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December 21, 1998

Ms. Magalie R. Salas
Secretary
Federal Communications Commission
445 12th Street, S.W., TWA325
Washington, D.C. 20554

Re: **CS Docket No. 98-201**

Dear Ms. Salas:

Transmitted herewith for filing, on behalf of Gray Communications Systems, Inc., are an original and eleven (11) copies of ***Reply Comments*** in the above-referenced proceeding.

If any questions should arise during the course of your consideration of this matter, it is respectfully requested that you communicate with this office.

Very truly yours,

BROOKS, PIERCE, McLENDON,
HUMPHREY & LEONARD, L.L.P.

David Kushner

David Kushner
Special Counsel to
Gray Communications Systems, Inc.

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Before the
Federal Communications Commission
Washington, D.C. 20554

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In the Matter of	)	
	)	
Satellite Delivery of Network Signals to Unserved Households for Purposes of the Satellite Home Viewer Act	)	CS Docket No. 98-201 RM No. 9335 RM No. 9345
	)	
Part 73 Definition and Measurement of Signals of Grade B Intensity	)	
	)	
To: The Commission		

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REPLY COMMENTS OF
GRAY COMMUNICATIONS SYSTEMS, INC.

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December 21, 1998

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Satellite Delivery of Network Signals to Unserved Households for Purposes of the Satellite Home Viewer Act	)	CS Docket No. 98-201 RM No. 9335 RM No. 9345
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Part 73 Definition and Measurement of Signals of Grade B Intensity	)	

To: The Commission

REPLY COMMENTS OF
GRAY COMMUNICATIONS SYSTEMS, INC.

Gray Communications Systems, Inc. ("Gray") is the licensee of the following ten television stations: WJHG-TV, Panama City, Florida (an NBC affiliate); WCTV-TV, Tallahassee, Florida (a CBS affiliate); WRDW-TV, Augusta, Georgia (a CBS affiliate); WKYT-TV, Lexington, Kentucky (a CBS affiliate); WYMT-TV, Hazard, Kentucky (a CBS affiliate); KOLN-TV, Lincoln, Nebraska (a CBS affiliate); KGIN-TV, Grand Island, Nebraska (a satellite for KOLN-TV); WITN-TV, Washington, North Carolina (an NBC affiliate); WVLT-TV, Knoxville, Tennessee (a CBS affiliate); and WEAU-TV, Eau Claire, Wisconsin (an NBC affiliate). As the licensee for numerous network-affiliated television stations, many located in smaller markets across the country, Gray will be significantly impacted by the issues addressed in this rulemaking proceeding.

Preliminary Statement

Not surprisingly, the comments filed by satellite interests favor administrative action that would increase the universe of households defined as "unserved" within the meaning of the Satellite

Home Viewer Act ("SHVA" or "Act").[1]

The comments of the ABC, CBS, Fox, and NBC Television Network Affiliate Associations, National Association of Broadcasters, and other broadcast interests make clear that the satellite interests are plainly attempting to persuade the Commission to make an "end-run" around the Act. Those comments also persuasively demonstrate that the Commission is without the legal authority to make the changes requested by the satellite interests.[2]

The opening comments, when synthesized, make plain that improved use of technology to determine eligible "unserved households" is possible.[3] Moreover, common ground can be found on the need for and the technological feasibility of a "local-into-local" satellite service[4] which would be designed to do no harm to localism and local broadcasters such as Gray. Accordingly, Gray hereby submits its Reply Comments in response to the Comments submitted by the satellite carriers, broadcast interests, and others in the above-captioned proceeding.

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[1] *See generally* Comments of PrimeTime 24 Joint Venture; EchoStar Communications; DirecTV, Inc.; Superstar/Netlink Group, L.L.C.; National Rural Telecommunications Cooperative; Primestar Partners, L.P.; Satellite Broadcasting and Communications Association.

[2] *See generally* Comments of ABC, CBS, Fox, and NBC Television Network Affiliate Associations ("Affiliate Associations"); National Association of Broadcasters ("NAB"); Walt Disney Company; CBS Corporation; Fox Broadcasting Company; National Broadcasting Company, Inc.; WB Television Network; Hearst-Argyle Television, Inc.; A.H. Belo Corporation; Fisher Broadcasting; Granite Broadcasting; the North Carolina and Virginia Associations of Broadcasters; Multistate Broadcasters Association; New Mexico Broadcasters Association.

[3] *See generally* Comments of Decisionmark.

[4] *See generally* Comments of Local TV on Satellite, L.L.C.; Northpoint Technology; ABC, CBS, Fox, and NBC Television Network Affiliate Associations; National Association of Broadcasters; EchoStar; DirecTV, Inc.

Introduction

In these Reply Comments, Gray demonstrates why the Commission should reject the satellite carriers' proposal to increase its 50-year-old Grade B intensity values, either directly, by expressly redefining the values, or indirectly, through a modification of Longley-Rice input parameters. Gray endorses and adopts the arguments made by the Affiliate Associations and the NAB demonstrating that the Commission lacks the authority to enforce the SHVA or to interpret any of its provisions.[5] In addition, Gray emphasizes that, to the limited extent the Commission can act, its actions must be guided by the overriding principle of localism. It is not an overstatement to note that the loss of local weather and emergency information by substantial numbers of Gray's viewers might, ultimately, result in harm to human life. The public will suffer needlessly if left unaware of local weather and other emergencies, all of which will be the case if the satellite interests' proposals are adopted.

Gray is providing the Commission with signal area maps of three representative stations detailing the adverse effects on its public service should there be any diminution of its local service areas. The economic impact on local broadcasters from a reduction in viewership due to the importation of duplicative distant network programming will be severe. Gray questions the fundamental fairness of reducing a local broadcaster's service area for purposes of altering a copyright regime, and thus reducing a local broadcaster's revenues, precisely at the time that broadcasters are expected to invest millions of dollars in the conversion to digital television.

Almost one-third of the American people rely *exclusively* on the mix of network programming and local news provided by local network affiliates. Gray submits that *free* broadcast

---

[5] *See* Comments of Affiliate Associations at 2-7, 26-81; Comments of NAB at 26-40.

service to these Americans should not be diminished simply to permit satellite carriers to *sell* the same network programming, absent the critical local news, weather, and political reporting, to paying subscribers—without having to compete in the marketplace, as do the networks and affiliates, for the copyrights to that programming.

I.
Localism Is the Cornerstone of Our Nation's System of Free Over-the-Air Broadcasting

Localism is the core of the nation's system of free over-the-air television. Local news, weather, sports, public affairs, public service announcements, and other programming are an essential component of the service provided by local television stations. In times of crisis, emergency information is delivered to the public by local television stations. During election campaigns, local television stations enable local political candidates to communicate with voters. Local charities rely on PSAs and telethons to alert the community to the needs of their fellow citizens. The focus on localism, as the key component of the nation's communications policy, was no accident. The emphasis on localism in communications policy continues to be due to policy choices made by Congress and the Commission in the years since 1927. Broadcasters such as Gray are spending millions of dollars to replicate their existing NTSC Grade B service with a new, improved DTV service. What, it may be asked, is the point of creating a local television system, whether NTSC or digital, if the Commission is going to sanction the actions of the satellite operators that have the effect of undercutting the very system Congress, the Commission, and the industry have worked over the last 40 years to create?

The concern that harm will be caused by local audience diversion is not a mere hypothetical proposition. According to Nielsen Media Research, the audience diversion from local network

affiliates to distant network affiliates flowing from the unlawful acts of the satellite industry is substantial in Gray's markets. The following chart depicts data on viewer diversion from network programming for four Gray stations:

Call Letters DMA	DMA Market Rank	Raw Number of Diaries Reporting Receipt of Network Service by Satellite	Percentage of Diaries Receiving Network Service by Satellite
WVLT Knoxville, TN	64	76	12.38%
KOLN Lincoln & Hastings/ Kearney, NE	101	113	14.64%
WITN Greenville/New Bern/ Washington, NC	106	88	18.53%
WRDW Augusta, GA	109	48	9.94%

Source: Nielsen Media Research, July 1998 survey period.

These data demonstrate that, of homes watching network programming, some 18.53% are currently being diverted to a distant NBC station rather than watching Gray's local NBC affiliate, WITN, in the Greenville/New Bern/Washington market. Given the high quality of WITN's signal and the flat topography of North Carolina's coastal plain, it is simply not possible that these households are actually "unserved" with the meaning of the SHVA. The fact is virtually all of these viewers are illegally receiving NBC network service by satellite. What is lost by all of this? In the real world, it means that (1) downward pressure will be put on WITN's local advertising rates because of the smaller audience; (2) local political candidates' ads will be seen by 18% fewer local

residents; (3) activations of the EAS system will be seen by 18% fewer local residents; and (4) local PSAs and charity events will be seen by 18% fewer local residents.[6]

To the extent that the Commission can take any action in this proceeding, its actions must be consistent with the purposes of the SHVA. Congress was clear that it intended the Act to "respect[] the network/affiliate relationship and promote[] localism."[7] In the Committee Reports, Congress stated repeatedly its desire to protect the network/affiliate distribution system[8] and to prevent disruption to the special exclusivity arrangement between networks and their affiliates.[9] As the U.S. Copyright Office recently noted: "The legislative history of the 1988 Satellite Home Viewer Act is replete with Congressional endorsements of the network-affiliate relationship and the need for nonduplication protection."[10] The Act's legislative history makes plain Congress's appreciation of the historical and contemporary importance of the network/affiliate relationship and localism to the successful provision of a free, over-the-air television service to the American people.[11] Modifying the Grade B rules to increase, even in the slightest, the composition of the narrow class of unserved households will undermine the economic viability of local broadcasting by altering the economics of local television service.

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[6] All of these numbers are, of course, referring to the number of households watching network programming.

[7] H.R. Rep. No. 100-887, pt. 1, at 14 (1988).

[8] *See id.* at 8; H.R. Rep. No. 100-887, pt. 2, at 19-20 (1988).

[9] *See* H.R. Rep. No. 100-887, pt. 1, at 15 (1988); H.R. Rep. No. 100-887, pt. 2, at 20 (1988).

[10] U.S. Copyright Office, *A Review of the Copyright Licensing Regimes Covering Retransmissions of Broadcast Signals* (Aug. 1, 1997), at 104.

[11] H.R. Rep. No. 100-887, pt. 2, at 20, 26 (1988).

Satellite delivery of distant network signals (indeed, of any programming) is a luxury, not a necessity. The two recent *Turner* cases illustrate the importance of free, over-the-air local broadcasting, especially to those unable to afford subscription services.[12] Gray is concerned lest the Commission rush to "protect" those relatively affluent consumers who may lose satellite delivery of *duplicative distant* network signals (as a result of a court injunction enforcing the copyright laws) at the expense of the one third of Americans who either cannot afford, or choose not to subscribe to, a pay-TV service—because it will be these latter Americans who will ultimately be harmed by the diminution of free, local television service.

Over the decades, the Commission has repeatedly emphasized the mandate of 47 U.S.C. § 307(b) to advance and preserve the nation's "local" broadcast service on the principle of localism.[13] These prior analyses demonstrate that it is simply not desirable from a policy standpoint, as the Commission itself has acknowledged, "to undermine the basic network-affiliate relationship" to resolve "white area" issues concerning satellite duplication of network signals.[14]

To the extent the Commission does possess authority to act on matters presented in the *Notice*, its authority has been circumscribed by the congressional purpose and objectives of the SHVA, recent Supreme Court jurisprudence, and the Commission's own extensive analyses of

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[12] *See Turner Broadcasting Sys. v. FCC*, 512 U.S. 622 (1994) ("*Turner I*"); *Turner Broadcasting Sys. v. FCC*, 520 U.S. —, 137 L. Ed. 2d 369 (1997) ("*Turner II*").

[13] *See, e.g.*, Restrictions on Use of Microwave Relay Facilities to Carry Television Signals to Community Antenna Television Systems, *First Report and Order*, FCC 65-335, 4 Rad. Reg. 2d (P & F) 1725 (1965); Inquiry into the Scrambling of Satellite Television Signals and Access to Those Signals by Owners of Home Satellite Dish Antennas, *Report*, FCC 87-62, 62 Rad. Reg. 2d (P & F) 687 (1987); Program Exclusivity in the Cable and Broadcast Industries, *Report and Order*, FCC 88-180, 64 Rad. Reg. 2d (P & F) 1818 (1988).

[14] Program Exclusivity in the Cable and Broadcast Industries, *Report and Order*, FCC 88-180, 64 Rad. Reg. 2d (P & F) 1818 (1988), at ¶ 119.

similar issues in related contexts. The preservation of local broadcast service, the protection of the network/affiliate distribution system, and the protection of copyrights are the core principles that limit Commission action in this proceeding.

The Commission should take no action that would reduce the local service areas of broadcasters. The result of any such action is clear: Fewer viewers as a result of duplicative satellite programming will directly translate into a loss of advertising revenue. A decline in revenue, combined with the inability of a local broadcaster to reach viewers tuned to duplicative network programming, will inevitably undermine key aspects of the public interest obligations of local broadcasters, including providing local news, weather, public service announcements, and political commentary and advertising, as well as the effective functioning of the Emergency Alert System.

II.
An Increase in Grade B Field Strength Values Would Have a Devastating, Indeed Crippling, Effect on Local Television Service

In their comments, the satellite interests urge the Commission to increase the Grade B field strength values or to increase the time variability and confidence factors in the Longley-Rice model.[15] Gray vigorously opposes any such action. The Commission simply does not have the authority to modify the SHVA by redefining the Act's critical Grade B standard. Moreover, any such manipulation of the Grade B standard would reduce the scope of the copyright protections afforded by the Act and, thus, would be anathema to the Commission's mandate to preserve localism in broadcasting.

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[15] *See, e.g.*, Comments of SBCA at 13 and Engineering Statement. *See also Notice* at ¶¶ 27, 32.

Gray has had a series of signal area maps of three of its ten stations prepared by Decisionmark, an independent computer firm. Gray believes these stations are representative of smaller market television stations across the country. They operate in the 101st, 109th, and 129th DMA markets. The characteristics of these representative stations are summarized in the table below:

Representative Gray Stations

Station	*Affiliation*	*DMA*	*DMA Rank*
KOLN, Channel 10 Lincoln, NE	CBS	Lincoln	101
WRDW, Channel 12 Augusta, GA	CBS	Augusta	109
WEAU, Channel 13 Eau Claire, WI	NBC	Eau Claire	129

Three maps were prepared for each station. The maps are attached as an Appendix. All maps were produced using Longley-Rice, version 1.2.2, in point-to-point mode. The grid size was 1.0 km x 1.0 km. A satellite station for KOLN (KGIN, Grand Island, NE) and eleven translator stations were taken into account to demonstrate the devastation that would be done to KOLN's distribution system were the proposals of the satellite interests to be adopted. The first map shows in light blue all locations predicted to receive a signal of at least Grade B intensity and in dark blue all locations predicted to receive a signal of at least Grade A intensity using the standard Longley-Rice inputs of 50%/50%/50%. The second map shows in light blue all locations predicted to receive a signal of at least Grade B intensity and in dark blue all locations predicted to receive a signal of at least Grade A intensity using the non-standard, EchoStar-proposed inputs of

99%/99%/99%. The third map shows in light blue all locations predicted to receive a signal of at least Grade B intensity and in dark blue all locations predicted to receive a signal of at least Grade A intensity using modified non-standard inputs of 70%/90%/50%. These third inputs were selected to show the results of less extreme modifications to the input factors. Accompanying each set of maps are data summaries detailing the population and area predicted to be served under each set of parameters, as well as the population and area located within the Commission's current predicted Grade B and Grade A contours.

An analysis of this data is provided in the accompanying chart to graphically demonstrate the damage that would be done to local service in Gray's Nebraska, Georgia, and Wisconsin markets were any of the satellite industry's proposals to be adopted.

The column labeled A in the chart shows the percentage difference in size between the larger population predicted to receive a signal of at least Grade B intensity and the smaller population predicted to receive a signal of at least Grade A intensity, both calculated using the standard Longley-Rice inputs of 50%/50%/50%. This comparison is significant because the *Notice* acknowledges that the Commission "cannot modify Grade B intensity so much that it effectively equals or exceeds Grade A signal intensity."[16] This comparison thus demonstrates the potential effect on local viewership were the Commission to increase the current, traditional Grade B intensity values to equal the current, traditional Grade A intensity values. Gray reiterates that the Commission lacks the authority to modify the Grade B intensity values for purposes of the SHVA at all, let alone to increase them to the Grade A levels.

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[16] *Notice* at ¶ 28.

Engineering Analysis of Representative
Gray Communications Systems Television Stations

			FCC Grade B	Longley-Rice F(50,50,50) B	FCC Grade A	Longley-Rice F(50,50,50) A	Longley-Rice F(99,99,99) B	Longley-Rice F(70,90,50) B	A % Difference L-R F(50,50,50) B / L-R F(50,50,50) A /	B % Difference L-R F(50,50,50) B / L-R F(99,99,99) B	C % Difference L-R F(50,50,50) A / L-R F(99,99,99) B	D % Difference L-R F(50,50,50) B / L-R F(70,90,50) B
KOLN	CBS	1990 Population	1,122,161	1,255,725	589,825	649,176	296,111	808,704	-48.30%	-76.42%	-54.39%	-35.60%
		1990 Households	427,501	481,583	227,908	248,811	115,307	310,013	-48.33%	-76.06%	-53.66%	-35.63%
		Area (sq. km)	71,594	88,064	31,180	49,368	8,511	63,236	-43.94%	-90.34%	-82.76%	-28.19%
WRDW	CBS	1990 Population	1,263,715	1,215,579	575,883	629,075	353,143	781,308	-48.25%	-70.95%	-43.86%	-35.73%
		1990 Households	453,359	434,692	204,727	224,347	127,469	278,670	-48.39%	-70.68%	-43.18%	-35.89%
		Area (sq. km)	30,498	31,371	14,031	16,191	2,605	21,800	-48.39%	-91.70%	-83.91%	-30.51%
WEAU	NBC	1990 Population	848,978	734,209	353,882	356,415	68,664	467,058	-51.46%	-90.65%	-80.73%	-36.39%
		1990 Households	310,265	266,994	127,880	129,067	24,493	168,913	-51.66%	-90.83%	-81.02%	-36.74%
		Area (sq. km)	38,674	38,011	19,401	22,413	5,464	27,533	-41.03%	-85.63%	-75.62%	-27.56%
								Average Change				
								1990 Population	-49.34%	-79.34%	-59.66%	-35.90%
								1990 Households	-49.46%	-79.19%	-59.29%	-36.08%
								Area (sq. km)	-44.45%	-89.22%	-80.77%	-28.76%

The potential loss of viewership for these three Gray stations ranges from 48% for KOLN, Lincoln, Nebraska, to nearly 52% for WEAU, Eau Claire, Wisconsin—in actual numbers this means a potential loss of more than 600,000 viewers for KOLN, 586,000 viewers for WRDW and 370,000 viewers for WEAU. The average reduction at all three Gray stations if field strength intensity is raised to Grade A levels is nearly *fifty percent* (49.3%) of those currently predicted to be served. Were local broadcasters to lose, on average, one-half of their viewership to duplicating distant network service, local advertising revenue would decline on approximately the same order. Neither Gray nor many other local broadcasters could hope to survive such a drastic reduction in revenue. The message is clear: the Commission ought not gut the principles of localism in this manner.

The results provided in columns **B** and **C** show the absurdity of EchoStar's original 99%/99%/99% proposal.[17] Column B shows the percentage reduction in population predicted to be served by a signal of at least Grade B intensity when the Longley-Rice inputs are increased from their standard 50%/50%/50% to EchoStar's proposed 99%/99%/99%. This increase in input parameters shrinks the predicted service areas and populations *dramatically*. The decrease in service areas for these three Gray stations averages more than *89%*, ranging from more than *85%* for WEAU to nearly *92%* for WRDW. The decrease in served populations averages approximately *80%*, ranging from nearly *71%* for WRDW, a potential loss of more than *862,000* viewers, to more than *90%* for WEAU, a potential loss of more than *377,000* viewers.

The absurdity of the EchoStar proposal is shown in column C, however. That column shows the percentage difference between that population predicted to receive a signal of at least *Grade A*

[17] As extreme as this proposal is, the proposed inputs of 100%/100%/100%, originally advanced by the National Rural Telecommunications Cooperative ("NRTC"), are even more extreme. Thus, the following analysis is even more strongly applicable to NRTC's proposal.

intensity under the standard input parameters and the population predicted to receive a signal of only Grade B intensity under EchoStar's proposed parameters. On average, the population predicted to receive the weaker Grade B signal under EchoStar's proposal is nearly 60% *smaller* than the population likely to receive the stronger Grade A signal with normal parameters. In other words, EchoStar's proposed inputs would shrink the defined service population to an amount significantly smaller than the population predicted to receive a Grade A signal. Yet, as noted above, the Commission has acknowledged that Grade B service cannot be smaller than current Grade A service.[18] In addition, column C also shows that the EchoStar proposal would shrink the predicted Grade B service area to an area, on average, *80%* smaller than the area predicted to receive a signal of at least Grade A intensity. In most cases, a station's Grade B service area would not even extend as far as the station's current city grade contour, as required by 47 C.F.R. § 73.685. No matter how unrealistic the input parameters the satellite carriers may wish the Commission to require or recommend,[19] those statistical inputs will not alter the physical fact that local stations will, in reality, be providing the requisite minimum field strength over their principal communities. These households are served by their local affiliates and are ineligible for distant network service pursuant to the SHVA's compulsory license scheme. Overall, this example demonstrates that any modifications to the Longley-Rice input parameters are, in effect, just an indirect means by which to alter the actual intensity values. Neither should be done.

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[18] *See Notice* at ¶ 28.

[19] Not only are these parameters wholly unrealistic, they present statistical problems. The statistical function underlying Longley-Rice relies on a log normal distribution. However, insufficient data exist for input parameters greater than 90%. Accordingly, the log normal distribution begins to break down with inputs greater than 90%, and the results obtained are not reliable despite the so-called confidence factor.

Finally, the results provided in column **D** show the adverse effects of even moderate changes in the Longley-Rice input parameters. This column shows the percentage difference between populations and areas predicted to receive a signal of current, traditional Grade B field strength calculated according to the standard parameters of 50%/50%/50%, which are designed to reflect the median, and modified, non-standard parameters of 70%/90%/50%. These latter inputs are far less extreme than those proposed by the satellite industry. Although these inputs were never advanced by the satellite industry, they were selected for illustrative purposes only. In fact, the 70% location variability factor and the 90% time variability factor were chosen precisely because they seem to call to mind the statistical meaning of the traditional Grade A intensity values. The Commission's Grade A values were originally developed so that 70% of the receiving locations at the perimeter would receive an acceptable quality picture at least 90% of the time.[20] *This similarity, however, is deceptive.* The field strength being plotted with Longley-Rice inputs of 70%/90%/50% is still the *Grade B* intensity value; it is **not** the Grade A field strength that is being measured. Unlike the Grade B field strength values, the Grade A values have a terrain factor of 4 dB built in to improve the location probability, assume no (zero) receiving antenna gain (vis-à-vis a gain of 6 dB for VHF and 13 dB for UHF for Grade B), and contain substantial margins to overcome external environmental noise (14 dB for low VHF and 7 dB for high VHF).[21] Therefore, by definition, one should expect that a Longley-Rice 70%/90%/50% plot of Grade B values will be, in most cases,

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[20] *See Notice* at ¶ 28.

[21] *See* Television Broadcast Service, *Third Notice of Further Proposed Rule Making*, FCC 51-244, 16 Fed. Reg. 3072, 3080 (Appendix B) (Apr. 7, 1951); Robert A. O'Connor, *Understanding Television's Grade A and Grade B Service Contours*, IEEE Transactions 137, 142 (Dec. 1968); Gary S. Kalagian, *A Review of the Technical Planning Factors for VHF Television Service*, FCC/OCE Bulletin RS 77-01 (Office of Chief Engineer Mar. 1, 1977), at 4. External environmental noise is not a factor for UHF.

more geographically expansive than a Longley-Rice 50%/50%/50% plot of Grade A values. This, in fact, is what the data confirm.

This discussion further illustrates, that, because of the different planning factors involved in the two grades of service, one cannot assume that, merely by changing the input parameters in Longley-Rice, one can reproduce any given field strength value and its distribution over a given area. There is a relationship between the two, but it is not direct. For any given Longley-Rice inputs of x % location variability and y % time variability plotting traditional Grade B field strength values, there is a corresponding *different* median field strength, z dBu, that can be plotted by Longley-Rice with inputs of 50%/50%/50% so that the *total* areas encompassed by the two plots are equal. In other words, changing the Longley-Rice variability parameters, but plotting the traditional Grade B intensity value, is equivalent, albeit indirectly, to modifying the Grade B intensity value itself and plotting those locations where that median field strength is predicted to exist.[22]

The results in column D, then, show that even very moderate alterations to the Longley-Rice variability inputs will result in significant losses of viewership. Over the three Gray stations, there is a 36% average decrease in the population to be served and an average reduction in area predicted to be served of more than 28%. In the case of WRDW, Augusta, Georgia, there is a loss of service population of more than 35%, and a loss of service area of more than 30%. In the case of WEAU, Eau Claire, Wisconsin, there is a loss of service population of more than 36%, and a loss of service area of more than 27%.

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[22] If either x or y is greater than 50%, then z will necessarily be greater than the Commission's traditional Grade B intensity values, i.e., greater than 47 dBu for low VHF, 56 dBu for high VHF, and 64 dBu for UHF.

In sum, these data confirm Gray's contention that increases in the Grade B field strength values or in the Longley-Rice input parameters will significantly reduce the copyright protection afforded by the SHVA and erode the viewership base of local network affiliate stations.

But the economic harm to local stations and thus the danger to localism itself may be even more significant. For example, currently KOLN, Lincoln, Nebraska, employs a Doppler radar and other weather-related equipment. It is critical to KOLN's local mission to be able to report as accurately as possible on the fast-appearing and fast-moving tornados and severe thunderstorms that frequent the Great Plains States, for human lives are at stake. KOLN has made a significant capital investment in its weather radar facilities alone. It is difficult to understand how stations such as KOLN could fund such capital-intensive endeavors if they were to lose only a fraction—let alone as much as half—of the local advertising revenue that is potentially at stake due to duplicative network programming delivered via satellite. When viewers are lost to satellite service, the harm to localism is doubly insidious, for not only will stations be less able to fund capital-intensive upgrades for local services such as an emergency weather reporting, but viewers themselves will not be watching their local stations and thus may fail to see potentially life-saving local reports. Effective functioning of the Emergency Alert System would clearly be frustrated.

Weather reporting is just one example of the many types of local service affiliates provide and of the obligations to which broadcasters are committed. In addition to weather equipment, local stations must make substantial investments to provide first-rate local news and public affairs programming. Some stations also own and maintain helicopters for traffic and emergency reporting. Perhaps most significantly, broadcasters are transitioning to DTV. DTV upgrades, including new antennas and possibly new towers, as well as a host of other necessary equipment, will likely cost the average station millions of dollars. The DTV conversion will, in fact, cost Gray millions of

dollars. The Commission must examine the issue of how local affiliates will be able to invest such enormous sums—and why they should do so—if they are to be faced with ever shrinking audiences, and thus shrinking revenues, due to satellite carriers' cherry-picking the market's most affluent viewers with duplicative distant network programming.

If the Commission decides to reduce the service areas of local affiliates by any means—directly, by increasing the Grade B intensity values, or indirectly, by modifying Longley Rice's location, time, and confidence variability factors—the adverse economic effects on broadcasters will be significant and far-reaching. Such action would undermine the ability of local stations to serve as an outlet for community self-expression and as a source of critical information of local concern. Section 307(b) of the Communications Act mandates that the Commission work to advance the principles of localism. Failure to do so will threaten the very existence of an industry on which the American people have relied for more than half a century.

Conclusion

Gray acknowledges that the Commission wants "to protect satellite subscribers *who are truly unserved* from losing network service."[23] But, as demonstrated by the Affiliate Associations and other commenters in this proceeding,[24] the number of households *truly unserved* by local broadcast network service is less than one percent of all television households in the country—fewer than 500,000 households. The Commission's successful administration of the broadcasting industry has resulted in a "white area" that is relatively small on a nationwide basis. The fact that very few households are truly "unserved" is the reason why Congress was willing to grant satellite carriers

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[23] *Notice* at ¶ 15 (emphasis added).

[24] *See, e.g.*, Comments of Affiliate Associations at 10-12.

a special, narrowly-drawn compulsory copyright license in the first place. However, instead of respecting the limits of the special privilege afforded by the compulsory license, and instead of competing on equal terms in the programming market for the copyright privileges not granted them by the Act, the satellite carriers have chosen to build their industry on the back of those copyrights bargained for and paid for by others. Now they have turned to the Commission in the hope that it will act to legitimize their illegal actions. The Commission cannot and should not implement the satellite industry's ill-advised proposals.

Respectfully submitted,

GRAY COMMUNICATIONS SYSTEMS, INC.

By _____
Wade H. Hargrove

By _____
Mark J. Prak

By _____
David Kushner

Its Attorneys

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December 21, 1998

APPENDIX

decision mark™

Declaration of Kenneth A. Franken

I, Kenneth A. Franken, hereby declare as follows:

1. I am Kenneth A. Franken, Product Development Manager at Decisionmark Corp.

2. I have eight years of computer programming experience, including more than three years of experience in the development of software for numerical simulations. In addition, I have two years of experience in the development of GIS/mapping software and the analysis of geographic data. I also possess two years of experience in the development of software designed for purposes of aiding compliance with the Satellite Home Viewer Act ("SHVA"), including, in particular, the preparation of signal area maps based on the Longley-Rice Irregular Terrain Model. I have been responsible for the development of the software and data used in Decisionmark's ProximityTV, a SHVA compliance tool. ProximityTV is used by approximately 75% of the commercial television stations affiliated with one of the four major networks (ABC, CBS, Fox, and NBC). I also developed much of the software used to process data in the broadcasting industry-Primestar-Netlink "Red Light/Green Light" agreement.

3. I prepared the accompanying signal area maps and data summaries at the request of Gray Communications Systems, Inc. for use by it in response to the *Notice of Proposed Rule Making*, FCC 98-302, released November 17, 1998, in the matter of Satellite Delivery of Network Signals to Unserved Households for Purposes of the Satellite Home Viewer Act.

4. These maps and their accompanying data are true and correct to the best of my information, knowledge, and belief.

This the 15th day of December, 1998.

Kenneth A. Franken
Product Development Manager

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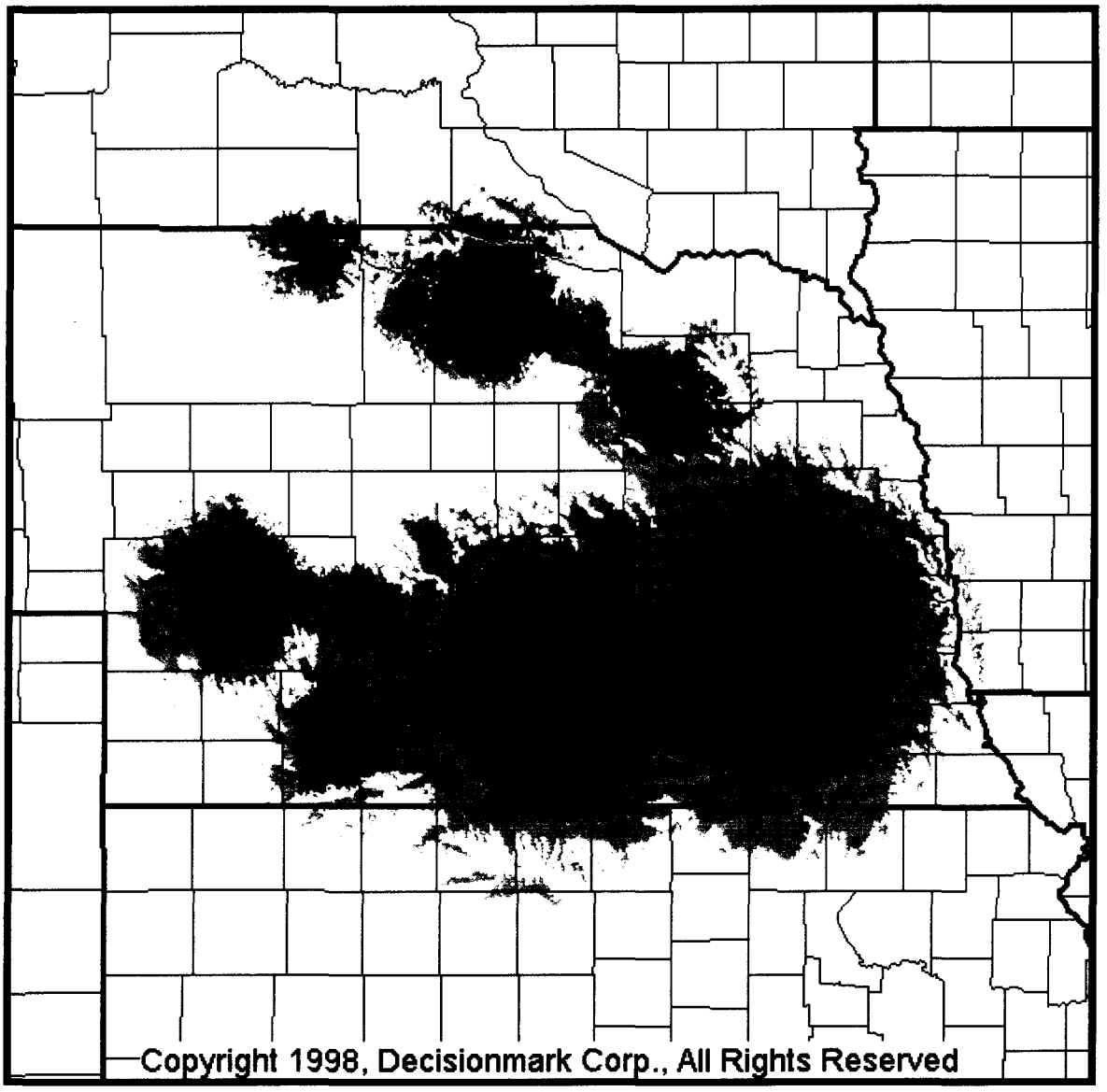
Telephone 319.365.5597 FAX 319.365.5694 www.decisionmark.com

KOLN (CBS, Channel 11)

Lincoln, Nebraska

Predicted Signal Areas and Demographics



● Grade A Longley-Rice 50% Location, 50% Time, 50% Confidence

● Grade B Longley-Rice 50% Location, 50% Time, 50% Confidence

▲ Tower Location

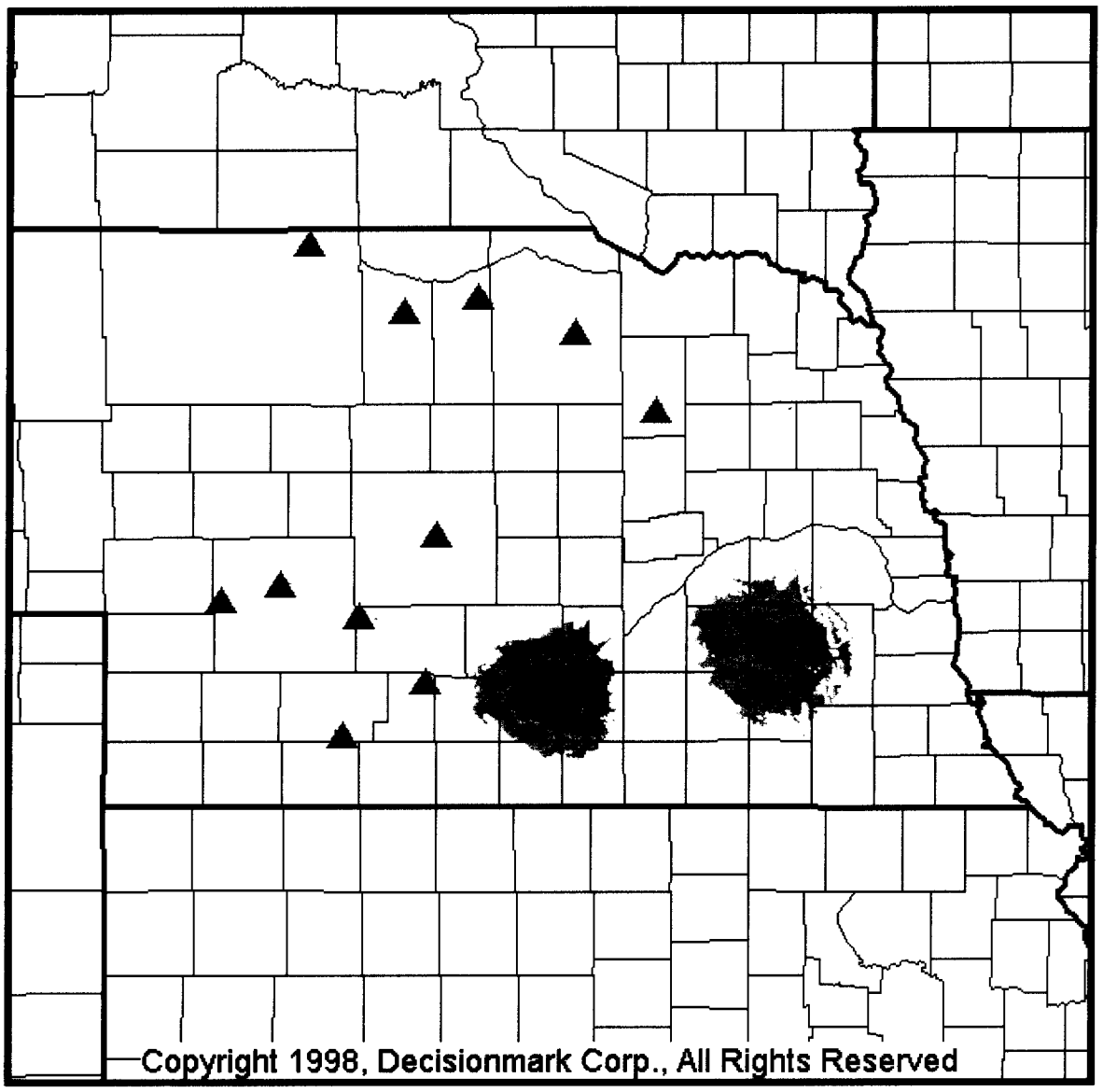
Summary Demographic Data (1990 Census)

	FCC B	L/R B (50/50/50)	FCC A	L/R A (50/50/50)
Served Population	1,122,161	1,255,725	589,825	649,176
Served Households	427,501	481,583	227,908	248,811
Served Land Area (km^2)	71,594	88,064	31,180	49,368

KOLN (CBS, Channel 11)

Lincoln, Nebraska

Predicted Signal Areas and Demographics



- Grade A Longley-Rice 99% Location, 99% Time, 99% Confidence
- Grade B Longley-Rice 99% Location, 99% Time, 99% Confidence
- Tower Location

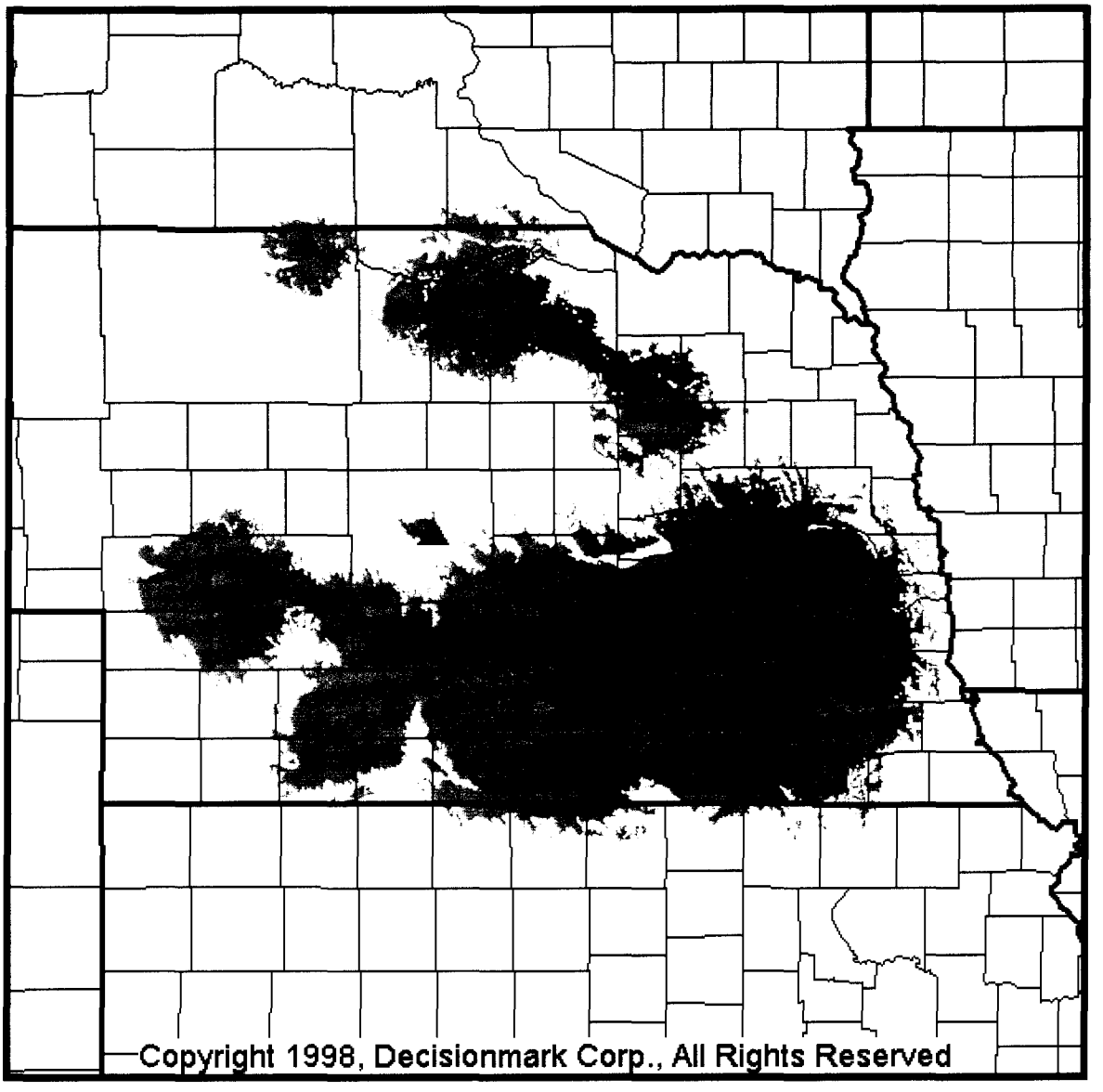
Summary Demographic Data (1990 Census)

	FCC B	L/R B (99/99/99)	FCC A	L/R A (99/99/99)
Served Population	1,122,161	296,111	589,825	23,370
Served Households	427,501	115,307	227,908	9,377
Served Land Area (km^2)	71,594	8,511	31,180	1,290

KOLN (CBS, Channel 11)

Lincoln, Nebraska

Predicted Signal Areas and Demographics



● Grade B Longley-Rice 70% Location, 90% Time, 50% Confidence
▲ Tower Location

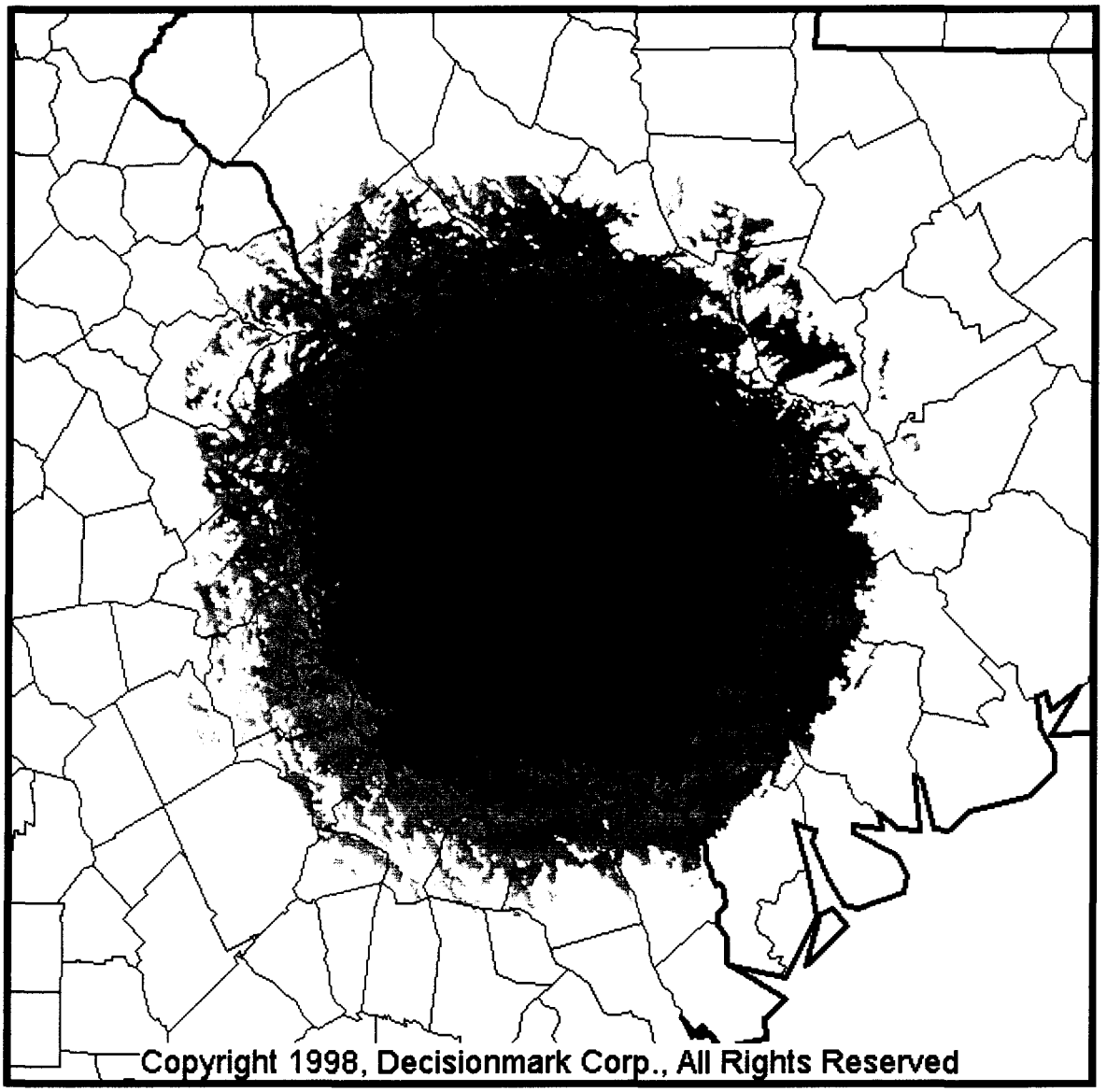
Summary Demographic Data (1990 Census)

	FCC B	L/R B (70/90/50)
Served Population	1,122,161	808,704
Served Households	427,501	310,013
Served Land Area (km^2)	71,594	63,236

WRDW (CBS, Channel 12)

Augusta, Georgia

Predicted Signal Areas and Demographics



- ● Grade A Longley-Rice 50% Location, 50% Time, 50% Confidence
- ● Grade B Longley-Rice 50% Location, 50% Time, 50% Confidence
- ▲ Tower Location

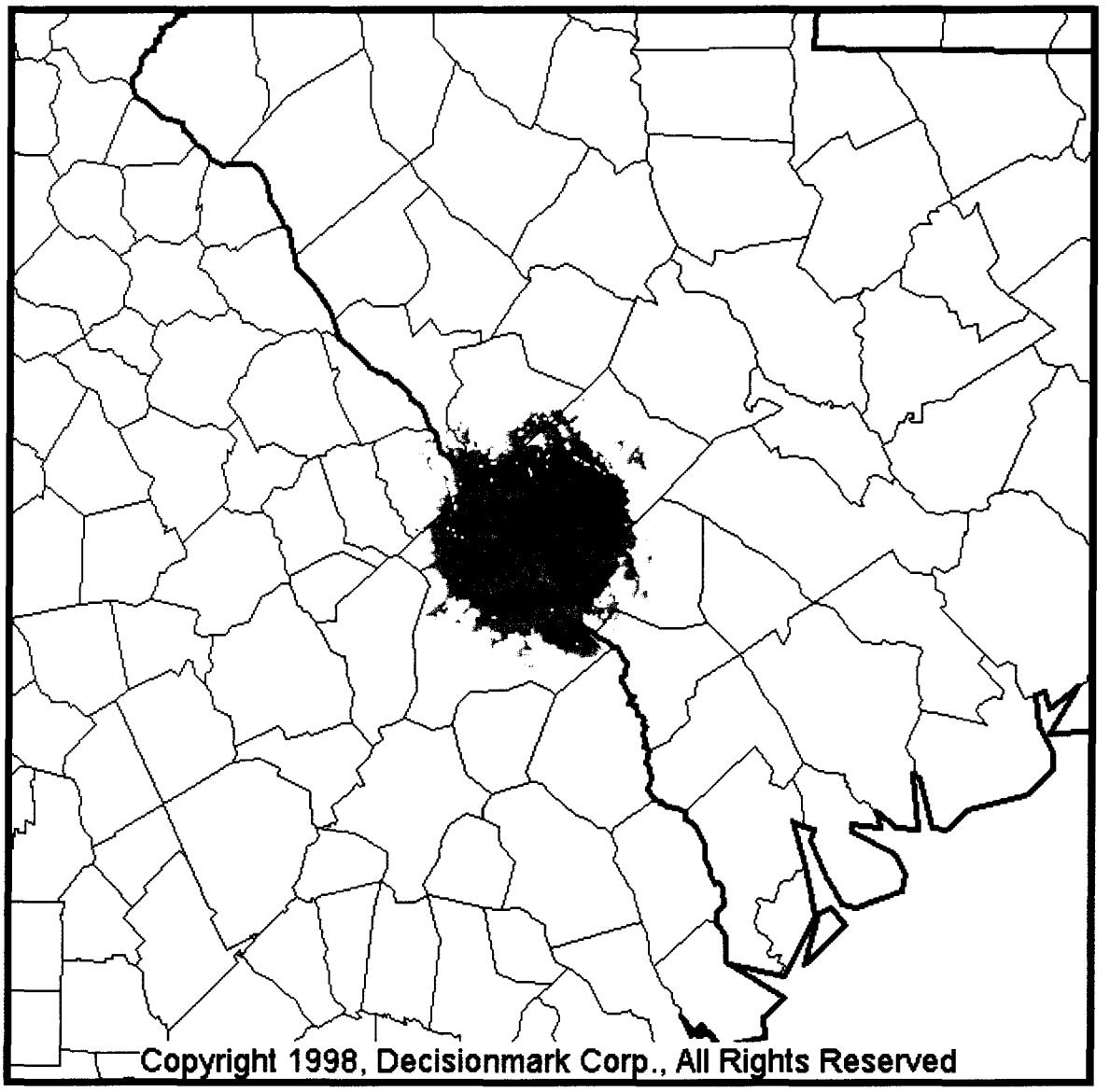
Summary Demographic Data (1990 Census)

	FCC B	L/R B (50/50/50)	FCC A	L/R A (50/50/50)
Served Population	1,263,715	1,215,579	575,883	629,075
Served Households	453,359	434,692	204,727	224,347
Served Land Area (km^2)	30,498	31,371	14,031	16,191

WRDW (CBS, Channel 12)

Augusta, Georgia

Predicted Signal Areas and Demographics



- Grade A Longley-Rice 99% Location, 99% Time, 99% Confidence
- Grade B Longley-Rice 99% Location, 99% Time, 99% Confidence
- Tower Location

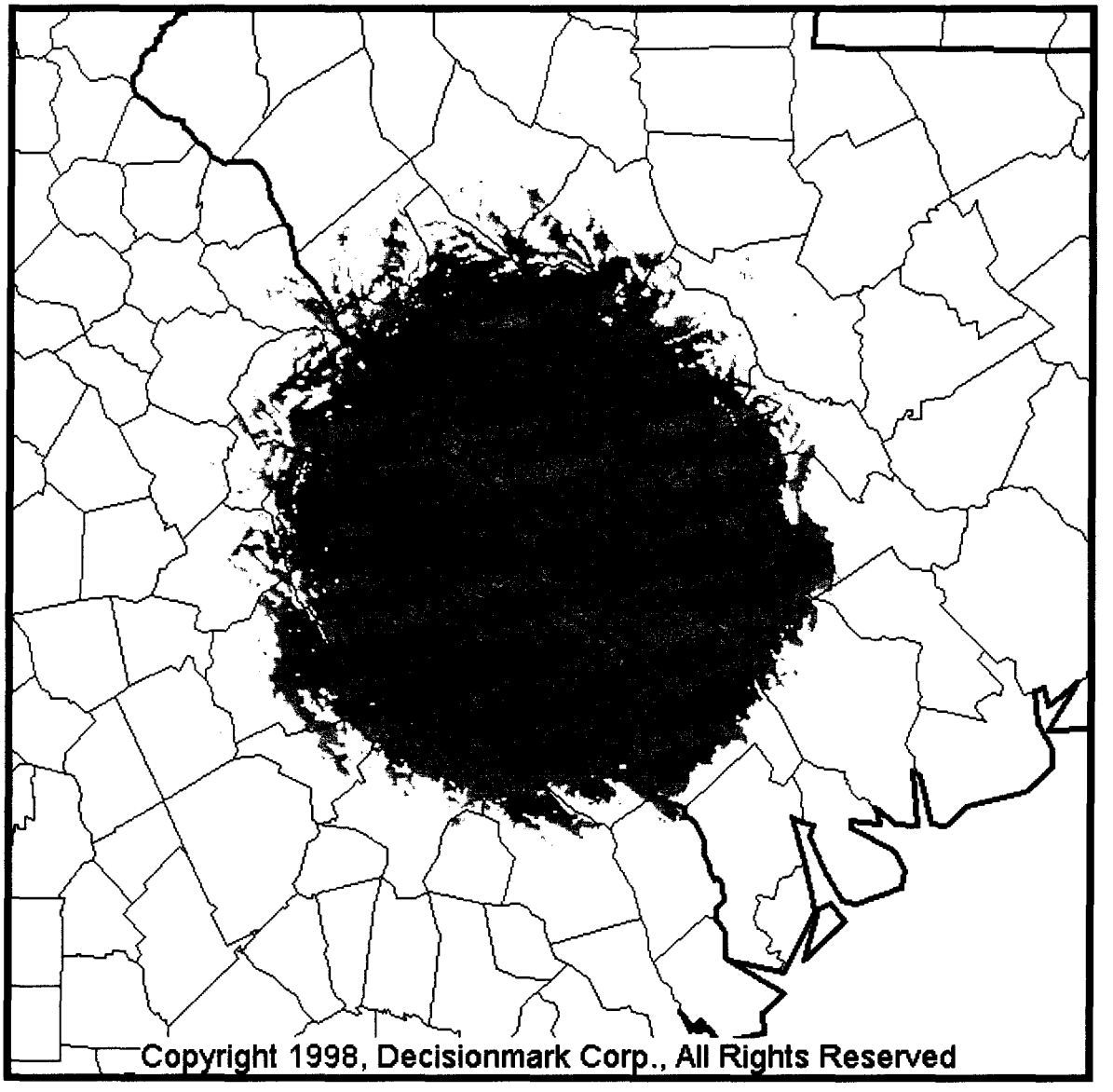
Summary Demographic Data (1990 Census)

	FCC B	L/R B (99/99/99)	FCC A	L/R A (99/99/99)
Served Population	1,263,715	353,143	575,883	9,872
Served Households	453,359	127,469	204,727	3,416
Served Land Area (km^2)	30,498	2,605	14,031	181

WRDW (CBS, Channel 12)

Augusta, Georgia

Predicted Signal Areas and Demographics



● Grade B Longley-Rice 70% Location, 90% Time, 50% Confidence
▲ Tower Location

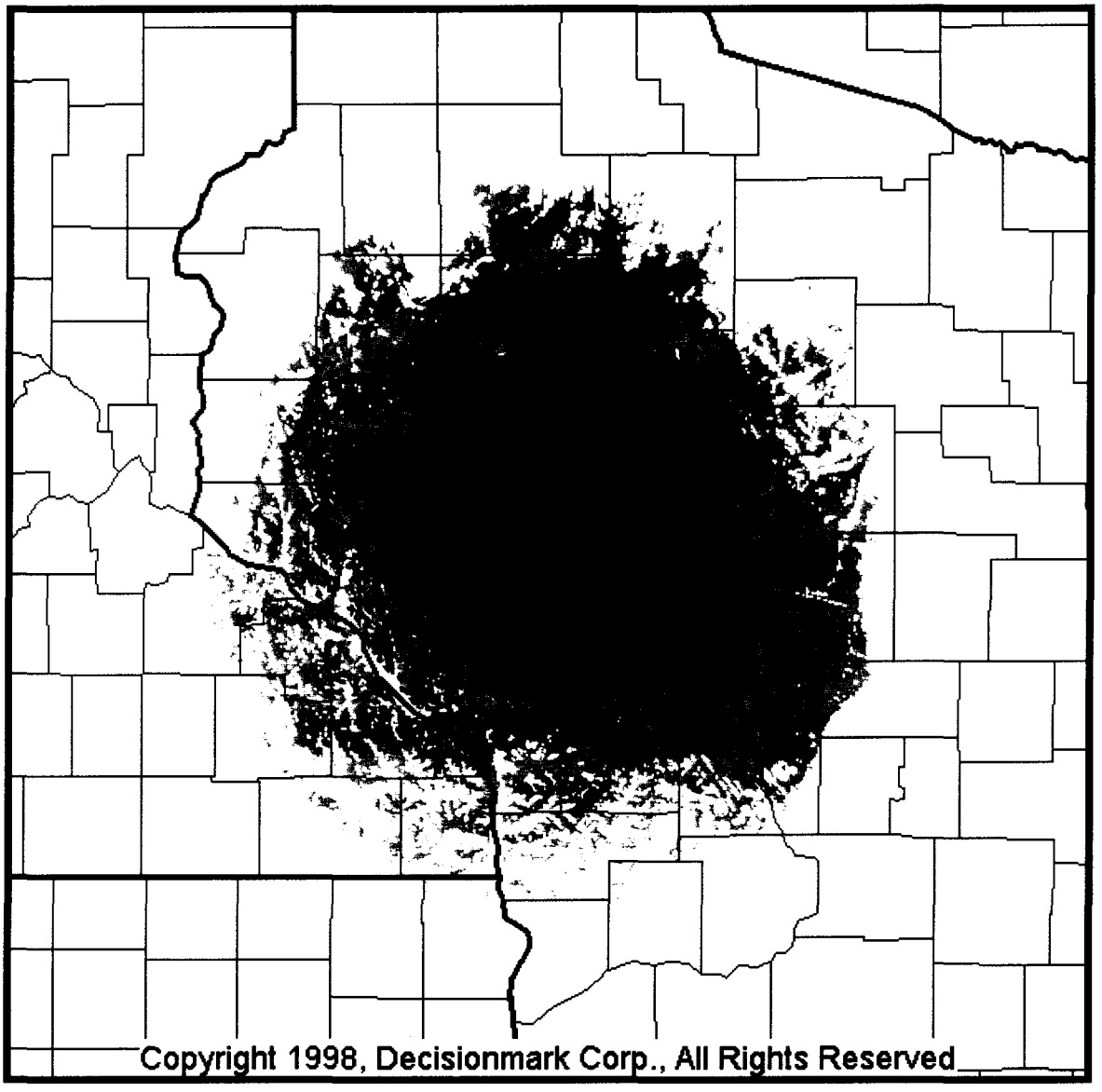
Summary Demographic Data (1990 Census)

	FCC B	L/R B (70/90/50)
Served Population	1,263,715	781,308
Served Households	453,359	278,670
Served Land Area (km^2)	30,498	21,800

WEAU (NBC, Channel 13)

Eau Claire, Wisconsin

Predicted Signal Areas and Demographics



- Grade A Longley-Rice 50% Location, 50% Time, 50% Confidence
- Grade B Longley-Rice 50% Location, 50% Time, 50% Confidence
- Tower Location

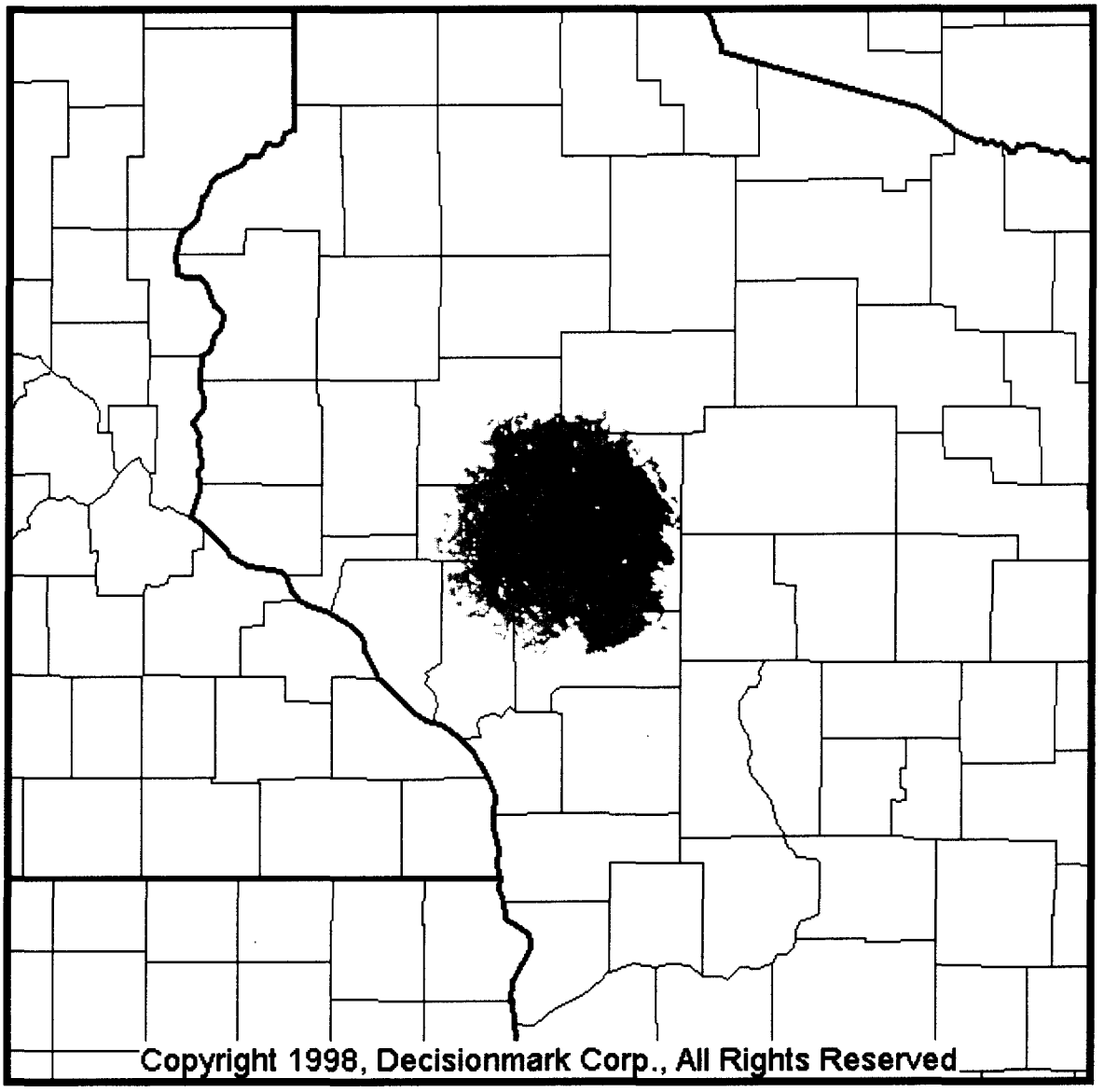
Summary Demographic Data (1990 Census)

	FCC B	L/R B (50/50/50)	FCC A	L/R A (50/50/50)
Served Population	848,978	734,209	353,882	356,415
Served Households	310,265	266,994	127,880	129,067
Served Land Area (km^2)	38,674	38,011	19,401	22,413

WEAU (NBC, Channel 13)

Eau Claire, Wisconsin

Predicted Signal Areas and Demographics



- ● Grade A Longley-Rice 99% Location, 99% Time, 99% Confidence
- ● Grade B Longley-Rice 99% Location, 99% Time, 99% Confidence
- ▲ Tower Location

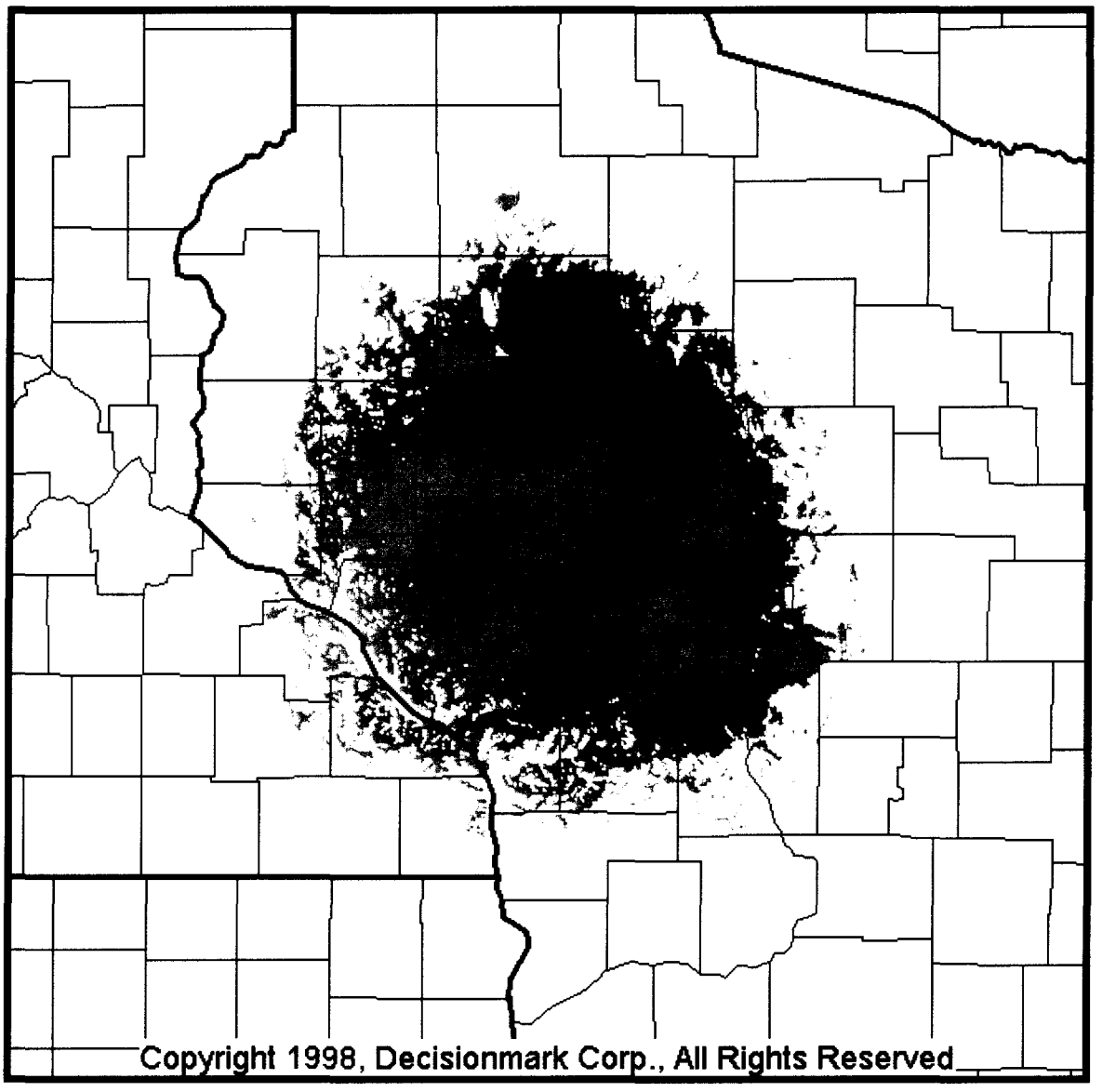
Summary Demographic Data (1990 Census)

	FCC B	L/R B (99/99/99)	FCC A	L/R A (99/99/99)
Served Population	848,978	68,664	353,882	788
Served Households	310,265	24,493	127,880	294
Served Land Area (km^2)	38,674	5,464	19,401	90

WEAU (NBC, Channel 13)

Eau Claire, Wisconsin

Predicted Signal Areas and Demographics



● Grade B Longley-Rice 70% Location, 90% Time, 50% Confidence
▲ Tower Location

Summary Demographic Data (1990 Census)

	FCC B	L/R B (70/90/50)
Served Population	848,978	467,058
Served Households	310,265	168,913
Served Land Area (km^2)	38,674	27,533