

Estimating the Seasonal Population of Door County

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Door County's seasonal population is substantial, would be expensive to quantify, and is usually not included in population figures for the county. In an effort to estimate the size of this seasonal population, a process was used which is explained below. ***Users of this information are cautioned against forgetting about the substantial educated guesswork that makes up this model.*** The best use of these data is as a starting point.

How might this be used? Businesses might use this information as a starting point in estimating the potential seasonal population. Government might use this information as a starting point in estimating the non-resident population that might use their services.

STEP 1: Estimating the size of the Door County seasonal population. The first step was to get an idea of the size of the Door County seasonal population. In 1999, the average Wisconsin resident accounted for taxable retail and service sales of \$9,083, according to the Wisconsin Department of Revenue. Door County had taxable retail and service sales of \$422,700,868 that year. In other words, Door County establishments reported taxable sales equal to what one would expect to encounter in a county of 46,538 people, or 19,949 people more than the 26,589 residents that the Wisconsin Department of Administration reported residing in Door County in 1999. Using economic activity as a "proxy: for population, Door County's seasonal population acts like a population of 19,949 average consumers in Wisconsin living here all year round. This figure will be used as the estimated size of the seasonal population.

Step 2: Estimating the geographic distribution of the seasonal population. Most people familiar with Door County would assume that more seasonal population goes to Fish Creek (in the Town of Gibraltar) than to Maplewood (in the Town of Forestville). One way to estimate where the seasonal population goes is to look at the location of seasonal homes, hotel and motel rooms, and campgrounds for the seasonal population. Data about the estimated number of residents' homes and homes that are vacant (most of which are held for seasonal or recreational use), were obtained from the 1990 Census and the Wisconsin Department of Administration. Campground unit and lodging unit information was obtained from the Door County Chamber of Commerce, the University Extension's Center for Community Economic Development, and

through calls to some of the establishments. Using the totals of seasonal units produces the last column that estimates the percentage of seasonal units in each municipality in Door County. (There is a slight rounding effect that results in a bit greater than 100.0% for that column.) That analysis produces the following table:

ESTIMATED RESIDENT, SEASONAL, CAMPGROUND AND COMMERCIAL UNITS

MUNICIPALITY	1999 Estimated Residents Homes	1999 Estimated Seasonal Homes	1999 Campground Units	1999 Commercial Lodging Units	Estimated 1999 Per Cent of Co. Seasonal Units
TN BAILEYS HARBOR	428	794	153	256	7.9%
TN BRUSSELS	399	47	21	0	0.4%
TN CLAY BANKS	162	99	0	0	0.6%
TN EGG HARBOR	493	455	333	305	7.1%
TN FORESTVILLE	385	33	0	0	0.2%
TN GARDNER	427	668	0	24	4.5%
TN GIBRALTAR	451	793	544	370	11.1%
TN JACKSONPORT	297	503	0	105	4.0%
TN LIBERTY GROVE	754	1358	158	392	12.5%
TN NASEWAUPEE	730	588	643	107	8.7%
TN SEVASTOPOL	1082	585	0	196	5.1%
TN STURGEON BAY	364	261	14	4	1.8%
TN UNION	280	376	0	0	2.5%
TN WASHINGTON	328	626	142	55	5.4%
V EGG HARBOR	111	458	87	344	5.8%
V EPHRAIM	128	612	0	596	7.9%
V FORESTVILLE	196	20	0	0	0.1%
V SISTER BAY	361	732	30	509	8.3%
C STURGEON BAY	4155	343	0	708	6.9%
DOOR COUNTY	11659	9223	2125	3971	100.8%

Sources: 1990 Census, Door County Chamber of Commerce, Wisconsin Department of Administration, University Ext.

The first column is here for comparison and is not used in the estimates below.

STEP 3: Estimating the times when the seasonal population is in Door County. People who come to Door County do not do so evenly throughout the year. Traffic counters at Dyckesville and Algoma provided 1999 traffic counts by month. January is the month when the fewest number of vehicles cross those counters. If we assume January traffic is wholly residential, then an estimate of the seasonal traffic can be determined by apportioning the total number of seasonal population days (365 days times the year long seasonal population of 19,949) in proportion to the traffic counts. The results of that calculation are:

1999 Daily Traffic, Dyckesville and Algoma

Month	Estimated Total Vehicles	Estimated Resident Vehicles	Estimated Month Long Seasonal Population
January	6856	6856	0
February	8141	6856	5,603
March	8408	6856	6,767
April	9568	6856	11,824
May	12089	6856	22,816
June	13914	6856	30,773
July	17093	6856	44,633
August	16207	6856	40,770
September	14222	6856	32,115
October	12919	6856	26,434
November	9192	6856	10,185
December	8436	6856	6,889
TOTALS	137045	82272	

The zero in January is an arbitrary starting point. The assumption is that no seasonal people come to Door County that month. It serves as a base. The other months are arrived at by taking the seasonal population and distributing them over the 12 months of the year in direct proportion to the rise and fall by month of the traffic counts.

Putting it all together. In step one an estimate was made of how large the seasonal population is—equivalent to 19,949 people year round based on economic activity. In step 2, the location of seasonal homes, campground and commercial lodging units was used to estimate where visitors were most likely to be found (% of seasonal units). In step 3 an estimate was made of estimated how many are here each month.

Since this report uses overnight accommodations (second homes, motels, hotels, campgrounds) to locate “where” the seasonal population is, it may substantially underestimate the seasonal population a community might experience during the day. A 1997 study commissioned for the Door County Chamber of Commerce indicated that only 2% of lodging customers visit a single Door County community (87% visited 4 or more communities in the Door County Chamber study). That means that during the day, many of the county seasonal population are circulating through several communities.

The table below puts all these estimates together. The estimated seasonal population below includes not only those who stay overnight, but daytime seasonal population as well. (Overnight seasonal units were used to estimate

“where” the seasonal population was; spending by all, including day seasonal population, was used to estimate how many.)

ESTIMATED SEASONAL POPULATION (ALL MONTH, NOT PEAK)												
MUNICIPALITY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
TN BAILEYS HARBOR	0	439	530	926	1,787	2,410	3,496	3,193	2,515	2,070	798	540
TN BRUSSELS	0	25	30	52	101	136	198	181	142	117	45	31
TN CLAY BANKS	0	36	44	77	148	199	289	264	208	171	66	45
TN EGG HARBOR	0	399	481	841	1,623	2,189	3,175	2,900	2,285	1,880	725	490
TN FORESTVILLE	0	12	15	26	50	67	97	89	70	57	22	15
TN GARDNER	0	252	305	532	1,027	1,385	2,009	1,835	1,446	1,190	459	310
TN GIBRALTAR	0	623	752	1,314	2,536	3,420	4,961	4,532	3,570	2,938	1,132	766
TN JACKSONPORT	0	222	268	468	904	1,219	1,768	1,615	1,272	1,047	403	273
TN LIBERTY GROVE	0	696	840	1,468	2,833	3,822	5,543	5,063	3,988	3,283	1,265	856
TN NASEWAUPEE	0	488	589	1,030	1,987	2,679	3,886	3,550	2,796	2,302	887	600
TN SEVASTOPOL	0	285	344	601	1,160	1,565	2,270	2,074	1,633	1,344	518	350
TN STURGEON BAY	0	102	123	215	414	559	811	740	583	480	185	125
TN UNION	0	137	166	290	559	753	1,093	998	786	647	249	169
TN WASHINGTON	0	300	362	633	1,222	1,648	2,391	2,184	1,720	1,416	546	369
V EGG HARBOR	0	324	392	684	1,320	1,781	2,583	2,359	1,859	1,530	589	399
V EPHRAIM	0	441	532	930	1,794	2,420	3,510	3,206	2,525	2,079	801	542
V FORESTVILLE	0	7	9	16	30	41	59	54	43	35	14	9
V SISTER BAY	0	463	560	978	1,887	2,545	3,692	3,372	2,657	2,187	842	570
C STURGEON BAY	0	383	463	809	1,561	2,106	3,055	2,790	2,198	1,809	697	471

To use the table above, one might look at the Egg Harbor area as an example. Combining the Village and Town of Egg Harbor, for example, the seasonal population for July is 5,758. Add to that the resident population of 1,291 (1,076 for the Town and 215 for the Village—see the last page), and there is an effective seasonal estimated population of 7,049.

Remember that on any given day in July there will be substantial variation. On a sunny July 4, one might reasonably expect the population to be substantially higher than the table above indicates, and on a rainy Wednesday in late July it may be lower than the table shows. The seasonal population of the Egg Harbor area also visits other Door County communities, and the seasonal population of other areas visit the Egg Harbor area. The fact that visitors circulate in Door County to several communities needs to be taken into consideration in any planning effort. The daytime population also could be much higher or lower depending on such other factors as day of week, weather, local events, the strength of the economy, etc.