Land Ownership in Door County, Wisconsin

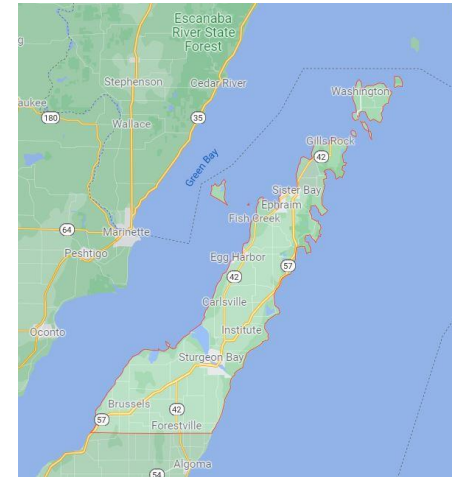## Using the Wisconsin Statewide Parcel Layer

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Background

Door County is a peninsula on the western edge of Wisconsin. It has 300 miles of coastline that touches Lake Michigan to the East and the Bay of Green Bay to the West. It's been called the 'Cape Cod of the Midwest' because of its abundance of vacation and second homes. It's a popular destination for visitors and renters.

This project is inspired by research done by UW- Eau Claire professor Ryan Weichelt, who studied land ownership in Wisconsin's Northwoods using parcel data.

Data Layers

1. Wisconsin Statewide Parcel Layer (managed by the State Cartographer's Office)

2. Geolocated point layer of parcel owner's mailing address

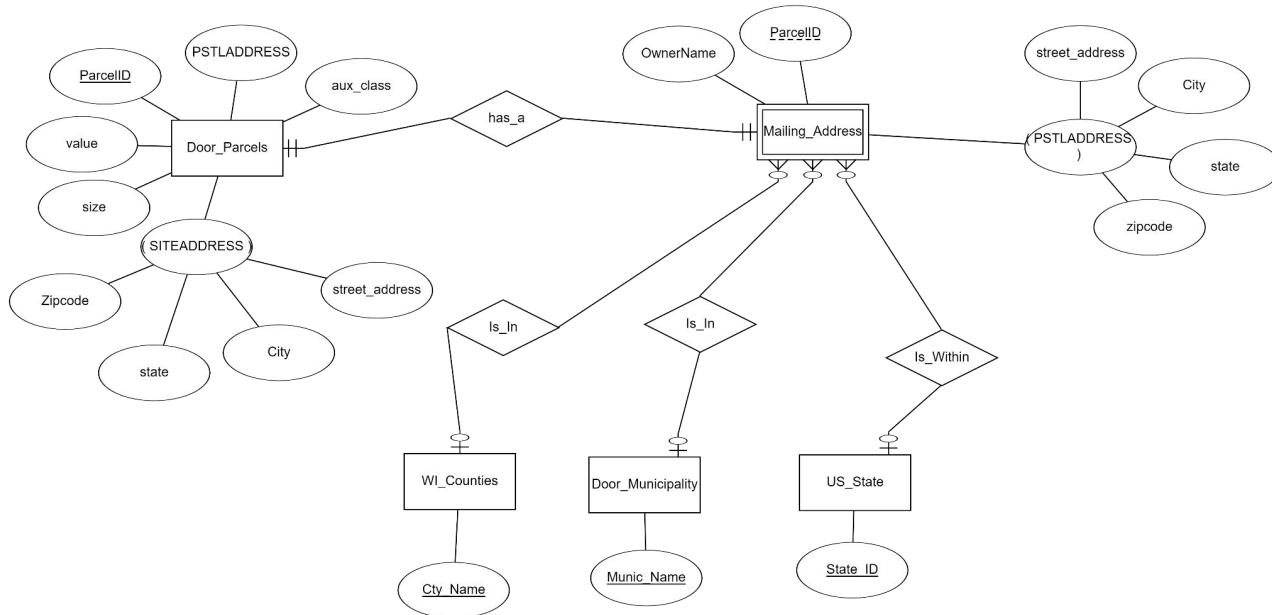3. Polygon layers of US States, Wisconsin Counties, Door County Municipalities
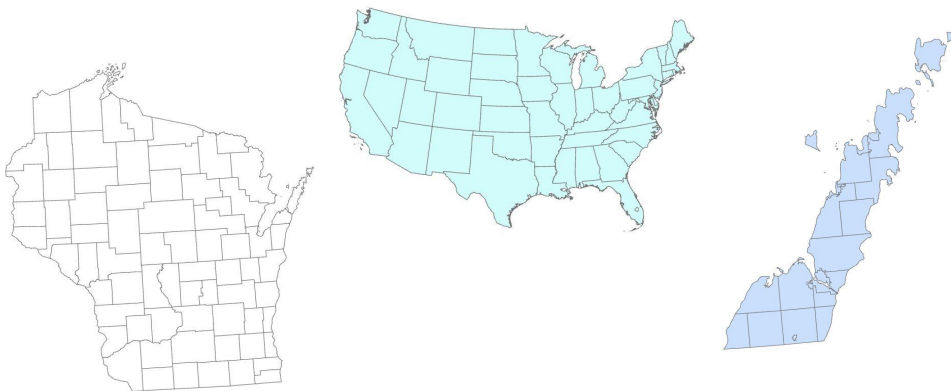
Research Questions

- Where do Door County landowners actually live?

- How much of Door County is locally owned?

- What can parcel attributes reveal about land ownership?

Conceptualization: ER Diagram

Entities:
Door Co Parcels (Polygon)
Owner Mailing Address (Point)
US States (Polygon)
WI Counties (Polygon)
Door Municipalities (Polygon)

Important Attributes
Site Address: Parcel location in Door Co
Postal Address: Parcel Owner's Mailing Address
Aux Class: Federal/State/County/Exempt
Value: Assessed tax value of parcel

Conceptualization: Relational Diagram
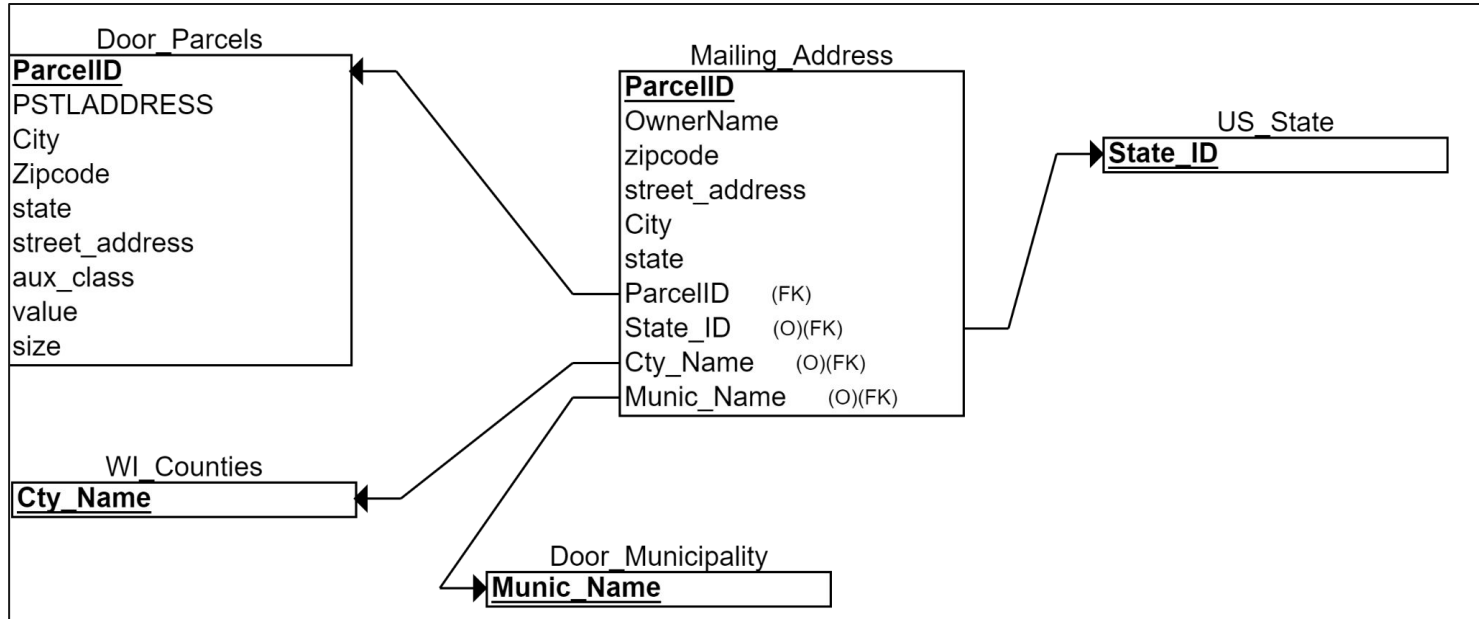
Geodatabase
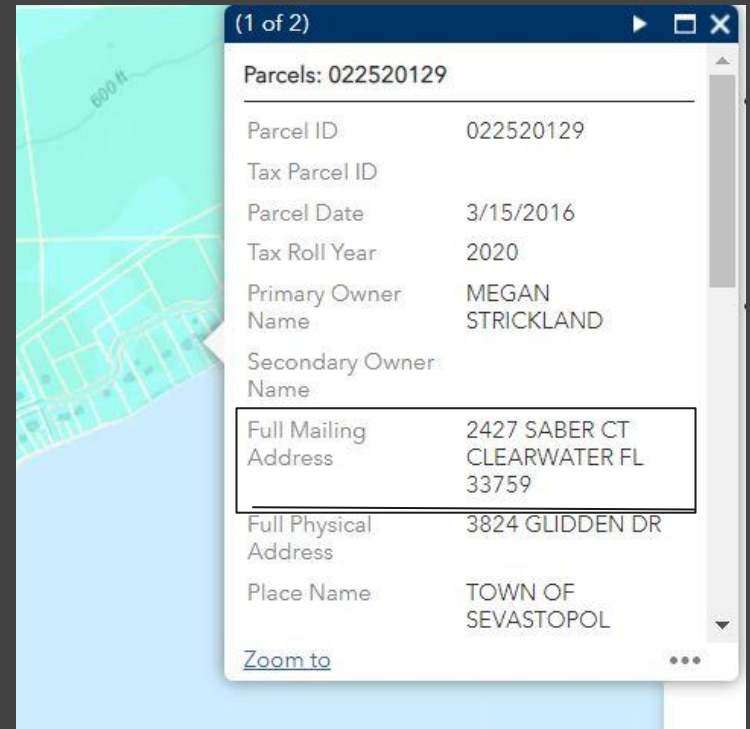
Projection: 3071 NAD 1983 HARN
Wisconsin Transverse Mercator

Question: Where do Door County Parcel owners actually live?

Using the owner's mailing address attribute.

Note: Owner mailing address is different from parcel site address. The following point layers are from the owner mailing address.

US Distribution

SELECT count(address)
FROM owners;
Result: 40,847

Count of all points

SELECT o.country,
count(o.geom)
FROM owners as o
WHERE country <> 'USA'
GROUP BY o.country
ORDER BY (count) desc;

Count and names of
Non-US Owners

SELECT count(address), state
FROM owners
GROUP BY state
ORDER BY count desc;

Count of points in
US states

Distribution of Owner Mailing Addresses
in the US
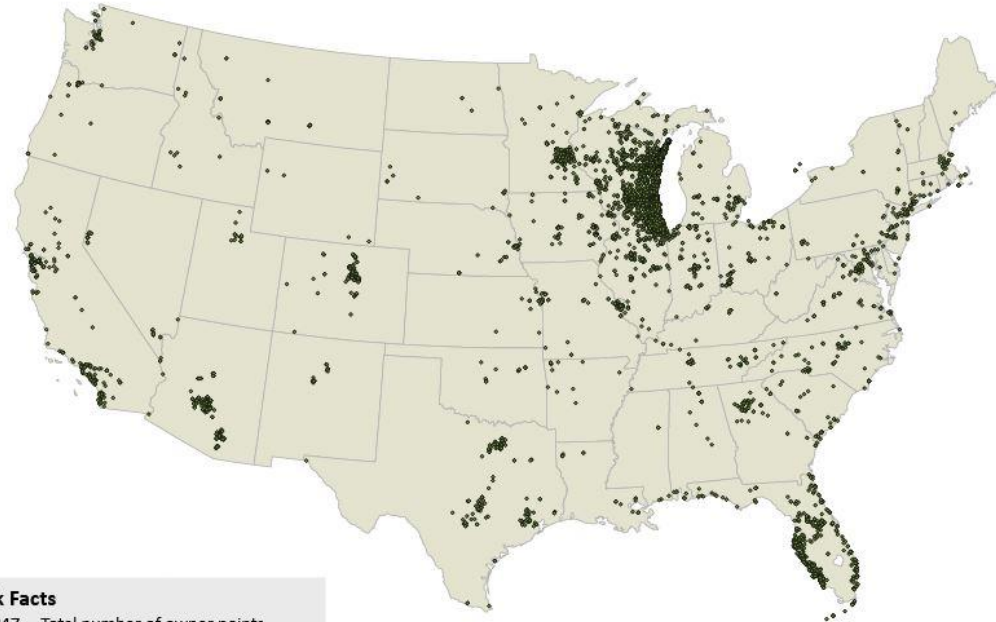
Quick Facts
40, 847 -- Total number of owner points
21, 454 -- Total number of distinct owners
16 -- Number of owners in Alaska or Hawaii

Owners in other countries come from
Canada, Mexico, Italy, Sweden, Norway, France,
Taiwan, and the Armed Forces Europe and Pacific

0   125 250   500 Miles

Wisconsin Distribution

SELECT count(s.address)
FROM owners AS o, states AS s
WHERE ST_within(o.geom, s.geom) and
s.name = 'Wisconsin';

Count of points in WI (81% of total owner points)

SELECT o.ownernme1, count(o.address)
FROM owners AS o, states AS s
WHERE ST_within(o.geom, s.geom) and
s.name = 'Wisconsin'
Group by o.ownernme1
Order by count desc;

Count, owner name of distinct owners

	ownernme1 character varying (254)	count bigint
1	STATE OF WISCONSIN DNR	539
2	DOOR COUNTY LAND TRUST INC	264
3	THE NATURE CONSERVANCY OF WI INC	176
4	WILLIAM S ANDERSEN	122
5	COUNTY OF DOOR	103
6	TANNER J SCHMIDT	103
7	STATE OF WISCONSIN DOT	99

Distribution of Owner Mailing Addresses in Wisconsin

Quick Facts
33, 138 -- Total number of owner points
17, 560— Total number of distinct owners
539 — Total number of parcels owner by State of Wisconsin Department of Natural Resources (the largest owner)

0 12.5 25   50 Miles
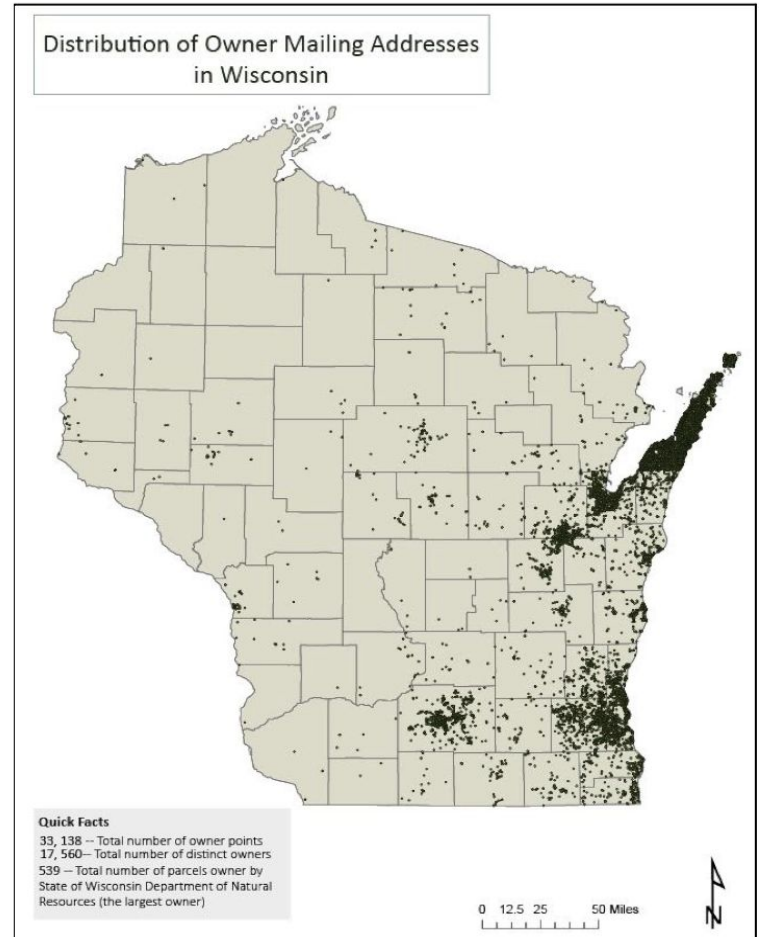
Door County Distribution

SELECT count(s.address)
FROM owners AS s, counties AS n
WHERE ST_within(s.geom, n.geom) and
n.county_nam = 'Door';

SELECT o.ownernme1, count(o.geom)
FROM owners as o, parcels as p
WHERE st_within(o.geom, p.geom)
group by o.ownernme1
order by count desc;

Count of owner points in
Door County (55% of total
owner points)
*Implies about half of the land
in Door County is owned by
people who live in Door
County*

Distinct Owners from Door
County

Distribution of Owner Mailing Addresses in Door County

Quick Facts
22, 544 -- Total number of owner points
11, 316 -- Total number of distinct owners
264 -- Total number of parcels owner by
Door County Land Trust Inc (the largest local owner)

0   2.5   5   10 Miles
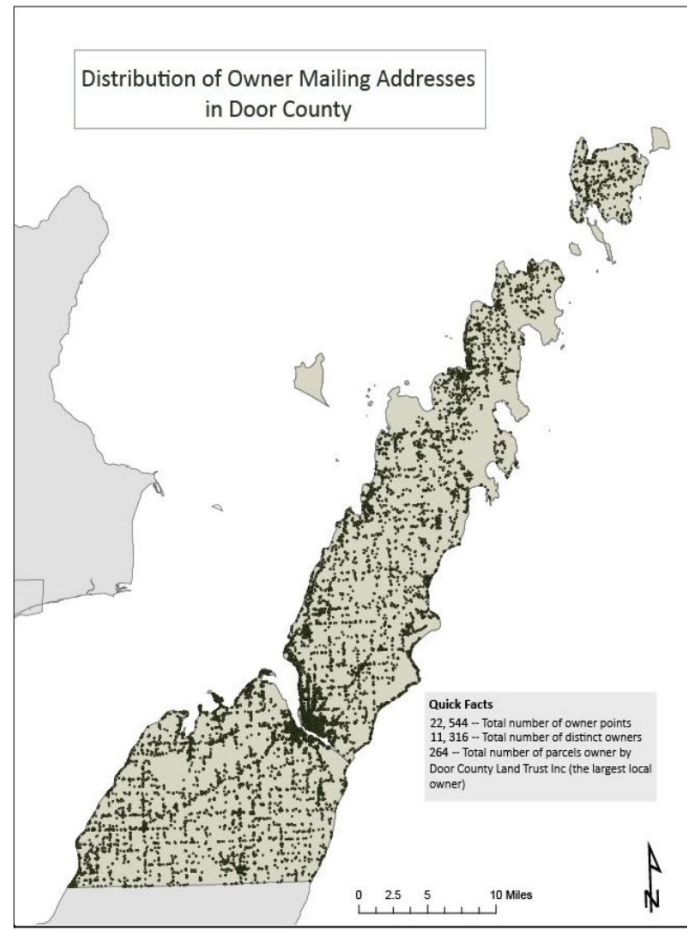
Percentage of points in each state

SELECT count(s.address),
round((100*(count(s.address)/40847.0)::numeric),2) as
pct_total , n.name
FROM owners AS s, states AS n
WHERE ST_within(s.geom, n.geom)
GROUP BY n.name order by (count) desc;

	count bigint	pct_total numeric	name character varying (24)
1	33188	81.25	Wisconsin
2	4274	10.46	Illinois
3	658	1.61	Florida
4	320	0.78	Minnesota
5	282	0.69	California
6	202	0.49	Arizona
7	191	0.47	Texas
8	180	0.44	Missouri
9	132	0.32	Iowa
10	130	0.32	Indiana

Percentage of Owner Points by US State

Percent of Total Points
*All states contain at least one owner point

- 10.48% - 81.28%
- 1.62% - 10.47%
- 0.79% - 1.61%
- 0.25% - 0.78%
- 0% - 0.24% *Hawaii and Alaska both fall in this range

0 125 250 500 Miles
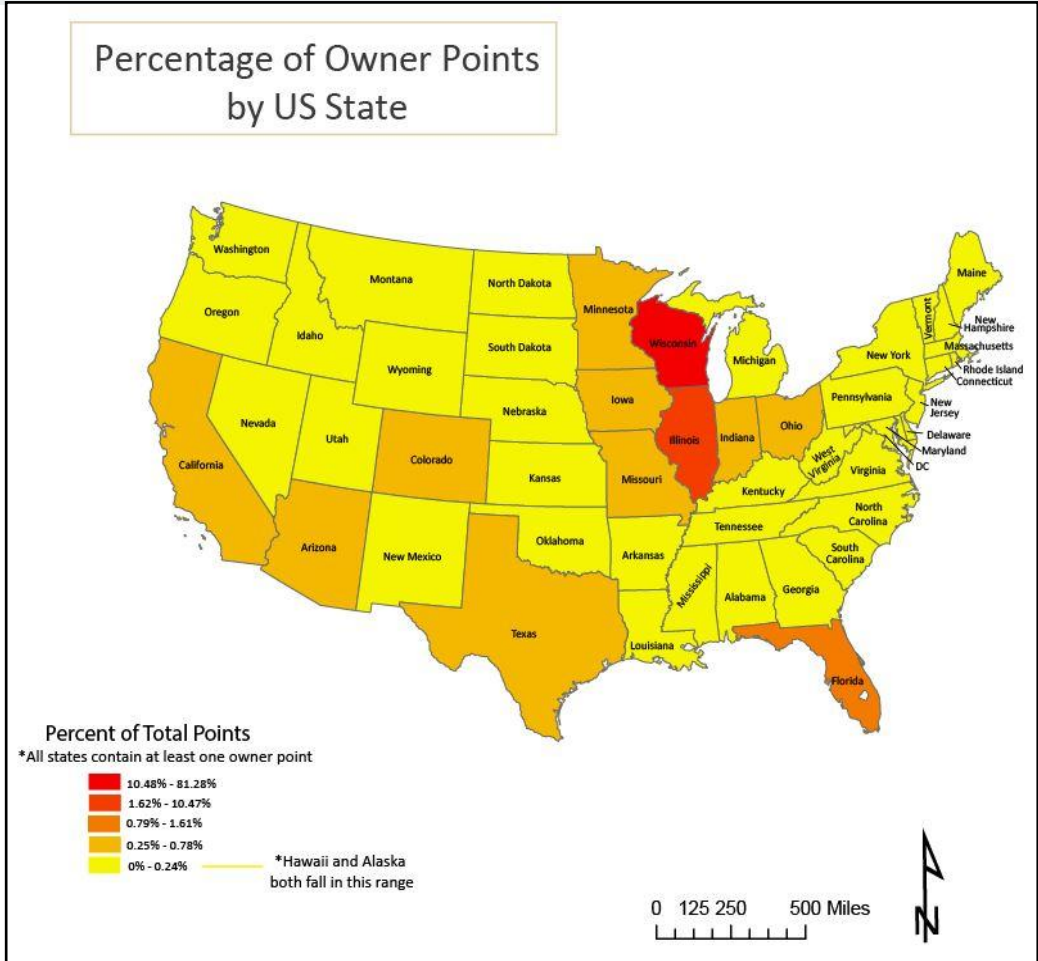
Percentage of points in each Wisconsin County

SELECT count(s.address),
round((100*(count(s.address)/33188.0)::numeric),2) as pct_total , n.county_nam
FROM owners AS s, counties AS n
WHERE ST_within(s.geom, n.geom)
GROUP BY n.county_nam order by pct_total desc;

	count bigint	pct_total numeric	county_nam character varying (20)
1	22544	67.93	Door
2	2486	7.49	Brown
3	1693	5.10	Dane
4	1221	3.68	Milwaukee
5	1123	3.38	Waukesha
6	544	1.64	Outagamie
7	539	1.62	Ozaukee
8	523	1.58	Kewaunee
9	379	1.14	Manitowoc
10	256	0.77	Washington
11	257	0.77	Winnebago

Percentage of Total Owner Points by Wisconsin Counties

Percentage of Total Owner Points
- 7.51% - 68%
- 5.01% - 7.5%
- 1.76% - 5%
- 0.76% - 1.75%
- 0.26% - 0.75%
- 0.01% - 0.25%
- 0%
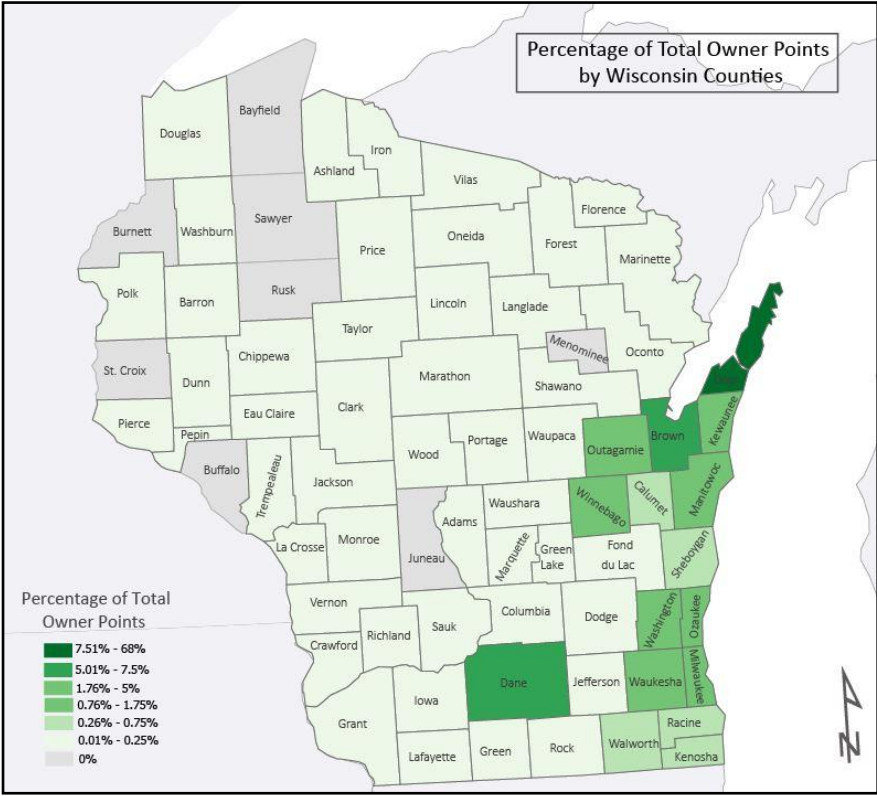
Door County Percentages

SELECT count(s.address),round((100*(count(s.address)/22544.0)::numeric),2) as percent, n.mcd_name FROM owners AS s, municipal AS n
WHERE ST_within(s.geom, n.geom)
group by n.mcd_name order by count desc;

Door County Municipalities

	count bigint	percent numeric	mcd_name character varying (80)
1	4990	22.13	Sturgeon Bay
2	2227	9.88	SEVASTOPOL
3	1902	8.44	NASEWAUPEE
4	1670	7.41	LIBERTY GROVE
5	1257	5.58	BAILEYS HARBOR
6	1178	5.23	GIBRALTAR
7	1050	4.66	EGG HARBOR

Door County Ownership by Municipality

Percentage of Owner Points
- 11% - 22%
- 7% - 10%
- 5% - 6%
- 3% - 4%
- 1% - 2%
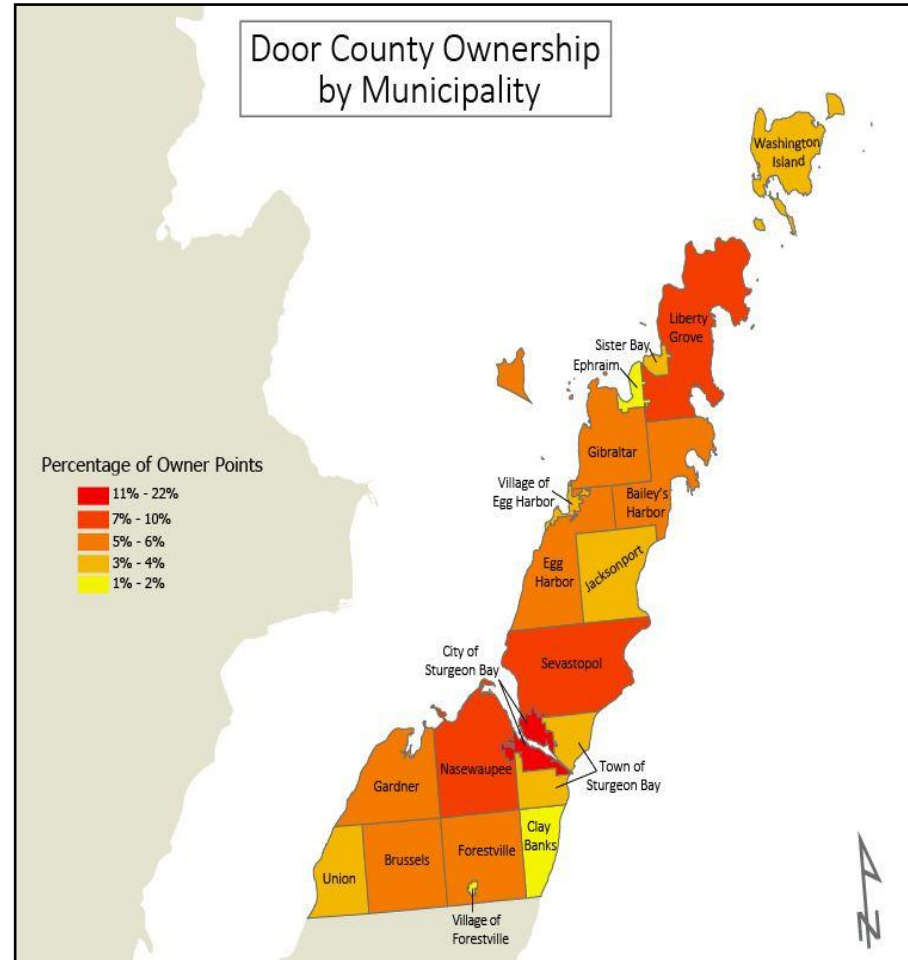
Question: How much of Door County is locally owned?

Using the owner's mailing address, the parcel's site address, and the zipcodes of both attributes to account for PO Box mailing addresses

Defining Local

Parcel Site Address == Owner Mailing Address
OR
Parcel Zipcode == Owner Mailing Address Zipcode

PO Box could mean different things. Many businesses use po boxes because they receive large amounts of mail that won't fit in a mailbox. Some people don't have mail boxes. Some people who live in an area and have a business use a po box as a business address to separate their business mail from their home, but then they are still local.

Distinct Owners

Used ArcGIS PRO 'Dissolve' Tool to merge parcels with the same owner

Same as finding distinct owner in postgresql

SELECT count(distinct(ownernme1)) FROM parcels;

Case Study: Fish Creek

SELECT count(distinct(ownernme1)) FROM parcels;

Distinct parcel owners (26, 017)

SELECT count(distinct(ownernme1)) FROM (select ownernme1 from owners where zipcode=zipcode_1 or siteadress=address) owner;
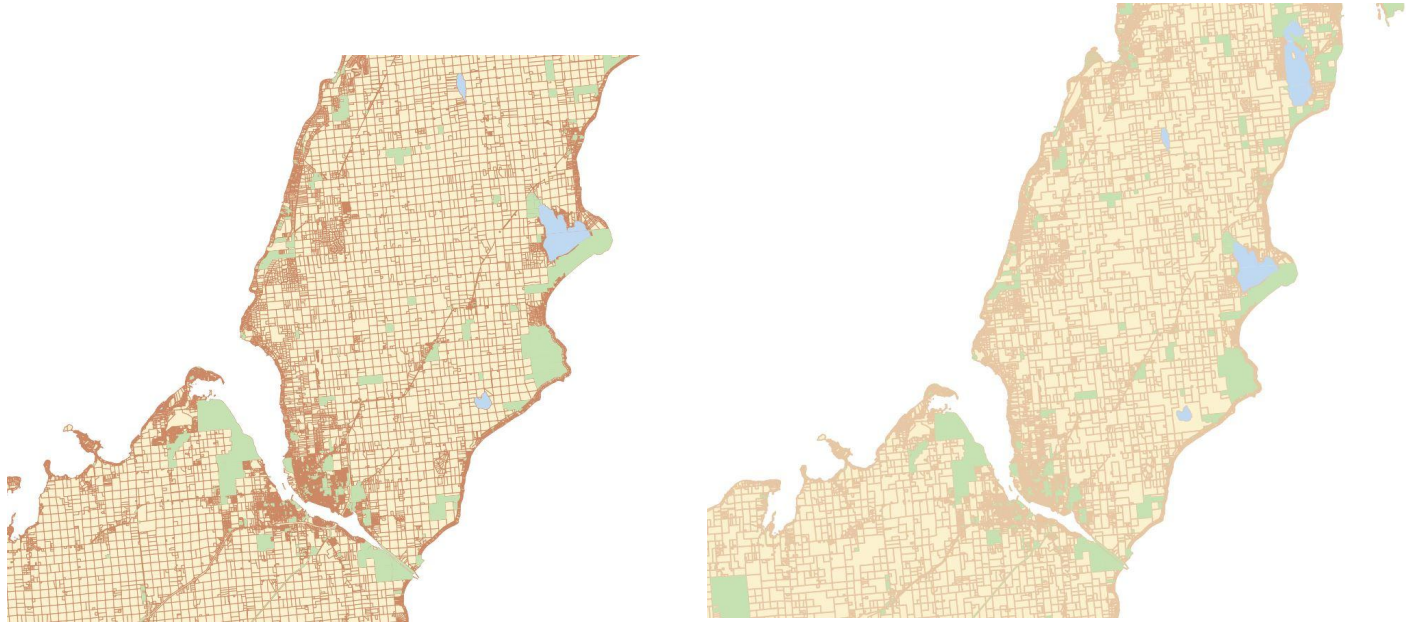
Distinct local owners (8, 527) (33% of distinct owners)

SELECT ownernme1, count(*) FROM parcels where auxclass = 'X4' or auxclass = 'X3' or auxclass = 'X2' or auxclass = 'X1' group by ownernme1 order by count desc;

Public Land: Has an Auxiliary Class Of X1, X2, X3, X4 (Federal, State, County, Other/Exempt Example: WI DNR is X2 State Class Top Right Green Corner is Potawatomi State Park (X2)

Fish Creek Parcel Ownership

Green Bay

Example of Owner Mailing Addresses

Reno, NV
Winneconne, WI
Egg Harbor, WI
De Pere, WI
Chicago, IL
Chicago, IL
Sugar Grove, IL
Highland Park, IL
De Pere, WI
Evanston, IL
Chicago, IL
Palm Beach, FL
Chicago, IL

Water
Public Land
Merged Parcels (Non Local)
Merged Parcel where Site Address = Postal Address
or Site Zipcode = Postal Address Zipcode (Local)

0   0.2   0.4   0.8 Miles

Question: What else can parcel attributes reveal about land ownership in Door County?

Using the 'assessed land value' and 'assessed area' attributes

Area

SELECT sum(st_area(geom)) as area, ownernme1
FROM parcels
group by ownernme1
Order by area desc;

Row = Street polygon (has a null owner name)

	area double precision 🔒	ownernme1 character varying (254)
1	45997291.2305373	STATE OF WISCONSIN DNR
2	27345976.3582047	[null]
3	18293132.3483663	DOOR COUNTY LAND TRUST INC
4	14623512.9613304	STATE OF WISCONSIN
5	11169633.4487706	THE NATURE CONSERVANCY OF WI INC
6	8395636.0107205	THE NATURE CONSERVANCY
7	6353168.69700154	COUNTY OF DOOR
8	5363114.59645101	THE RIDGES SANCTUARY INC
9	3865654.92500312	PAGEL'S PONDEROSA PROPERTY LLC
10	3735969.78973041	EDWARD G & DEBRA J STAATS TRST
11	3626018.52665999	GILBERT FARMS LTD
12	3508466.2258636	S & S AG ENTERPRISES LLC
13	3450751.11636667	W D L TRUST

Data Output   Explain   Messages   Notifications

	gid [PK] integer	stateid character varying (100)	parcelid character varying (100)	ownernme1 character varying (2
73	41429	029ROW	ROW	[null]
74	41430	029ROW	ROW	[null]
75	41431	029COMMON AREA	COMMON AREA	[null]
76	41432	029ROW	ROW	[null]
77	41433	029ROW	ROW	[null]
78	41434	029COMMON ELEMENT	COMMON ELEMENT	[null]
79	41435	029COMMON ELEMENT	COMMON ELEMENT	[null]
80	41436	029ROW	ROW	[null]
81	41437	029ROW	ROW	[null]
82	41438	029WATER	WATER	[null]

Land Value

SELECT (cntassdval) as cost
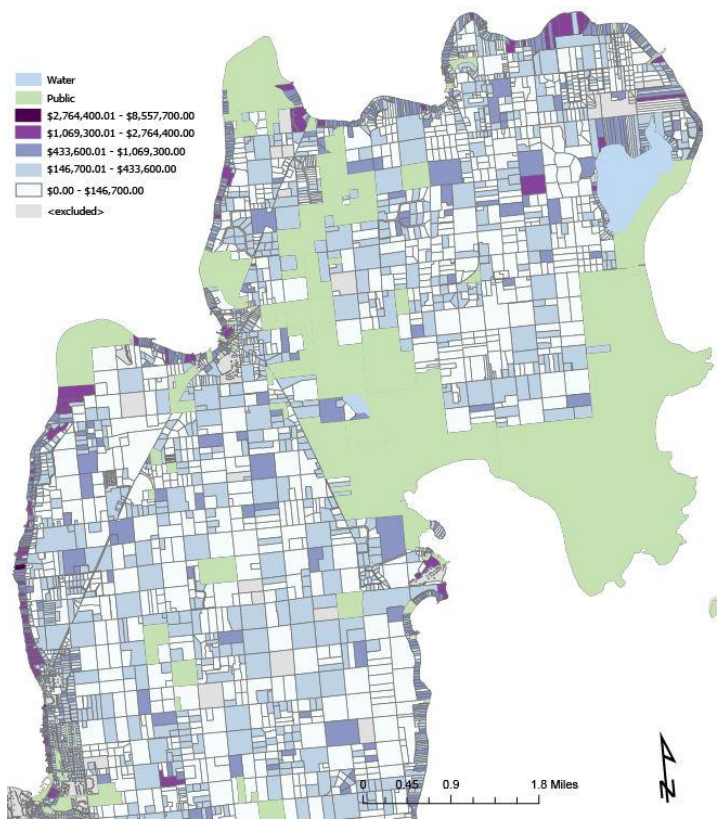FROM parcels where cntassdval>0
group by cntassdval order by cost desc;

SELECT round(avg(cntassdval),2) as cost
FROM parcels where cntassdval>0;

Parcel Value

Average Value
($198,568.71)

Assessed Value per Parcel

	Water
	Public
	$2,764,400.01 – $8,557,700.00
	$1,069,300.01 – $2,764,400.00
	$433,600.01 – $1,069,300.00
	$146,700.01 – $433,600.00
	$0.00 – $146,700.00
	<excluded>

	cost numeric	ownernme1 character varying (254)	
1	11158200.00	HEDEEN DEVELOPMENT INC	
2	9611600.00	FINCANTIERI MARINE GROUP LLC	
3	9593800.00	HATCO CORPORATION	
4	9142200.00	THE RUSHES	
5	8907000.00	ALPINE PROPERTY OWNERS A LLC	
6	8492000.00	LIFE INVESTORS MARINA VIEW LLC	
7	7650000.00	WAL-MART REAL ESTATE BUSINESS TRUST	
8	7607600.00	NICOLET NATIONAL BANK	
9	6590000.00	CARLA J PETERSON TRST	

0   0.45   0.9   1.8 Miles

Land Value

We can also look at land value grouped by municipality

SELECT round(avg(cntassdvalue),2)
as cost, placename
FROM parcels
Group by placename
Order by cost desc;

	cost numeric	placename character varying (100)
1	344926.72	VILLAGE OF EPHRAIM
2	324415.18	VILLAGE OF EGG HARBOR
3	281395.90	VILLAGE OF SISTER BAY
4	271697.30	TOWN OF GIBRALTAR
5	236722.75	TOWN OF LIBERTY GROVE
6	225436.76	TOWN OF BAILEYS HARBOR
7	221905.28	TOWN OF SEVASTOPOL
8	212247.56	CITY OF STURGEON BAY
9	195974.37	TOWN OF JACKSONPORT
10	180604.60	TOWN OF EGG HARBOR
11	178356.05	TOWN OF STURGEON BAY
12	141903.56	TOWN OF WASHINGTON
13	141790.71	TOWN OF CLAY BANKS
14	141509.19	TOWN OF UNION
15	134743.40	TOWN OF GARDNER
16	113150.10	TOWN OF NASEWAUPEE
17	81486.96	VILLAGE OF FORESTVILLE

Conclusions

Where do Door County Parcel Owners Actually Live?

    Of 40,847 owner mailing address points;

        33,138 are in Wisconsin (81%)

        22, 544 are in Door County (55%)

        7,688 are in other US States (19%)

        21 are in different countries (.05%)

How much of Door County is Locally Owned?

    Of 26, 017 distinct parcel owners;

        8,527 are 'local' (33%)

What else can the parcel layer reveal about land ownership?

    Acreage per owner

    Assessed value per owner

    Average assessed value per municipality

References

Weichelt, Ryan Douglas, and Ezra Zeitler. "Second Home Property Ownership and Public-School Funding in Wisconsin's Northwoods." *Geographical Review*, 2021, pp. 1–26., https://doi.org/10.1080/00167428.2020.1855583.

Marcus, J.S. "Door County Lives up to Its Nickname as the Midwest's Cape Cod." *The Wall Street Journal*, Dow Jones & Company, 12 Aug. 2021, https://www.wsj.com/articles/door-county-wisconsin-real-estate-news-11628787522.

Wisconsin Statewide Parcel Layer Version 7 https://www.sco.wisc.edu/parcels/data/