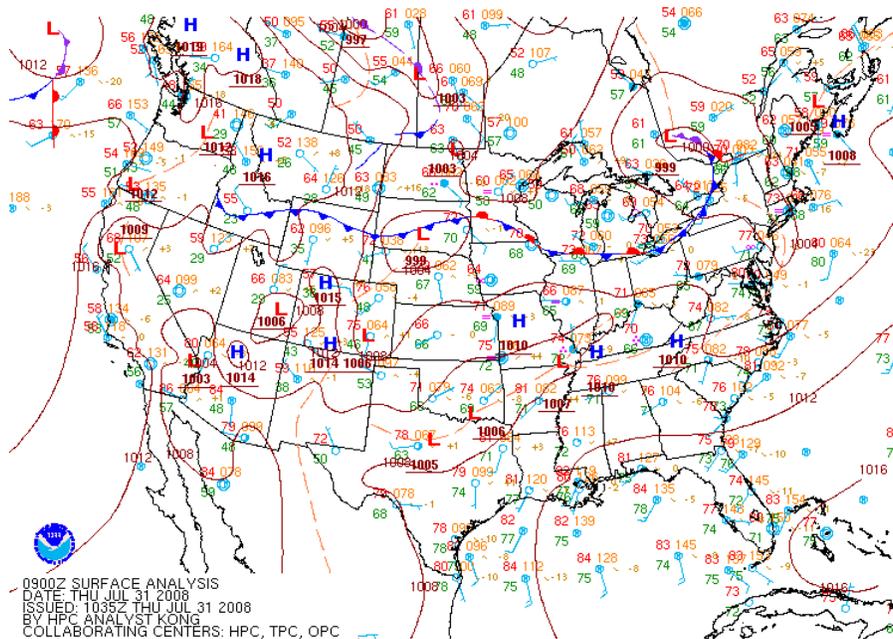


July 31, 2008: Widespread Morning Wind Damage Across Western and Southern Minnesota

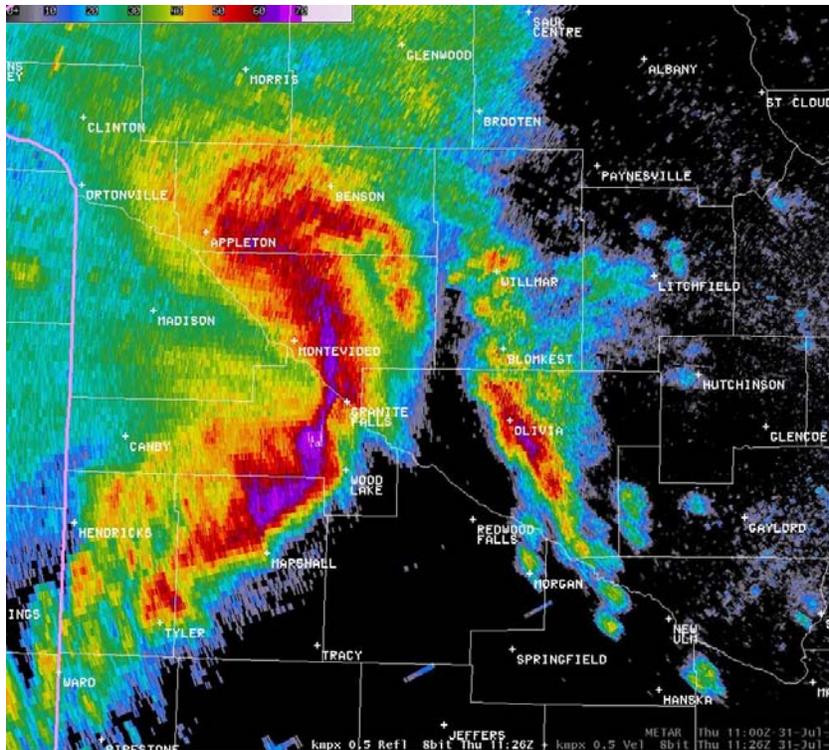
Environment

An ideal setup for a derecho (well-organized and long-lived thunderstorm complex) was in place across South Dakota, Minnesota, and Wisconsin on the morning of July 31st. A surface stationary front was in place, draped basically west to east across the area. Warm moist air was continuously overriding this, helping to support thunderstorms. The winds in the mid-levels of the atmosphere (10,000-20,000 ft) were becoming strong from the west, an element important for fast moving thunderstorm evolution.

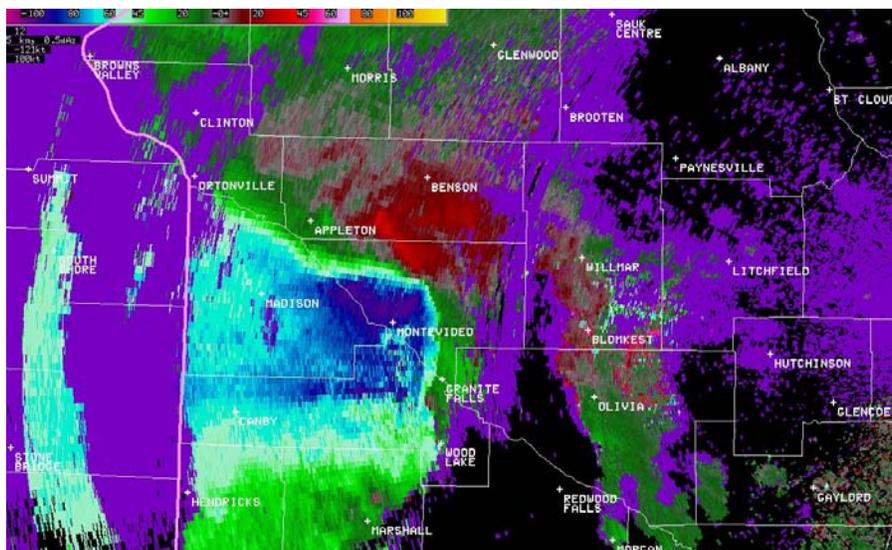
Indeed, thunderstorms organized and became severe in central to eastern South Dakota on the overnight of July 30th. Aberdeen, South Dakota observed their highest measured wind speed on record, gusting to 100 mph. As the storms evolved into western Minnesota, they continued arcing out posing a strong wind threat. This would oscillate in intensity at times across the NWS Chanhassen forecast area. Wind damage of some degree though occurred almost all the way along its path from the South Dakota border into southeast Minnesota.



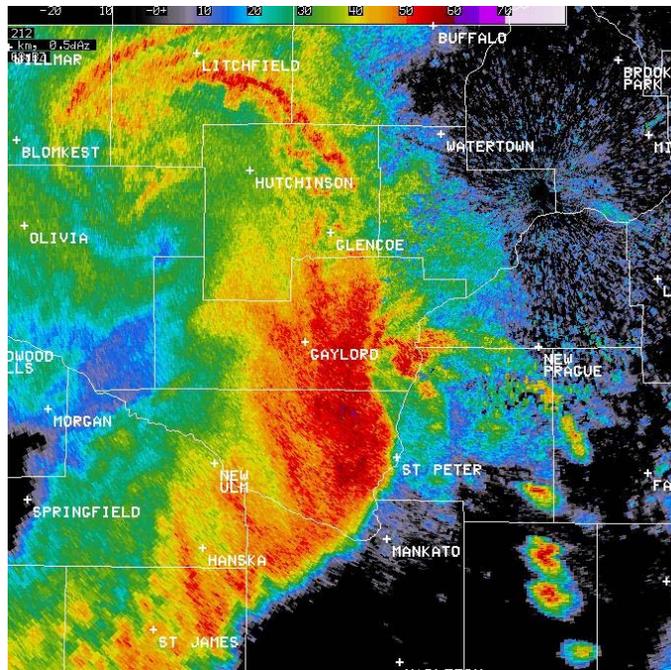
4 am July 31st Surface Weather Map



6:26 am Radar Reflectivity. Bowing structure evident from north of Montevideo to Wood Lake, with reflectivity drying in the wake. Both are good signatures for strong wind.

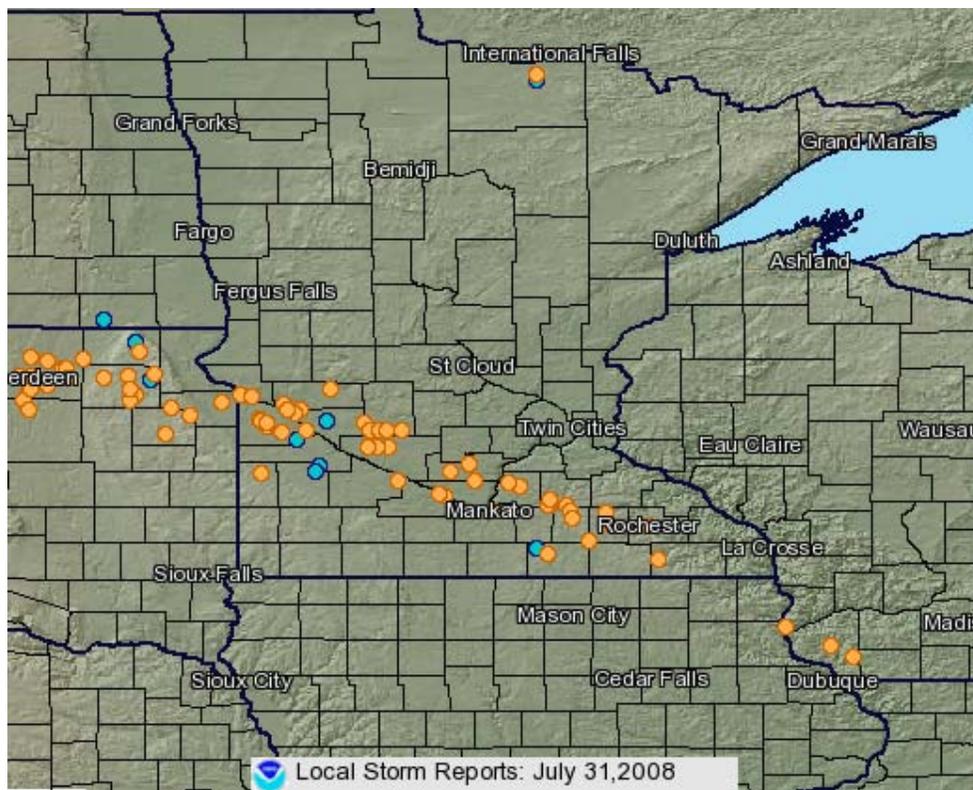


6:26 am Doppler Radar Velocity. Inbound velocities in excess of 100 kts seen at 11-12 kft. This is known as the rear-inflow jet, a common feature on a well-organized thunderstorm complex. This is particularly strong. At times, a component of these high winds will reach the surface and this appeared occasionally be the case during the lifecycle of this system.



7:49 am Radar Reflectivity. Resurging bowing structure nearing St. Peter. This would continue eastward to Owatonna, where a wind gust of 72 mph was measured.

Storm Reports



NWUS53 KMPX 011601
LSRMPX

PRELIMINARY LOCAL STORM REPORT...SUMMARY
NATIONAL WEATHER SERVICE TWIN CITIES/CHANHASSEN MN
1101 AM CDT FRI AUG 01 2008

..TIME...	...EVENT...	...CITY LOCATION...	...LAT.LON...
..DATE...MAG....	..COUNTY LOCATION..ST..	...SOURCE....
	..REMARKS..		
0520 AM 07/31/2008	HAIL M1.75 INCH	8 NE MONTEVIDEO CHIPPEWA MN	45.03N 95.60W LAW ENFORCEMENT
0550 AM 07/31/2008	TSTM WND GST E70.00 MPH	4 NW MADISON LAC QUI PARLE MN	45.04N 96.25W TRAINED SPOTTER
	TREE DAMAGE. 60 TO 70 MPH WIND GUSTS.		
0555 AM 07/31/2008	HAIL M0.75 INCH	5 NW MADISON LAC QUI PARLE MN	45.06N 96.26W TRAINED SPOTTER
0600 AM 07/31/2008	TSTM WND DMG	5 NW MADISON LAC QUI PARLE MN	45.06N 96.26W TRAINED SPOTTER
	TOPS BROKEN OFF TREES		
0602 AM 07/31/2008	HAIL E0.75 INCH	DAWSON LAC QUI PARLE MN	44.93N 96.05W TRAINED SPOTTER
0610 AM 07/31/2008	TSTM WND DMG	DAWSON LAC QUI PARLE MN	44.93N 96.05W TRAINED SPOTTER
	MANY LARGE TREES TOPPLED ACROSS TOWN, ALONG WITH LARGE BRANCHES. SEVERAL LARGE TREES ALSO REPORTED DOWNED OVER LOCAL ROADS.		
0610 AM 07/31/2008	HAIL M1.75 INCH	4 W MONTEVIDEO LAC QUI PARLE MN	44.95N 95.80W TRAINED SPOTTER
0610 AM 07/31/2008	HAIL M0.75 INCH	S BOYD LAC QUI PARLE MN	44.85N 95.90W TRAINED SPOTTER
	ESTIMATED 50 TO 60 MPH WIND GUST.		
0610 AM 07/31/2008	TSTM WND DMG	APPLETON SWIFT MN	45.20N 96.02W TRAINED SPOTTER
	WIND GUSTS ESTIMATED AT 80 MPH. MANY LARGE TREES DOWN AND A SEMI TRUCK BLOWN OVER.		
0613 AM 07/31/2008	TSTM WND GST M86.00 MPH	2 SSE MADISON LAC QUI PARLE MN	44.99N 96.18W AWOS
0615 AM 07/31/2008	HAIL M1.00 INCH	5 N DANUBE RENVILLE MN	44.86N 95.10W CO-OP OBSERVER

0615 AM TSTM WND DMG 2 WSW BIG BEND CITY 45.14N 95.86W
07/31/2008 CHIPPEWA MN NWS EMPLOYEE

TOP OF 18 INCH DIAMETER TREE SNAPPED OFF. CORN FIELD
FLATTENED.

0615 AM TSTM WND DMG APPLETON 45.20N 96.02W
07/31/2008 SWIFT MN BROADCAST MEDIA

TREES DOWN IN TOWN.

0615 AM TSTM WND DMG MADISON 45.01N 96.19W
07/31/2008 LAC QUI PARLE MN BROADCAST MEDIA

WOOD FENCE SNAPPED AND TIN ROOF DAMAGED AT RADIO STATION.
NUMEROUS TREES DOWN AROUND TOWN...MANY ROADS BLOCKED.
FLAG POLE DOWN. POWER LINES DOWN. ROAD SIGNS DOWN.

0615 AM TSTM WND DMG MILAN 45.11N 95.91W
07/31/2008 CHIPPEWA MN CO-OP OBSERVER

NUMEROUS LARGE TREES DOWN AROUND TOWN. POWER LINES DOWN.

0615 AM TSTM WND GST ESE APPLETON 45.20N 96.02W
07/31/2008 E70.00 MPH SWIFT MN TRAINED SPOTTER

WINDOWS BREAKING.

0616 AM TSTM WND DMG MADISON 45.01N 96.19W
07/31/2008 LAC QUI PARLE MN AMATEUR RADIO

10 INCH TREE DOWN

0620 AM HAIL 1 N DANUBE 44.81N 95.10W
07/31/2008 M1.00 INCH RENVILLE MN TRAINED SPOTTER

0625 AM TSTM WND DMG 4 WNW MILAN 45.14N 95.99W
07/31/2008 CHIPPEWA MN TRAINED SPOTTER

THREE LARGE CIRCULAR GRAIN BINS BLOWN OVER.

0637 AM TSTM WND DMG MADISON 45.01N 96.19W
07/31/2008 LAC QUI PARLE MN CO-OP OBSERVER

UPROOTED TREES. LIGHT TOWER BENT OVER AT BASEBALL FIELD.

0650 AM TSTM WND DMG OLIVIA 44.78N 95.00W
07/31/2008 RENVILLE MN TRAINED SPOTTER

LARGE TREES DOWN BOTH NORTH AND SOUTH SIDE OF TOWN.

0650 AM TSTM WND DMG 4 W MONTEVIDEO 44.95N 95.80W
07/31/2008 LAC QUI PARLE MN TRAINED SPOTTER

WIND SPEED ESTIMATED AT 60-70 MPH WITH TREES DOWN AND
QUARTER SIZE HAIL

0654 AM	TSTM WND GST	WABASSO		44.40N 95.25W
07/31/2008	M51.00 MPH	REDWOOD	MN	TRAINED SPOTTER
0700 AM	TSTM WND DMG	12 NW MURDOCK		45.35N 95.57W
07/31/2008		SWIFT	MN	TRAINED SPOTTER
		130 THOUSAND SQUARE FOOT BUILDING//UNDER CONSTRUCTION// DESTROYED.		
0703 AM	TSTM WND DMG	RAYMOND		45.02N 95.24W
07/31/2008		KANDIYOHI	MN	LAW ENFORCEMENT
		TREES AND POWER LINES DOWN.		
0710 AM	TSTM WND DMG	3 N MORGAN		44.46N 94.92W
07/31/2008		REDWOOD	MN	TRAINED SPOTTER
		TURKEY BARN ROOF BLOWN OFF.		
0711 AM	TSTM WND DMG	PRINSBURG		44.94N 95.19W
07/31/2008		KANDIYOHI	MN	LAW ENFORCEMENT
		TREES AND POWER LINES DOWN.		
0713 AM	TSTM WND DMG	4 E PRINSBURG		44.94N 95.10W
07/31/2008		KANDIYOHI	MN	LAW ENFORCEMENT
		TREES AND POWER LINES DOWN.		
0716 AM	TSTM WND DMG	BLOMKEST		44.94N 95.02W
07/31/2008		KANDIYOHI	MN	LAW ENFORCEMENT
		TREES AND POWER LINES DOWN.		
0716 AM	TSTM WND DMG	5 SSE CLARA CITY		44.89N 95.31W
07/31/2008		CHIPPEWA	MN	TRAINED SPOTTER
		MANY TREES DOWN OR BROKEN		
0720 AM	TSTM WND DMG	LAKE LILLIAN		44.95N 94.88W
07/31/2008		KANDIYOHI	MN	LAW ENFORCEMENT
		TREES AND POWER LINES DOWN.		
0720 AM	TSTM WND GST	RAYMOND		45.02N 95.24W
07/31/2008	E60.00 MPH	KANDIYOHI	MN	TRAINED SPOTTER
0723 AM	TSTM WND GST	1 SSE RENVILLE		44.78N 95.20W
07/31/2008	M75.00 MPH	RENVILLE	MN	MESONET
		WEST HIGH SCHOOL.		
0727 AM	FUNNEL CLOUD	3 W LITCHFIELD		45.12N 94.59W
07/31/2008		MEEKER	MN	TRAINED SPOTTER
		FUNNEL DROPPED BRIEFLY THEN WENT BACK UP.		

0730 AM 07/31/2008	TSTM WND DMG	5 W OLIVIA RENVILLE	MN	44.79N 95.11W TRAINED SPOTTER
ONE FOOT DIAMETER TREES DOWN.				
0730 AM 07/31/2008	TSTM WND DMG	4 ESE LE SUEUR LE SUEUR	MN	44.44N 93.83W TRAINED SPOTTER
LARGE TREES TOPPLED IN RESIDENTIAL YARD, ALONG WITH 30 FOOT STEEL WINDMILL.				
0734 AM 07/31/2008	TSTM WND GST M68.00 MPH	3 W NEW ULM BROWN	MN	44.32N 94.52W AWOS
AIRPORT.				
0735 AM 07/31/2008	TSTM WND GST M62.00 MPH	2 W WINTHROP SIBLEY	MN	44.54N 94.41W MESONET
MNDOT.				
0742 AM 07/31/2008	TSTM WND GST M67.00 MPH	4 N GAYLORD SIBLEY	MN	44.61N 94.22W STORM CHASER
0750 AM 07/31/2008	TSTM WND DMG	3 ESE NEW SWEDEN NICOLLET	MN	44.45N 94.16W TRAINED SPOTTER
ARM SIZE BRANCHES BROKEN OFF.				
0754 AM 07/31/2008	TSTM WND DMG	NEW ULM BROWN	MN	44.31N 94.46W LAW ENFORCEMENT
TREES BLOWN DOWN.				
0804 AM 07/31/2008	TSTM WND GST M65.00 MPH	4 NNW GREENLAND LE SUEUR	MN	44.26N 93.75W TRAINED SPOTTER
ELYSIAN WEATHER STATION.				
0807 AM 07/31/2008	TSTM WND DMG	MANKATO BLUE EARTH	MN	44.17N 93.99W AMATEUR RADIO
4 INCH BRANCHES, 6 TO 10 INCH TREES BLOWN DOWN.				
0807 AM 07/31/2008	TSTM WND GST M84.00 MPH	NNE LE CENTER LE SUEUR	MN	44.39N 93.73W MESONET
LE CENTER HIGH SCHOOL.				
0814 AM 07/31/2008	TSTM WND DMG	MANKATO BLUE EARTH	MN	44.17N 93.99W LAW ENFORCEMENT
TREES REPORTED DOWN AROUND MANKATO.				
0816 AM 07/31/2008	TSTM WND GST M58.00 MPH	4 W MORRISTOWN RICE	MN	44.22N 93.53W TRAINED SPOTTER

TREES DOWN NEAR HWY 60.

0820 AM FUNNEL CLOUD HOWARD LAKE 45.06N 94.07W
07/31/2008 WRIGHT MN PUBLIC

CITIZEN REPORT...NOT CONFIRMED.

0823 AM TSTM WND DMG 1 S MORRISTOWN 44.21N 93.44W
07/31/2008 RICE MN AMATEUR RADIO

LARGE HAY BALES BLOWN ACROSS ROAD. 18 INCH DIAMETER TREE
BLOWN DOWN.

0824 AM NON-TSTM WND GST REDWOOD FALLS 44.54N 95.11W
07/31/2008 M59.00 MPH REDWOOD MN ASOS

0830 AM HAIL 2 N FREEBORN 43.80N 93.56W
07/31/2008 M0.75 INCH FREEBORN MN TRAINED SPOTTER

ESTIMATED 50 MPH WIND GUST.

0830 AM TSTM WND DMG OWATONNA 44.09N 93.22W
07/31/2008 STEELE MN TRAINED SPOTTER

LARGE TREES DOWN IN CENTRAL PARK. MINOR STREET FLOODING.
PORT-O-POTTY BLOWN 20 FEET. SMALL TO MEDIUM LIMBS ON
GROUND...DEBRIS EVERYWHERE.

0833 AM TSTM WND GST 4 N MORRISTOWN 44.28N 93.44W
07/31/2008 M58.00 MPH RICE MN TRAINED SPOTTER

0835 AM TSTM WND GST OWATONNA 44.09N 93.22W
07/31/2008 M72.00 MPH STEELE MN AWOS

AIRPORT.

0836 AM TSTM WND DMG MANKATO 44.17N 93.99W
07/31/2008 BLUE EARTH MN TRAINED SPOTTER

MN VIKINGS TRAINING CAMP TENTS AND CROWD CONTROL FENCES
ALL BLOWN DOWN. 8 INCH DIAMETER LIMB OFF TREE...ON MSMU
CAMPUS. SEVERAL OTHER 2 TO 4 INCH DIAMETER BRANCHES.
POWER OUT IN SOME AREAS...NEAR CAMPUS.

0836 AM TSTM WND DMG 5 S FARIBAULT 44.22N 93.27W
07/31/2008 RICE MN TRAINED SPOTTER

SEMI TRUCK BLOWN OVER ON I-35.

0838 AM TSTM WND GST 1 W MORRISTOWN 44.22N 93.46W
07/31/2008 M61.00 MPH RICE MN TRAINED SPOTTER

30 FOOT PINE TREE UPROOTED. 18 INCH DIAMETER TREE DOWN.

0838 AM TSTM WND GST 4 N MORRISTOWN 44.28N 93.44W
07/31/2008 M68.00 MPH RICE MN TRAINED SPOTTER

CEDAR LAKE.

0840 AM TSTM WND DMG MEDFORD 44.17N 93.24W
07/31/2008 STEELE MN AMATEUR RADIO

MULTIPLE TREES UP TO 24 INCH DIAMETER BLOWN DOWN IN TOWN
ROADS BLOCKED. HARDWOODS SNAPPED OFF AT 6 FEET OFF
GROUND...PINES ARE UPROOTED.

0840 AM TSTM WND DMG BLOOMING PRAIRIE 43.87N 93.05W
07/31/2008 STEELE MN TRAINED SPOTTER

SMALL TREE DOWN...MANY BRANCHES AND OTHER DEBRIS ON
LAWNS.

0840 AM TSTM WND DMG 1 N MANCHESTER 43.74N 93.45W
07/31/2008 FREEBORN MN AMATEUR RADIO

8 INCH DIAMETER BRANCH DOWN.

0840 AM TSTM WND DMG OWATONNA 44.09N 93.22W
07/31/2008 STEELE MN AMATEUR RADIO

ONE 6 INCH DIAMETER TREE DOWN. ONE 12 TO 18 INCH DIAMETER
TREE DOWN.