate data. This is referred to as ecological inference in the statistics and social science literature. The next section then discusses the results of the analysis of the Alaska election data. The final section discusses the implications of this analysis for redistricting in Alaska.

2 Methods for Ecological Inference

The problem of inferring voting behavior from aggregate information is known as ecological inference. We are interested in estimating how groups of voters, say Alaska Natives and Others (i.e., non-Alaska Natives), voted in a given election when all we observe are the precinct-level returns and the demographic make-up of the precincts.

2.1 Homogenous Precincts and the Method of Bounds

A common starting point is to consider only homogeneous precincts. That is, we could examine the election results from precincts that are closest to racially/ethnically homogeneous in character. For example, if a precinct were completely homogeneous, say with a population that was 100% Alaska Native, then we know what fraction of Alaska Natives that voted for a given candidate in the precinct: it is just the share the given candidate got in the precinct. While this might be a useful starting point, as a statistical procedure it is problematic since it throws out most of the data unless most of the precincts are homogeneous.

However, we can use the intuition from the homogeneous precincts to place bounds on the level of support each group gives a candidate. Consider the following equation, which is true by definition, that relates the vote share of given candidate to the voting behavior of Alaska Natives and Others (i.e., non-Alaska Natives):

$$V_i = \lambda_i^A X_i + \lambda_i^O (1 - X_i), \tag{1}$$

where V_i is the share of the vote a given candidate received in precinct i, X_i is the fraction of Alaska Natives in the precinct and therefore $(1-X_i)$ is the fraction of Other voters, assuming for the moment that there are only two groups in the electorate. λ_i^A is the fraction of Alaska Natives voting for the given candidate and similarly λ_i^O is the fraction of Others voting for the given candidate. In other words, the equation states the fact that the total vote share for a candidate must equal the proportion of Alaska Native voters who support them multiplied by the proportion of the electorate that is Alaska Native plus the proportion of the Other voters who support the candidate multiplied by the proportion of the electorate which is Other.

In the case of only two groups — e.g., Alaska Native and Others – and only two candidates, then racially polarized voting occurs when λ_i^A and λ_i^O are on opposite sides of 0.5 — e.g., $\lambda_i^A > 0.5$ and $\lambda_i^O < 0.5$. That is, a majority of one group voting for one candidate and the majority of the other group voting for the opposite candidate. If this holds, then the larger the difference between support levels, the greater the level of polarization. Of course, since we are dealing with statistical estimates, this difference must be greater than the statistical uncertainty in the estimates.

Now consider homogeneous Alaska Native precincts again. In these precincts, $X_i = 1$, so that the equation simplifies to $V_i = \lambda_i^A$ as we stated above. However, from these precincts we can not say anything about the voting behavior of Others because any proportion of Others voting for a given candidate is consistent with the observed vote shares in these precincts. We can generalize this idea using Equation 1. Consider, for example, a precinct where $X_i = 0.6$, that is sixty percent of voters are Alaska Native (and, therefore, 40% are Other), and the candidates vote share, V_i, is 0.5.

Since 60% of the voters are Alaska Native and the given candidate got 50% of the vote, then at most $\frac{5}{6}$ths of the Alaska Native voters could have voted for the candidate. If it were higher than this bound then the vote share in the precinct would have to be higher. On the other hand, even if all of the Others voted for the candidate then at least $\frac{1}{6}$th of the Alaska Natives would have had to vote for the candidate as well, otherwise the vote share would have been less than 0.5. Thus, we know that proportion of Alaska Natives voting for the candidate, λ_i^A, must be greater than $1/6$ and less than $5/6$ and λ_i^O can take on any value between zero and one. We actually know more than this: we know that the feasible values for this district must lie on the line segment, called a constraint

line, defined by the bounds $(\frac{1}{6}, 1)$ and $(\frac{5}{6}, 0)$. Using standard algebra by plugging in $X_i = 0.6$ and $V_i = 0.5$, we find that $\lambda_i^{OW} = -\frac{3}{2}\lambda_i^A + \frac{5}{4}$.

Duncan and Davis (1953) fully developed the method of bounds outlined above to analyze ecological data. Unfortunately, with a large number of precincts, it is difficult to make much direct use of these bounds since we need a way to combine them to understand typical behavior in the district. These bounds do, however, provide useful information as we will see below.

2.2 Ecological or Goodman's Regression

An alternative approach that examines all precincts simultaneously was developed by Goodman (1959) and is perhaps the most commonly used procedure. It is referred to in the literature as ecological regression or Goodman's regression. Like the method of bounds, it is based on the identity in Equation 1. Suppose that the fraction of support for a given candidate for both Others and Alaska Natives was the same across all precincts in the district. A bit more formally, suppose that $\lambda_i^A = \lambda^A$ and $\lambda_i^O = \lambda^O$ for every precinct i. Then we could estimate these fractions by choosing the best fitting line to the precinct-level data. This is just a standard linear regression, the most commonly used statistical procedure in the social sciences. From these estimates we could then compare the voting behavior between groups.

It is important to note that ecological regression can produce widely inaccurate estimates of group voting behavior (King 1997). First, the assumption that the fraction of group support is constant across every precinct is highly implausible. Second, ecological regression does not use the bounds information either at the precinct level (discussed above) nor even the overall bounds that the average fraction of a group's support for a given candidate must be between zero and one. For example, ecological regression analysis can produce negative estimates for the fraction of a group supporting a particular candidate or values greater than 100%

2.3 Ecological Inference/EI

King (1997) has developed an alternative approach called Ecological Inference or EI. While the technical details are complex, its advantage is that it uses all available information to generate more accurate estimates of voting behavior from aggregate data. EI is basically a way to combine the regression approach of Goodman (1959) with the bounds from Duncan and Davis (1953). Further, it allows the estimates to vary (systematically) across precincts. The idea is we calculate the constraint lines for every precinct. We then choose as our estimate for a given precinct a point on its constraint line near the center of the intersection of all of the other lines. The actual point chosen is based on a standard statistical model. We can then use these precinct estimates to calculate quantities of interest such as the average support level across the district.

It is important to note that since King's method relies heavily on the bounds information, it works best when at least some of these bounds are informative — i.e., narrower than the entire range from 0 to 1. This will happen when more precincts have large proportions of each of the groups who's voting behavior we want to estimate. In other words, we will need some precincts that are relatively homogeneous for each ethnic group we want to study.

2.4 More than Two Groups or Two Candidates

The above discussion on the development of methods for ecological inference assumed that we only had two groups and two candidates (or vote choices). Accommodating more than two groups is rather straight-forward, although notation and intuition become more complicated, especially for the constraint lines. All that is required is adding the additional group fractions to Equation 1.

Allowing for more than two candidates or vote choices, however, is a bit more complicated. In the special case of only two choices, we only need to model the vote share going to one of them since we then automatically know the fraction going to the other candidate: this is just one minus the first vote share. If, for example, we add a third choice, then we need to model the vote share going to any two of the options and then we get third by subtraction the sum of the other two shares from one. Formally, we need to add an additional equation for each vote choice greater than two. Typically, there will always be more than two vote choices even when there are only two candidates because some individuals will choose not to vote in the election. We need to account for this abstention in order to make proper inferences. However, since what we care about is the share of voters supporting each of the candidates, we need to condition out these non-voters. This is not straight-forward, but can be done once we estimate the full set of options: don't vote or vote for one of the candidates on the ballot.

In the general case of more than two groups and more than two vote choices, racially polarized voting is also a more complicated concept. If we only have two choices, then we get voting cohesion among each group automatically since one of the choices must receive a majority of support from the members (ignoring the unlikely event of an exact tie in the election). However, when we have more than two choices, it is possible that no choice receives majority support of the group. In fact, given the estimation uncertainty, it may not be possible to infer which candidate is preferred by the members of the group.[1] Even if we find that the groups both have a strictly preferred candidates (i.e., they are cohesive), we still need to see if the distribution between the groups is statistically different to find racially polarized voting.[2]

I finally note that adding additional groups and vote choices to King's (1997) EI is not straight-forward. The generalization was first developed by King, Rosen, and Tanner (1999). Unfortunately, their approach was computationally inefficient and was later refined by Rosen, Jiang, King and Tanner (2001). I use the Rosen et al. (2001) approach in my analysis here.[3]

3 Results of the Analsysis of Elections in Alaska

The results of the EI analysis of the contested elections between 2014 and 2018 that had at least one candidate who identifies as Alaska Native are presented in the tables at the end of this report. As previously noted, the non-voters are conditioned out, so the estimates are only for voters.

To read the tables, consider the results for the first election in the set, the 2014 election for Senate

[1] Formally, we can not rule out the null hypothesis that the group equally split their votes across two or more choices.

[2] Formally, we need to reject the null hypothesis that the distribution of vote shares across groups is identical.

[3] All the computations discussed in this report were done in R (R Core Team 2012), a statistical computing language, using the eiPack (version 0.2–1) developed by Olivia Lau, Ryan T. Moore, and Michael Kellerman.

District C. The two candidates are Dorthy J. Shockley, who is identified as Alaska Native (which is denoted by the "*' " after her name) and Click Bishop. The table shows that an estimated fraction of Alaska Natives voting for Shockley is 71.1% and the parenthetical values underneath that give the 95% confidence interval of the estimate is (58.4%, 82.0%). These measure our statistical uncertainty; and we can not rule out that true percent is in this interval with high probability. Similarly, it is estimated that 23.5% of Other (non-Alaska Natives) voted for Shockley with a confidence interval of (19.3%, 27.4%). Similarly it is estimated that 28.9% of Alaska Natives voted for Bishop with a confidence interval of (18.0%, 41.6%) and 76.5% of Other voters with a confidence interval of (72.6%, 80.7%). As we can see from the results from the 2014 election in Senate District C, there is a large amount of statistical uncertainty around all of the estimated vote shares, particularly for Alaska Natives. This is caused in large part because of the small number of precincts in Alaska legislative districts. However, we can confidently say that the majority preferred candidate of Alaska Natives is Shockley because the confidence interval is completely above 50%. Similarly, we see that Bishop was the majority preferred candidate of non-Alaska Natives. Given the strong voting patterns by groups, this election show statistically significant evidence of racial polarized voting.

This pattern of large amounts of statistical uncertainty holds for almost all Alaska House and Senate elections that we examined for this study. Unlike the 2014 Senate District C election, in most of these elections there is no statistically significant evidence of racially polarized voting given the large amounts of estimation uncertainty. The only exceptions are the 2014 and 2016 elections in House District 6, and the aforementioned 2014 election for Senate District C. In all three of these elections, we see strong evidence for racially polarized voting.

In the 2016 House District 6 election, for example, the estimates clearly show that Alaska Natives strongly preferred Jason Land with an estimated 65.1% voting for him with a confidence interval of (54.2%, 75.3%), whereas David Talerico was the preferred candidate of Other voters with an estimate of 79.2% support with a confidence interval of (74.8%, 82.2%). Given the two groups cohesive and opposing voting patterns, there is statistically significant evidence of racially polarized voting in this election. A similar pattern is found in the 2014 election in the same district between Wilson Justin, the preferred candidate of Alaska Natives, and David Talerico.

Given the small number of precincts in the House and Senate elections, we also examined the election for Governor/Lt. Governor in 2018 and 2014. These are the only statewide, partisan elections that featured at least one candidate on the ticket who identified as Alaska Native. Given these elections are statewide, they have much larger number of precincts that can reduce estimation uncertainty.

The 2018 election saw strong evidence for racially polarized voting. The preferred ticket of Alaska Native voters was Begich/Call with an estimate of 66.2% voting for it with a confidence interval of (64.2%, 68.1%), whereas a majority of 61.9% of non-Alaska Natives are estimated to have voted for the Dunleavy/Meyer ticket with a confidence interval of (61.1%, 62.6|%). The 2014 Gubernatorial election, also showed statistically significant racially polarized voting. However, the amount of polarization was not as large as in the 2018 one, nor as substantively important. Approximate 52.5% of Alaska Natives voted for the Walker/Mallot ticket with a confidence interval of (50.4%, 54.6%), whereas the majority preferred candidate of Other voters was Parnell/Sullivan with 51.3% of their vote with a confidence interval of (50.7%, 52.0%). However, we also see that approximately 45.8% of Other voters chose Walker/Mallot with a confidence interval of (45.2%, 46.5%). In fact,

this cross-over voting of Other voters allowed Walker/Mallot to ultimately win the election.

4 Implications for Redistricting in Alaska

Given that we find evidence of racially polarized voting in Alaska elections, we consider its implications for the redistricting process. Section 2 of the Voting Rights Act of 1965 prohibits, among other things, any electoral practice or procedure that minimizes or cancels out the voting strength of members of racial or language minority groups in the voting population. This phenomenon is known as vote dilution. Redistricting plans cannot crack or pack a geographically concentrated minority community across districts or within a district in a manner that dilutes their voting strength.

In *Thornburg v. Gingles*, 478 U.S. 30 (1986), the Supreme Court set out the framework for challenges to such practices or procedures. In *Brnovich v. Democratic National Committee*, 141 S. Ct. 2321, 2337 (2021), the Supreme Court described *Gingles* as "our seminal § 2 vote-dilution case" and recognized that "[o]ur many subsequent vote-dilution cases have largely followed the path that Gingles charted." Analysis begins by considering whether three *Gingles* preconditions exist. First, the minority group must be sufficiently large and geographically compact to constitute a majority of the voting-age population in a single-member district. Second, the minority group must be politically cohesive. Third, the majority must vote sufficiently as a bloc to enable it—in the absence of special circumstances, such as the minority candidate running unopposed—usually to defeat the minority group's preferred candidate. Our finding that racially polarized or racial bloc voting exists in Alaska elections and that such racial polarization has prevented Alaska Natives from electing their candidates of choice in given elections is legally significant. Pursuant to Section 2 of the Voting Rights Act of 1965, districts must be created to provide Alaska Natives with the opportunity to elect candidates of choice to overcome cohesive racial bloc voting by white voters that prevents them from doing so. A racial bloc voting analysis, such as presented here, is used to ascertain whether minority voters are politically cohesive and if white voters bloc vote to usually defeat minority-preferred candidates.

If, based on the racial bloc voting (RBV) analysis, it is determined voting is racially polarized, and candidates preferred by a politically cohesive minority group are usually defeated by white voters not supporting these candidates, a district(s) that offers minority voters an opportunity to elect their candidates of choice must be drawn. If such districts already exist, and minority-preferred candidates are winning only because these districts exist, then these minority districts must be maintained in a manner that continues to provide minority voters with an opportunity to elect their preferred candidates.

The question, then, is what is a reasonable share of a district's population that is necessary to ensure that Alaska Natives have a reasonable opportunity to elect their candidates of choice? This can be determined from equation 1. If we have estimates of the vote share of the groups, we can solve for, X, the share of Alaska Natives, needed such as their preferred candidate is likely to get greater than half the votes. Given that the estimates of voting behavior are relatively uncertain in the Alaskan data, we will want to consider a range. Looking at the racially polarized elections, districts would need to be somewhere around 45% to 50% Alaska Native to give them an opportunity to elect candidates of choice.

5 References

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2014

EI Results for Senate District C in 2014

	Native	Other
Shockley*	71.0	23.5
	(58.6, 82.0)	(19.5, 27.3)
Bishop	29.0	76.5
	(18.0, 41.4)	(72.7, 80.5)

EI Results for Senate District P in 2014

	Native	Other
Henrichs*	43.5	24.5
	(20.0, 69.5)	(19.9, 28.3)
Stevens	56.5	75.5
	(30.5, 80.0)	(71.7, 80.1)

EI Results for House District 1 in 2014

	Native	Other
Kawasaki	52.4	53.3
	(21.6, 82.4)	(33.6, 73.3)
Bringhurst*	47.6	46.7
	(17.6, 78.4)	(26.7, 66.4)

EI Results for House District 6 in 2014

	Native	Other
Justin*	85.2	21.9
	(76.0, 92.7)	(18.1, 25.7)
Talerico	14.8	78.1
	(7.3, 24.0)	(74.3, 81.9)

EI Results for House District 33 in 2014

	Native	Other
Kito*	64.2	79.1
	(36.5, 87.9)	(72.0, 86.7)
Dukowitz	35.8	20.9
	(12.1, 63.5)	(13.3, 28.0)

EI Results for Governor/Lt. Governor in 2014

	Native	Other
Clift/Lee	7.7	1.9
	(6.6, 8.8)	(1.6, 2.3)
Myers/Rensel	9.3	0.8
	(8.6, 9.9)	(0.7, 1.0)
Parnell/Sullivan	30.6	51.4
	(28.6, 32.6)	(50.8, 51.9)
Walker/Mallott*	52.5	45.9
	(50.4, 54.5)	(45.2, 46.5)

2016

EI Results for House District 2 in 2016

	Native	Other
Holdaway*	53.2	12.3
	(15.7, 85.0)	(1.2, 26.7)
Thompson	46.8	87.7
	(15.0, 84.3)	(73.3, 98.8)

EI Results for House District 6 in 2016

	Native	Other
Land*	65.1	20.8
	(54.2, 75.1)	(17.7, 24.0)
Talerico	34.9	79.2
	(24.9, 45.8)	(76.0, 82.3)

EI Results for House District 36 in 2016

	Native	Other
Sivertsen*	23.0	50.0
	(7.8, 41.8)	(42.0, 58.3)
Shaw	10.1	3.7
	(3.5, 17.7)	(1.2, 6.5)
Ortiz	67.0	46.3
	(48.2, 83.1)	(37.4, 54.4)

EI Results for House District 37 in 2016

	Native	Other
Edgmon*	62.4	53.5
	(54.5, 70.6)	(38.7, 68.3)
Weatherby	37.6	46.5
	(29.4, 45.5)	(31.7, 61.3)

2018

EI Results for House District 18 in 2018

	Native	Other
Drummond	52.4	67.1
	(22.0, 80.6)	(53.8, 80.5)
Lekanoff*	47.6	32.9
	(19.4, 78.0)	(19.5, 46.2)

EI Results for House District 32 in 2018

	Native	Other
Harris	30.6	34.1
	(10.5, 56.3)	(26.6, 40.2)
Stutes	38.1	57.7
	(15.5, 63.4)	(50.7, 64.8)
Katelnikoff-Lester*	31.3	8.2
	(12.5, 52.3)	(2.7, 13.3)

EI Results for House District 37 in 2018

	Native	Other
Edgmon*	67.9	55.1
	(61.2, 74.8)	(40.3, 70.7)
Weatherby	32.1	44.9
	(25.2, 38.8)	(29.3, 59.7)

EI Results for House District 38 in 2018

	Native	Other
Zulkosky*	55.9	51.9
	(49.9, 61.9)	(17.4, 82.6)
Deacon*	44.1	48.1
	(38.1, 50.1)	(17.4, 82.6)

EI Results for House District 40 in 2018

	Native	Other
Lincoln*	64.7	36.2
	(57.3, 71.5)	(8.4, 68.3)
Mack*	11.2	47.9
	(4.7, 18.4)	(17.0, 76.6)
Savok*	24.1	15.9
	(19.8, 28.9)	(3.5, 35.9)

EI Results for Governor/Lt. Governor in 2018

	Native	Other
Begich/Call*	66.0	36.6
	(64.2, 67.7)	(36.0, 37.3)
Dunleavy/Meyer	21.8	61.8
	(20.1, 23.5)	(61.1, 62.4)
Toien/Clift	6.2	1.0
	(5.6, 6.9)	(0.9, 1.2)
Walker/Mallott*	5.9	0.5
	(5.5, 6.4)	(0.4, 0.6)

Supplemental Alaska Racially Polarized Voting Analysis for 2021 Redistricting

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After completing our racially polarized voting analysis of elections in Alaska presented in our earlier report, we were asked to further quantitatively examine voting patterns of Alaska Native, non-Alaska Native Minorities, and Other (non-Minority and non-Alaska Native) individuals in the Anchorage area. In particular, we examined legislative districts 15, 16, 17, 18, 19, 20, 23, and 25. Unfortunately, this analysis is not possible and no reliable inferences can be made of voter behavior in this area. Ecological inference requires at least some almost homogeneous precincts in order to generate reliable estimates of a group's voting behavior. In this area, there are no precincts that are anywhere close to homogeneous. For example, the largest fraction of non-Alaska Native minority population in any precinct is 77.4% and only 30.0% for Alaska Natives. This problem was confirmed by the failed diagnostics of the estimated models attempted on the data from this area.