Town of Sugar Camp Broadband Internet Survey Results
February, 2014

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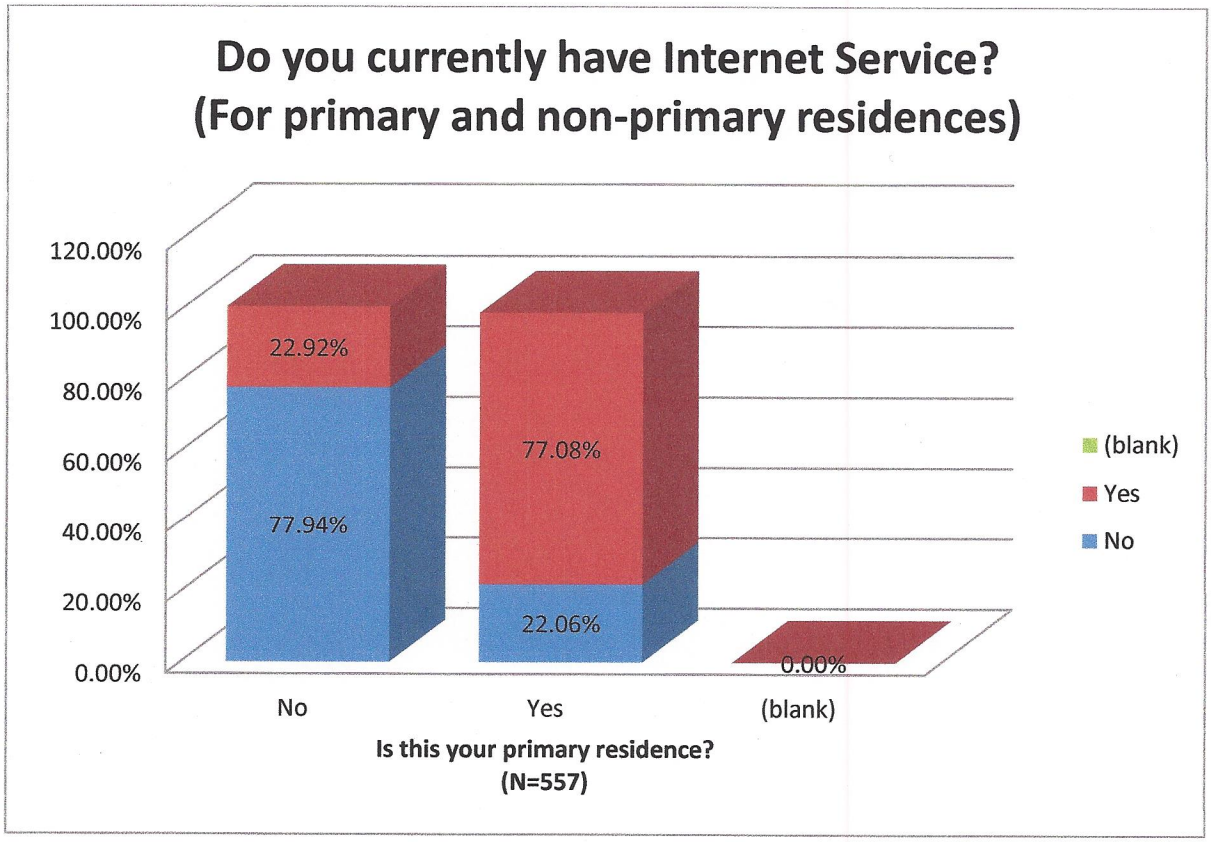
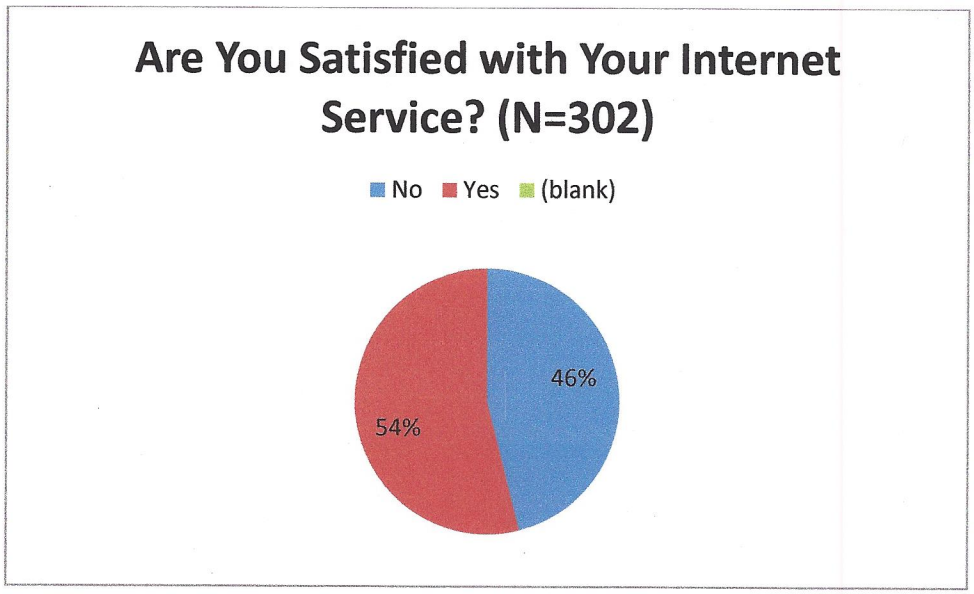
In December, 2013 the Town of Sugar Camp circulated a short survey about Broadband Internet access with the annual tax bill. The survey was very similar to surveys that had been distributed in the Town of Crescent and Minocqua over the past two years. Approximately 2175 surveys were sent, and 585 were returned. There are approximately 1500 parcels in Sugar Camp with dwellings, suggesting that about a third of the owners of developed property returned a survey. (A few of the returned surveys were from property that was not developed.)

Beginning in early February the surveys were coded; surveys without addresses were eliminated from further analysis (although comments were retained), one survey that represented two properties was re-coded to reflect that fact. Two surveys reported more than one Internet provider was in use at their property, and those surveys were also recoded to reflect one record per Internet provider. After these changes, there were 561 records included in further analysis.

Finally it should be noted that although the survey was about broadband access, a few respondents provided information about dial-up providers. Those records were also included in this analysis.



About half of the surveys were for primary residences, with the other half seasonal homes. And about half of the surveys reported that they had Internet services at their dwelling. Perhaps not surprisingly, over three quarters of the primary residences had Internet service, while three quarters of the seasonal homes did not have service.



Just over half of the respondents reported that they were happy with their current service. For comparison, a similar survey for the Town of Crescent reported that 76% were happy with their service. The comments on the survey indicate that the major reasons for dissatisfaction include:

1. The inability to obtain appropriate service
2. The lack of an appropriate offering for seasonal homes
3. Slow speed
4. Unreliable service
5. High cost

Sugar Camp relies upon satellite, cell data service, DSL (telephone-related service from Frontier), and point-to-point wireless service (Sonic Net) as its major Internet providers. Notably missing from this list of providers is cable-TV based Internet access (Charter is the active vendor in this area. Two respondents on the southern edge of Sugar Camp reported Charter as their Internet Service Provider (ISP.)) In the Towns of Crescent and Minocqua, and in the City of Rhinelander Charter is the largest provider of Internet service. The chart below includes all reported providers.

(The 23 respondents without a vendor name appear in this report because although they did not have service, they did report that they were not (or for 3 of them) that they were happy with that situation.)

For those Internet providers with more than a few subscribers, we can make some generalizations about their level of satisfaction with Internet service. SonicNet clearly stands out, while the other large vendors please only about half of their customers.

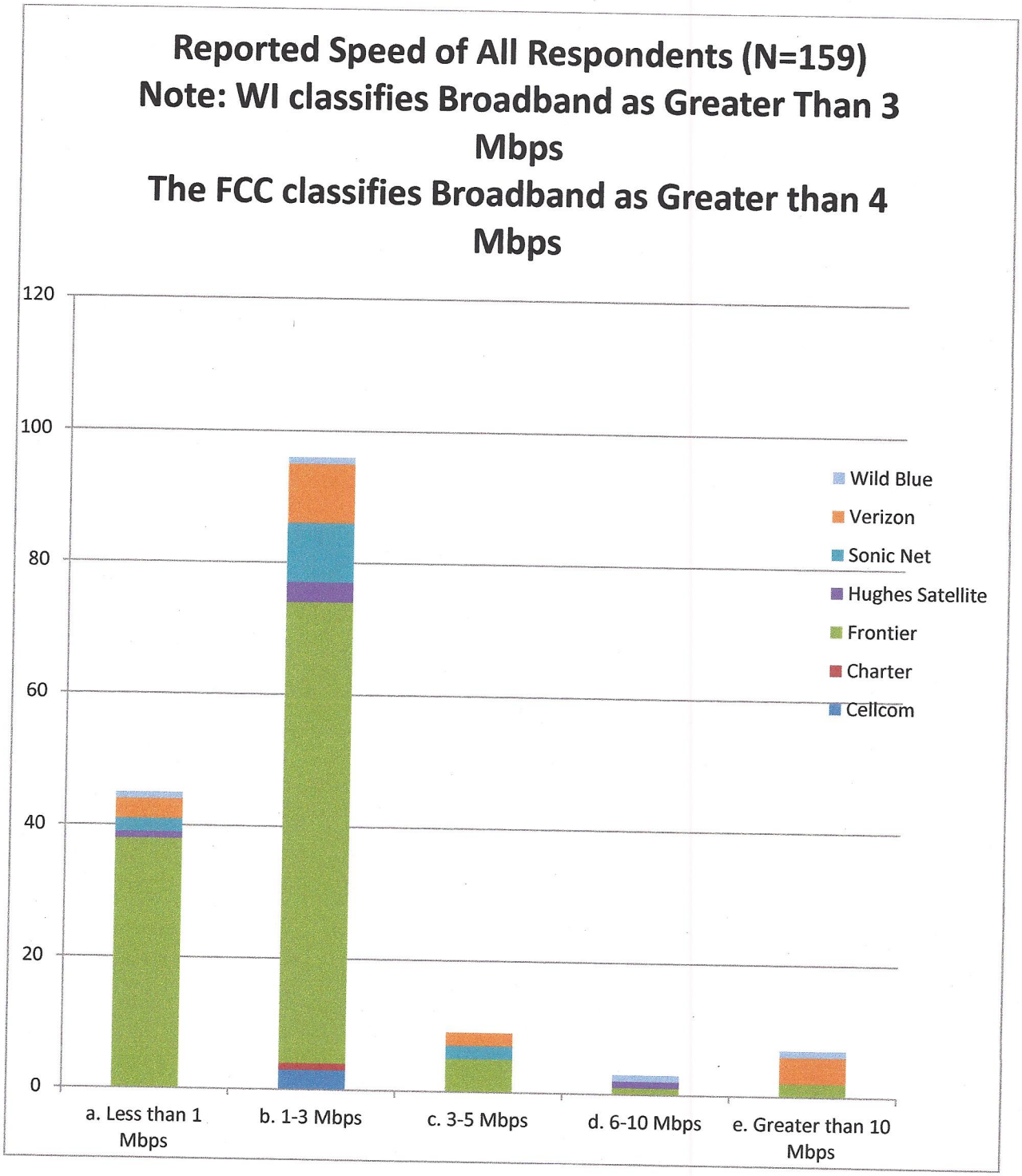
Satisfied With Service?	No	Yes	(blank)	Grand Total
Frontier	77	91		168
Verizon	21	21		42
(blank)	20	3		23
SonicNet	4	18		22
Wild Blue	8	6		14
Hughes Satellite	8	1		9
Cellcom	3	3		6
Northern Net Exposure	6			6
AT&T	2	3		5
Charter		2		2
Dish net	1	1		2
US Cellular	1			1
HD	1			1
Netscape dialup	1			1
Grand Total	**153**	**149**		**302**

Broadband Internet Access and Speed

The comments clearly indicate that much of the unhappiness with ISPs in Sugar Camp is the result of slow speeds. But it is also clear that some of the respondents with slow speed connections are happy with their service. It is probably correct to assume that those happy folks with slow speeds are users with modest needs: they probably use their connection for email and web surfing, and the speed at their location is adequate for those purposes. We can also assume that for many of them (specifically those with slow speed from Frontier), the low monthly cost of service accounts for some level of satisfaction.

Higher speeds are required for many Internet services, including video streaming (such as Netflix, HULU, and even YouTube), and for many business applications. In particular, slow Internet speeds make it impossible to establish a connection to most private networks via VPN. (Virtual Private Networks allow one to create secure, private access to a corporate network for those who work at home or on the road. Most corporations do not allow employee access to their corporate network without this kind of secure connection.) For these and many other reasons, high speed (broadband) access is a requirement for many users.

High speed is also a requirement for state and federal support for local Internet improvement efforts. The major FCC program to subsidize rural Internet access requires speeds of at least 4 Mbps; the State of Wisconsin's recently-created rural broadband initiative required speeds of at least 3 Mbps. The chart below displays the speeds reported by Sugar Camp users.



Only 19 out of 160 respondents (about 12%) have service that meets the State's definition of Broadband. Crescent's survey (now two years old) shows that 58% of surveys reporting speed met Wisconsin's definition, and in Minocqua about 20% reported high speeds. The higher reported speeds were primarily from Charter customers, with Charter being the largest ISP in both Crescent and Minocqua. (Data from Crescent and Minocqua are attached at the end of this report.)

A Closer Look at Sugar Camp Internet Service Providers

Frontier (Map 1): Like happiness with real estate, Internet happiness is largely about location. This is particularly true in rural areas and a closer look at several of Sugar Camp ISPs shows why this is the case. Frontier is, by far, Sugar Camp's largest provider. As the legacy telephone provider, they have physical cabling to nearly every area of town. Frontier's Internet offering uses DSL (Digital Subscriber Line or Loop) technology over telephone wiring to provide service. The speed of this service is dependent upon the length of the connection from the central office or local switching station to the subscriber.

The first map below represents the 142 Frontier users who reported their download speed. Their pins in red on the map reported speeds lower than 3Mbps; the yellow reported higher speeds. Because speeds were reported by residents rather than technicians, one should assume that not all reported speeds are accurate. (Not all users reported speeds, in part because many of the seasonal residents were not at their property during the time of the survey. In addition, many users had problems completing the speed test, possibly because they didn't have a computer capable of running the test, or because of connection problems.)

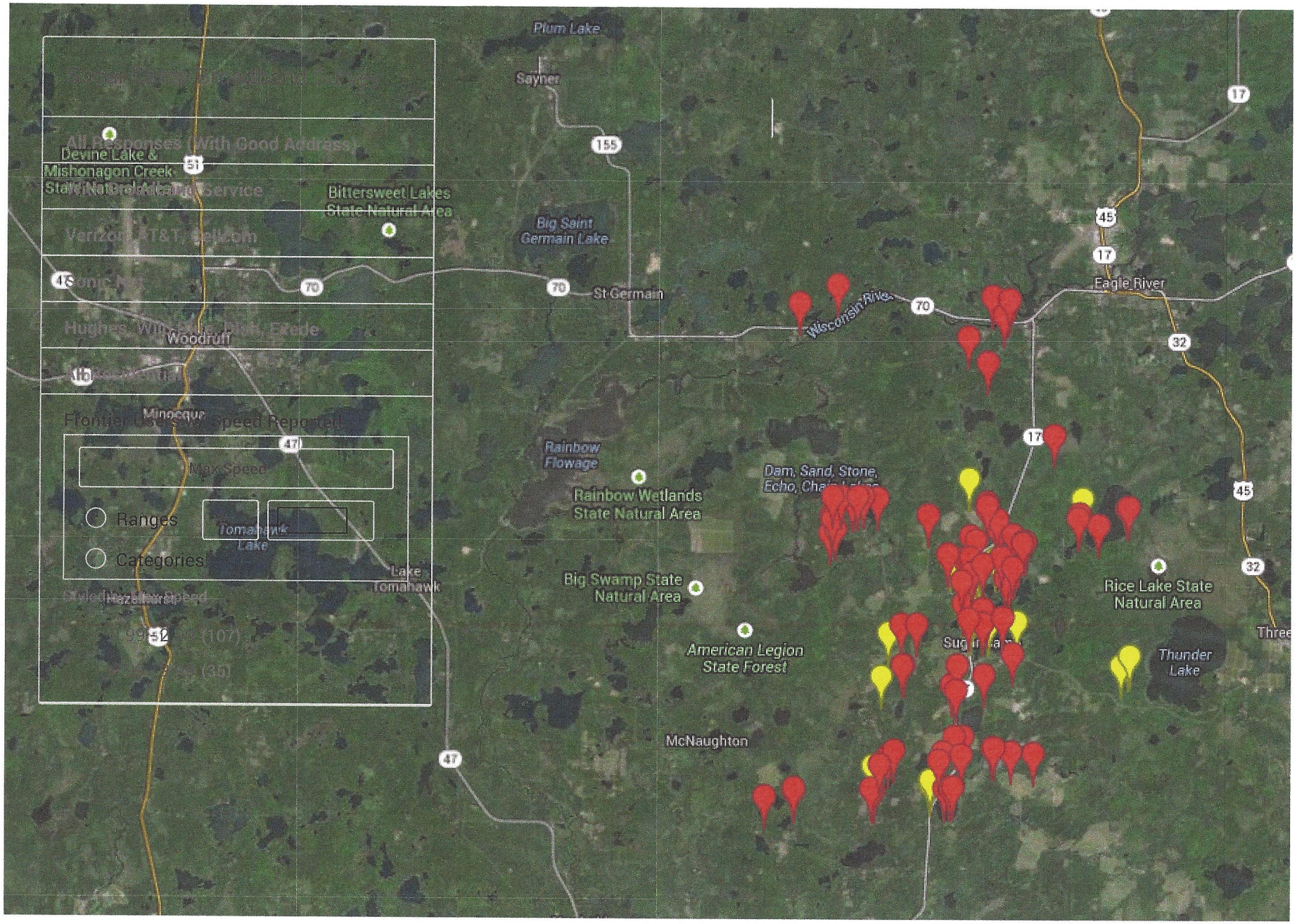
Even with these limitations, the map reflects Frontier's recent efforts to increase speeds available to subscribers and in particular their efforts along Highway 17 (and apparently along County Road A). For Sugar Camp residents in this area, Frontier offers a good service: high speed, low monthly cost, and unlimited data downloads. Unfortunately, for much of the Town only low speed service is available, and there are significant areas where even low-speed DSL service cannot be obtained.

SonicNet (Map 2): SonicNet is a small provider of wireless Internet access with an office in Eagle River. They use a radio transmitter located on a (relatively) low-cost tower that communicates with an external antenna at each subscriber site. Twenty-two locations (or about 8 percent) in Sugar Camp reported they obtained Internet service this way. Sonic Net subscribers are among the most satisfied Internet users in Sugar Camp, with over 80% reporting they are satisfied. Like Frontier, Sonic Net allows unlimited data downloads. Residential rates vary by speed, and begin at $40/month for 1 Mbps service; their 5 Mbps residential offering is $70/month. (Red pins represent speeds of less than 1Mbps, blue 1-3, yellow 3-5, and white pins did not report a speed.)

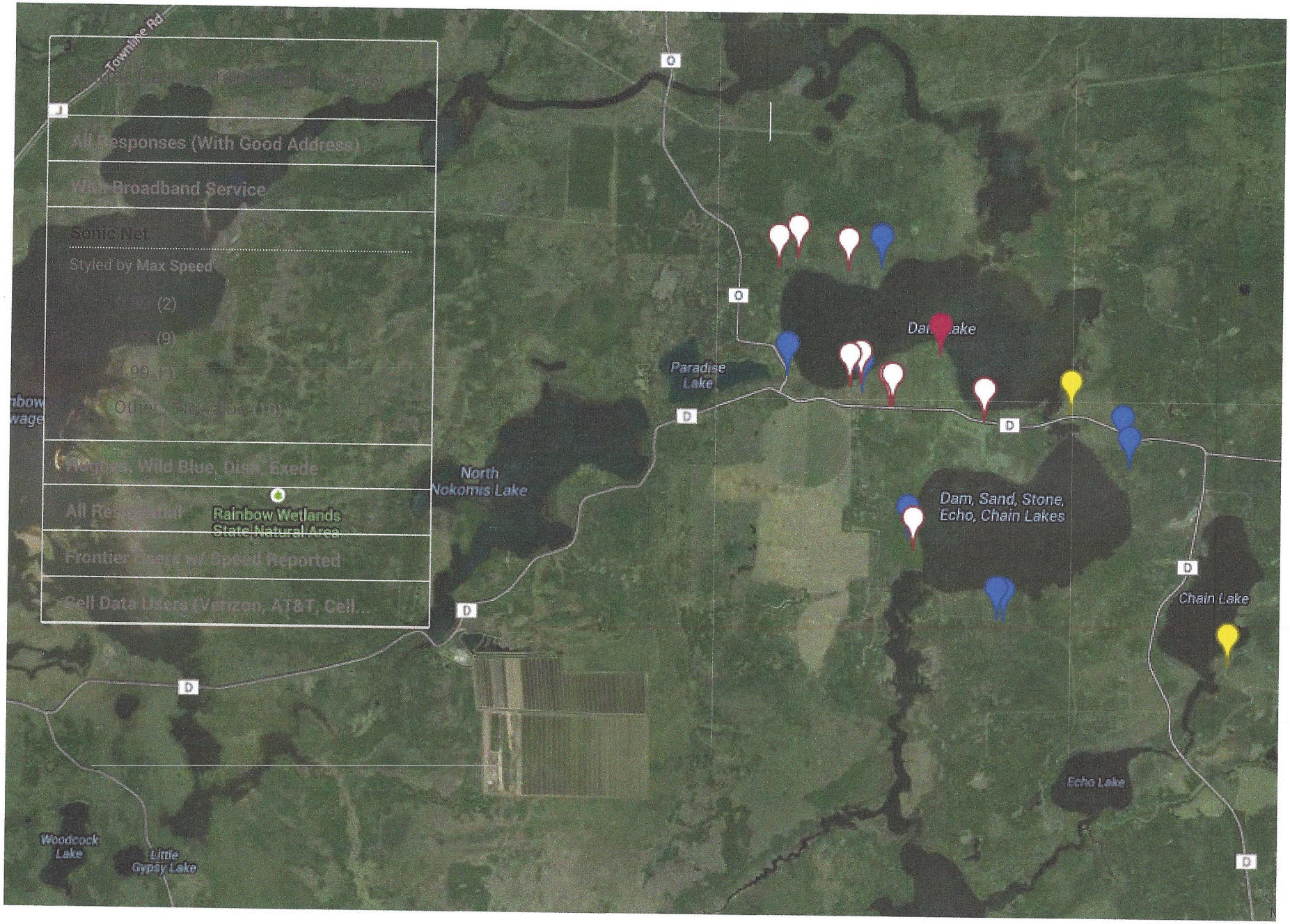
SonicNet's service requires a relatively short line-of-sight connection between the tower and the subscriber, and as a result their one tower in Sugar Camp covers only a relatively small area of the Town. But for those near Dam, Sand, and Chain Lakes SonicNet offers a service that satisfies most of its subscribers, and also offers seasonal rates for those who only spend their summers in the area.

Cellular Data Service (Map 3): A total of 57 respondents reported obtaining Internet access from Verizon, AT&T, or Cellcom. It appears as though at least one of these cell providers offers service to every part of Sugar Camp, and it also appears as though Broadband speeds (over 5 Mbps) are also available across the entire town. A review of the comments from these subscribers indicates that a wide variety of devices are used to connect to the Internet, including devices like IPhones and WiFI hotspots of various sorts. It is also clear that data services are available even in areas in which cell telephone service seems to be unavailable or subject to frequent call drops. (Red pins represent speeds of less than 1Mbps, blue 1-3, yellow 3-5, brown faster than 5, and white diamonds did not report a speed.)

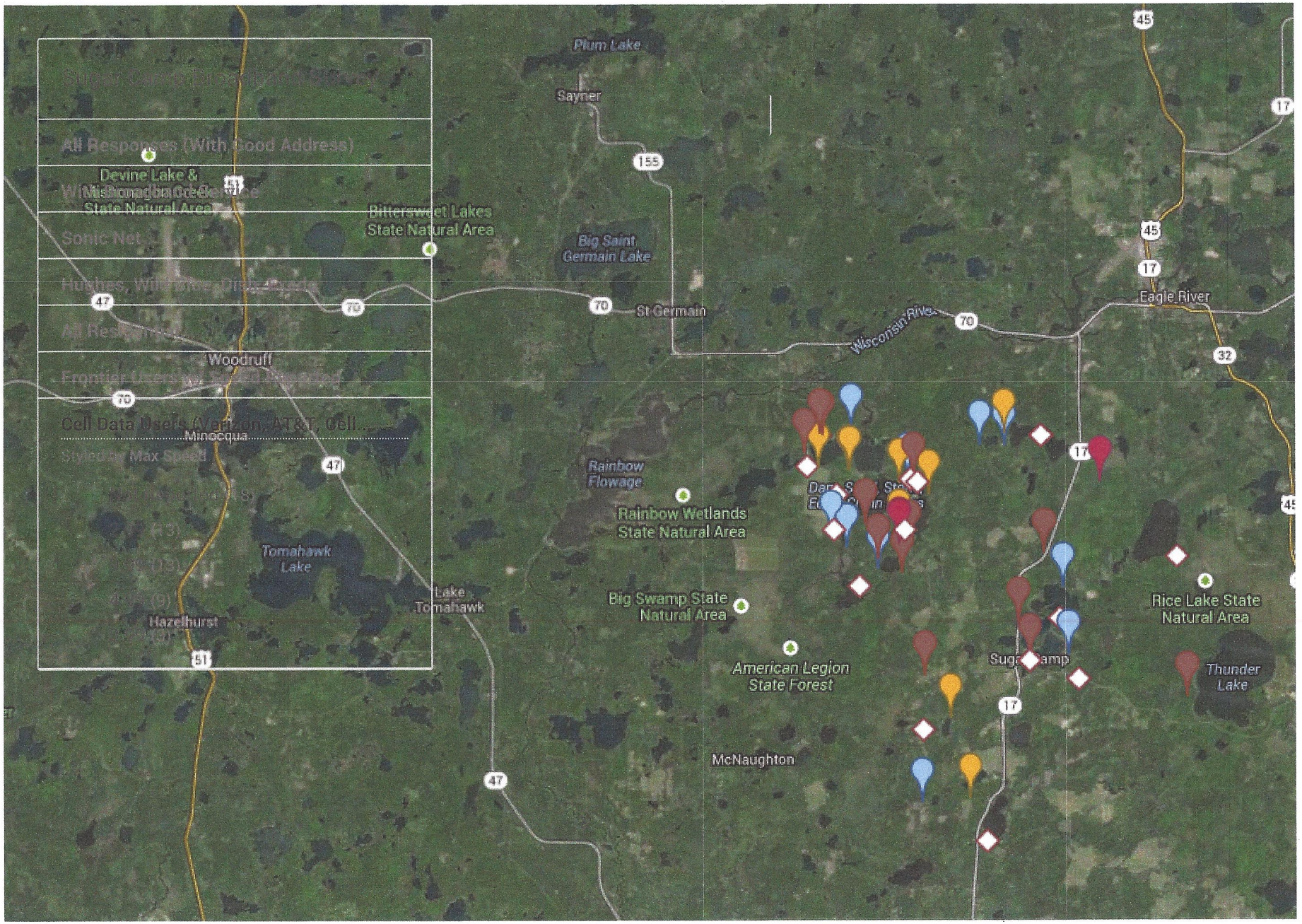
Unlike SonicNet and Frontier, cellular data services charge for the amount of data downloaded as well as a monthly access charge. Obviously plans and rates for service vary by carrier, but for heavy users of


Plum Lake
Sayner
155
51
Devine Lake &
Mishonagon Creek
Bittersweet Lakes
State Natural Area
Big Saint
Germain Lake
70
St Germain
Eagle River
17
45
32
Wisconsin River
Woodruff
Minocqua
47
Rainbow
Flowage
Rainbow Wetlands
State Natural Area
Dam, Sand, Stone,
Echo, Chain Lakes
Ranges
Categories
Tomahawk
Lake
Lake
Tomahawk
Big Swamp State
Natural Area
American Legion
State Forest
Rice Lake State
Natural Area
Thunder
Lake
McNaughton

MAP #1


Townline Rd
All Responses (With Good Address)
With Broadband Service
Sonic Net
Styled by Max Speed
(2)
(9)
(99 ?)
Other / Nevada (10)
Wild Blue, Disp, Exede
All Residential
Rainbow Wetlands
State Natural Area
Frontier Users w/ Speed Reported
Cell Data Users (Verizon, AT&T, Cell...
Paradise Lake
North Nokomis Lake
Dam, Sand, Stone, Echo, Chain Lakes
Chain Lake
Echo Lake
Woodcock Lake
Little Gypsy Lake
O
D

Map #2


All Responses (With Good Address)
Devine Lake &
State Natural Area
Bittersweet Lakes
State Natural Area
Sonic Net
Hughes, Wilkinson, Dish Fiber
All Responses
Woodruff
Frontier Users
Cell Data Users (Verizon, AT&T, Cell...
Styled by Max Speed
Minocqua
Tomahawk
Lake
Hazelhurst
Lake
Tomahawk
Plum Lake
Sayner
Big Saint
Germain Lake
St Germain
Wisconsin River
Eagle River
Rainbow
Flowage
Rainbow Wetlands
State Natural Area
Big Swamp State
Natural Area
American Legion
State Forest
McNaughton
Rice Lake State
Natural Area
Thunder
Lake
155
70
47
51
45
17
32

Map #3

data, this can be a very expensive option. For example, Verizon charges $75 for 10 Gigabytes of data, an amount that would be consumed by downloading about 4 High Definition movies from a service like Netflix; for services like Frontier, Charter or SonicNet, there would be no additional charge for the download of large data.

On the other hand, cellular data service can provide telephone as well as data access, and data plans can be generally be adjusted at any time to significantly reduce charges for seasonal users.

What can be done to improve Internet Service in Sugar Camp?

Even though some reasonable options exist for some locations, the survey paints a fairly bleak picture of service in Sugar Camp in comparison other Northwoods communities, and the situation is even bleaker when compared to more urban communities. What can we do to improve this situation?

Create a Guide to Internet Services in Sugar Camp: The Town of Sugar Camp should create and maintain a "Guide to Local Internet Service" based upon these survey results and other available information to help local residents make an appropriate choice for Internet service. Because these services will evolve over time, residents should be encouraged to share their experiences, and those comments should also find their way into this publication. Such a guide could be created from expanding the three reviews presented above.

Engage with Internet Service Providers: The Town of Three Lakes has shared their experience in improving Internet service, and one of the major recommendations is that local communities should actively engage local providers and encourage them to offer new and/or improved service. Sugar Camp should share vendor-specific comments and information with the local representatives, and ask what their plans are to improve service. These vendor plans might be included in the "Guide to Local Internet Service."

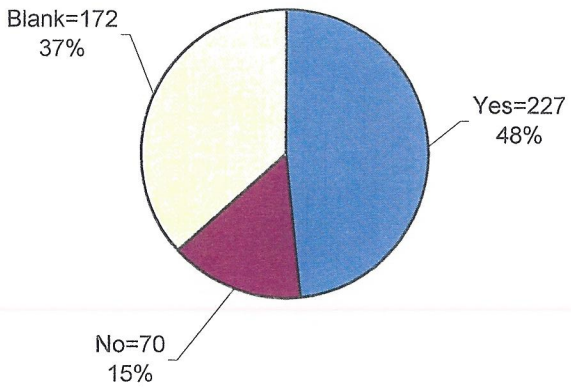
Sugar Camp should also help document the demand for improved services to local vendors. For example, this survey disclosed that 80 percent of the seasonal residences are without Internet service. Clearly the vast majority of these second home owners have the disposable income required to pay for Internet service, if they believed that appropriate services were available.

In addition, vendors may provide opportunities or options for the Town of Sugar Camp to assist in improving services; those opportunities should be actively solicited from vendors, and, if appropriate, the Town should do what it can to work with vendors to improve service.

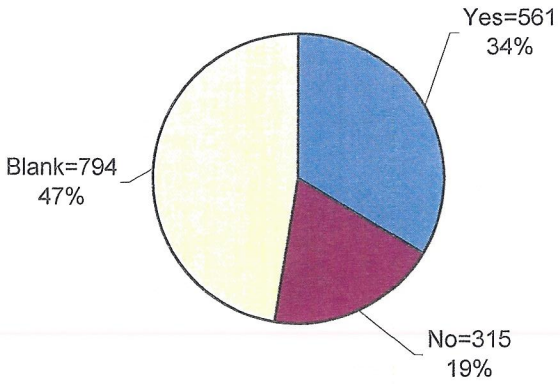
Participate in County and Regional Efforts: The Oneida County Economic Development Corporation's Technology Committee has been actively seeking opportunities to improve technology access across Oneida County. Town officers need to encourage the State Public Service Commission and our Wisconsin legislators to develop effective strategies to ensure appropriate Internet access in the Northwoods.

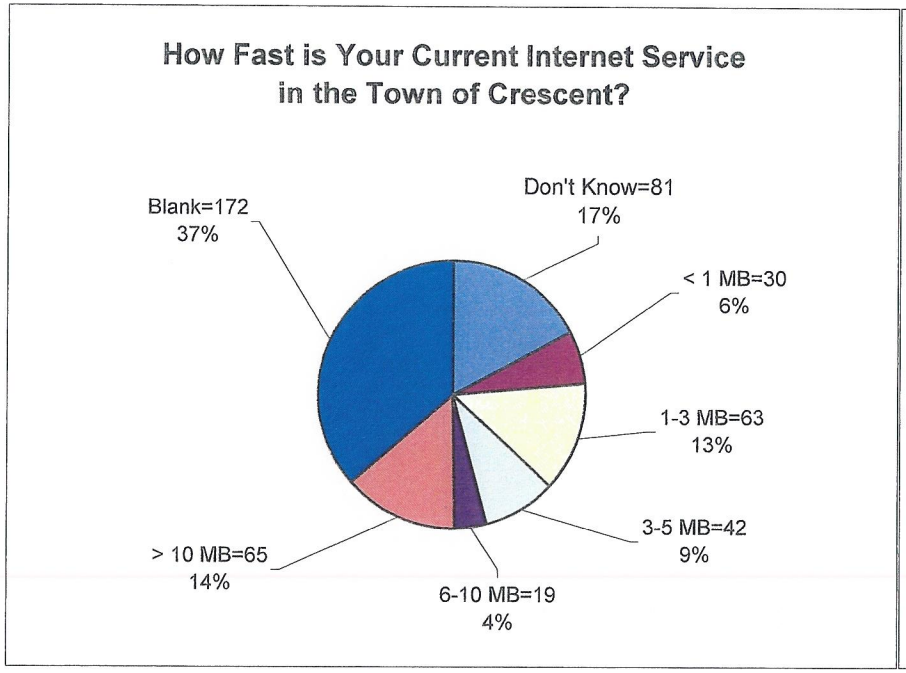
To date, Wisconsin's efforts are far too little as well as administratively impossible. Wisconsin legislators and state PSC officials should be encouraged to follow the lead of the State of Minnesota in setting aside significant funding to ensure that rural areas are not denied Internet access.

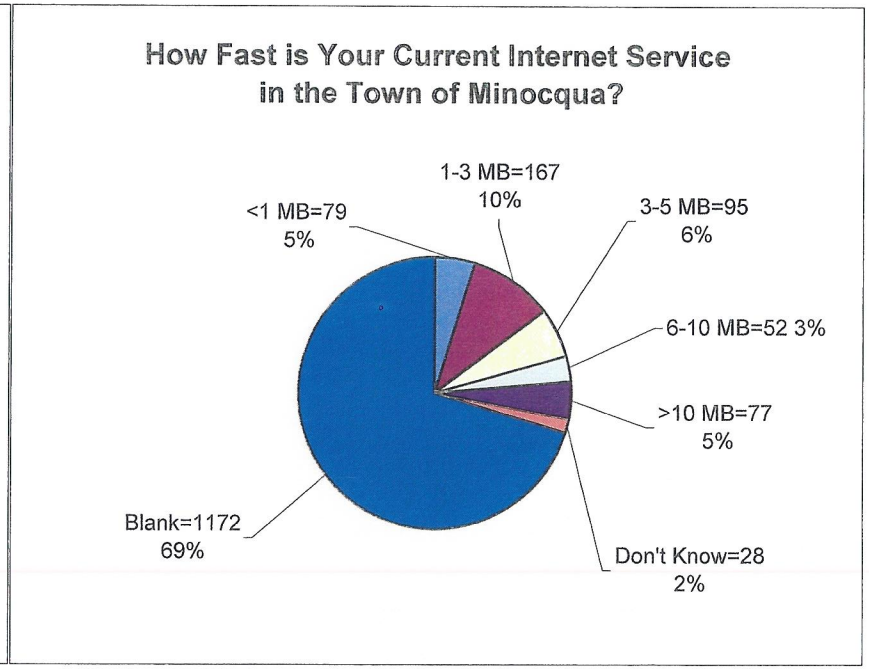
Are you Satisfied with Your Internet Service in the Town of Crescent?

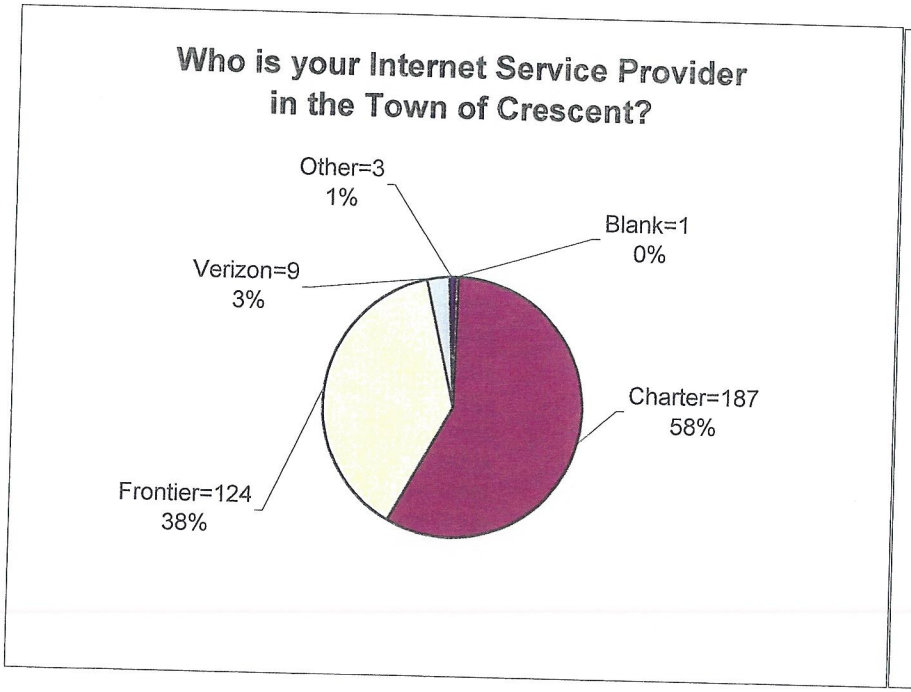


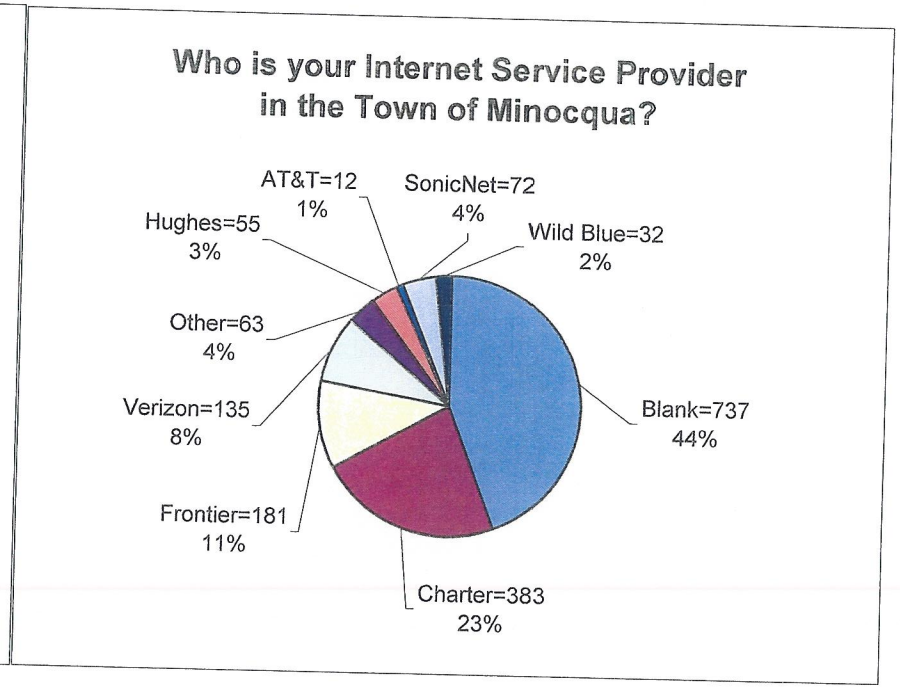
Are you Satisfied with Your Internet Service in the Town of Minocqua?




How Fast is Your Current Internet Service in the Town of Crescent?
Blank=172 37%
Don't Know=81 17%
< 1 MB=30 6%
1-3 MB=63 13%
3-5 MB=42 9%
6-10 MB=19 4%
> 10 MB=65 14%


How Fast is Your Current Internet Service in the Town of Minocqua?
1-3 MB=167 10%
<1 MB=79 5%
3-5 MB=95 6%
6-10 MB=52 3%
>10 MB=77 5%
Blank=1172 69%
Don't Know=28 2%


Who is your Internet Service Provider in the Town of Crescent?
Other=3
1%
Blank=1
0%
Verizon=9
3%
Charter=187
58%
Frontier=124
38%


Who is your Internet Service Provider in the Town of Minocqua?
AT&T=12
1%
SonicNet=72
4%
Hughes=55
3%
Wild Blue=32
2%
Other=63
4%
Verizon=135
8%
Blank=737
44%
Frontier=181
11%
Charter=383
23%

Town of Sugar Camp
High Speed (Broadband) Internet Survey

The purpose of this survey is to determine if you currently have high speed (broadband) internet service available at your Sugar Camp home and what type of service you have. This survey will help facilitate negotiations with the internet service providers to arrange better, faster broadband availability to all the homes in Sugar Camp.

Please answer ALL the questions and return to the Town of Sugar Camp by January 31. You can return the survey with your tax bill payment, or mail it directly to Town Hall, 4059 Camp Four Rd, Rhinelander, WI 54501.

Please **circle** the answers below:

1. Is this your primary residence YES – NO
2. Do you currently have internet service at this address YES – NO
3. Who is your internet provider: Charter – Frontier – Verizon – AT&T Sonic Net – Hughes Satellite – Other _____
4. Are you satisfied with your current service YES – NO
5. Do you know how fast your current service speed is? If you don't know, you can go to www.speedtest.net to find your speed and report it here:
   - Less than 1 Mbps (Megabit per second)
   - 1-3 Mbps
   - 3-5 Mbps
   - 6-10 Mbps
   - Greater than 10 Mbps
6. If you do not have service at this address, why not: Not interested – Can't get appropriate service – Too costly – Other _____

Please print your current Sugar Camp street address:

_____

Additional comments:

_____

_____

Thank you for taking the time to participate and providing your data.