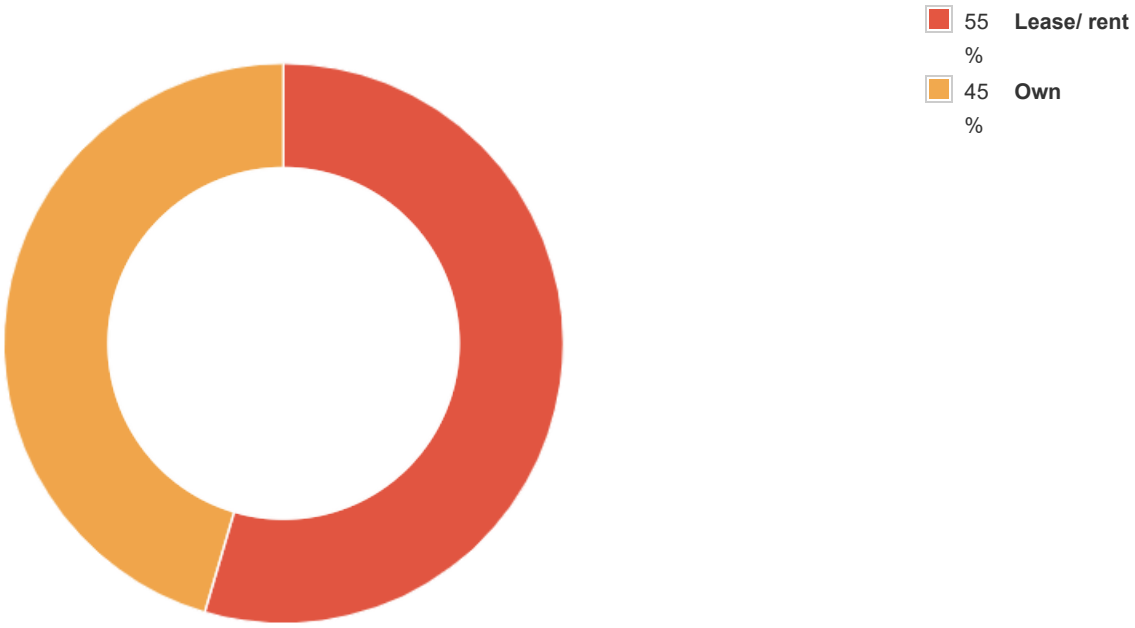
COMP PLAN SURVEY BUSINESS OWNERS

Dewey Beach Survey for Business Owners

Project Engagement

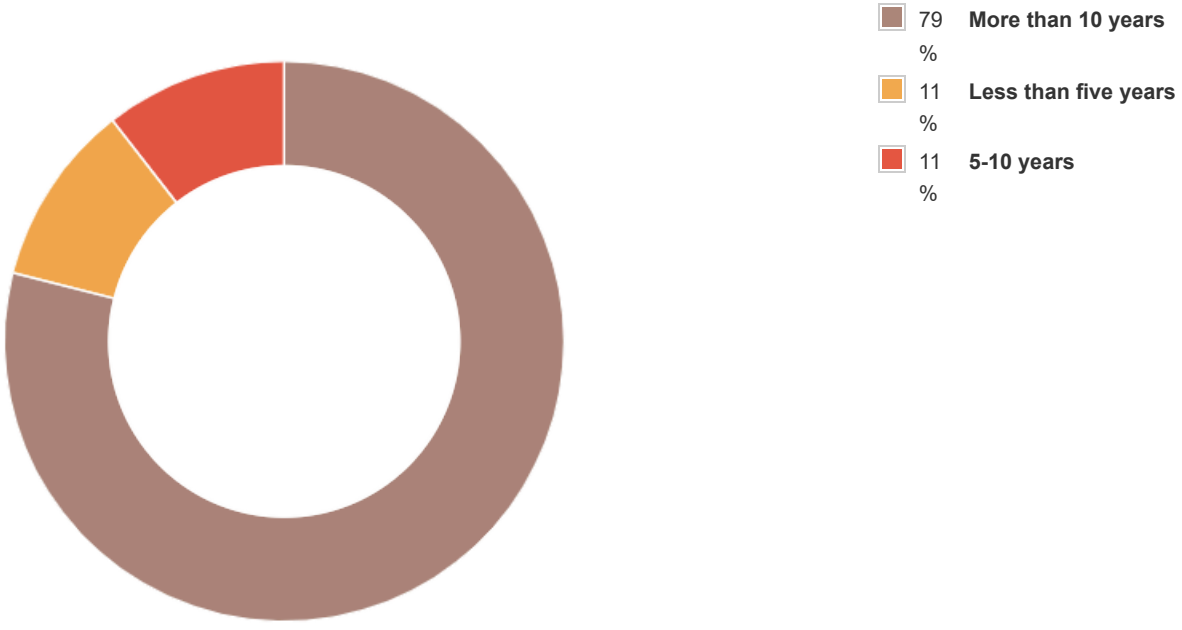
VIEWS	PARTICIPANTS	RESPONSES	COMMENTS
733	23	218	39

Do you own or lease/rent your business space?



22 respondents

I have been in business in Dewey Beach for:



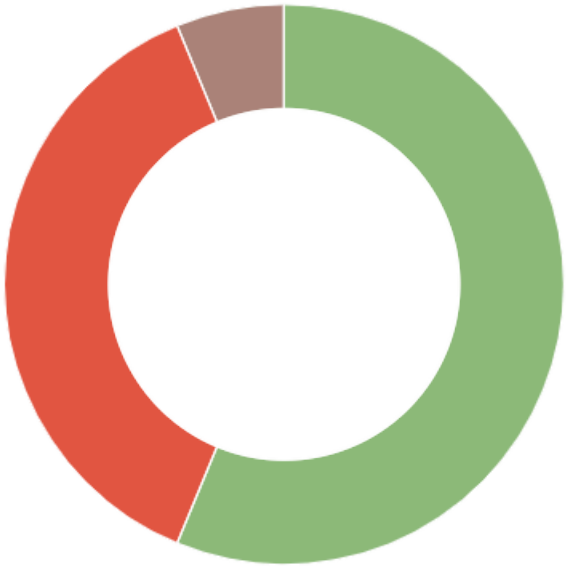
19 respondents

What type of business do you own?

53%	Restaurant	9 ✓
29%	Retail	5 ✓
18%	Service	3 ✓
12%	Other	2 ✓

17 Respondents

My property is located at:



- 56 % **Ocean side of Route 1 and south of Houston Street**
- 38 % **Bay side of Route 1 and south of Houston Street**
- 6% **Ocean side of Route 1 and north of Houston Street**
- 0% **Bay side of Route 1 and north of Houston Street**

16 respondents

What word or phrase best describes Dewey Beach to you?

Love the vibe. I save several weeks each year to use the rental property for personal use. Love to be near the ocean and amenities offered in Dewey!

8/17/2026

relax, enjoy and make memories

8/16/2026

A small town that once was a quiet place that has been taken over by commercial clients that has brought with it crowd control issues and noise.

8/13/2026

Spectacular

8/13/2026

Uneven fees & taxes

8/7/2026

The Wild West

8/4/2026

way of life

8/3/2026

Positive characteristics ranking: Please indicate the top 5 characteristics that you believe are most positive about Dewey Beach. Drag and drop them at the top with 1 being most positive.

9%	Safe and secure nighttime environment	Rank: 2.00	1 ✓
82%	Family-oriented atmosphere	Rank: 2.44	9 ✓
55%	Accessibility of ocean beach	Rank: 2.50	6 ✓
36%	Dog-friendly beach	Rank: 2.50	4 ✓
36%	Nighttime entertainment	Rank: 2.50	4 ✓
45%	Clean and safe beach	Rank: 2.80	5 ✓
36%	Active summer season / quiet offseason balance	Rank: 3.00	4 ✓
9%	Party atmosphere	Rank: 3.00	1 ✓
64%	Walking access to restaurants, eateries, and other food establishments	Rank: 3.29	7 ✓
27%	Accessibility to bay	Rank: 3.33	3 ✓
18%	Quality and number of restaurants	Rank: 3.50	2 ✓
9%	Quality and number of rental accommodations	Rank: 4.00	1 ✓
9%	Other	Rank: 5.00	1 ✓

11 Respondents

Improvements ranking: Please indicate the top 5 areas most in need of improvement in Dewey Beach. Drag and drop these at the top, with 1 being the most in need of improvement.

30%	More year-round restaurants	Rank: 1.67	3 ✓
40%	Other	Rank: 1.75	4 ✓
20%	Availability of family-oriented restaurants	Rank: 2.00	2 ✓
10%	Shopping and convenience outlets in town	Rank: 2.00	1 ✓
60%	Pedestrian safety	Rank: 2.33	6 ✓
30%	More special events (town or business sponsored)	Rank: 2.33	3 ✓
20%	Summer season noise	Rank: 2.50	2 ✓
40%	Family-oriented activities	Rank: 3.00	4 ✓
20%	Beach safety	Rank: 3.00	2 ✓
40%	Stricter control of inappropriate behavior (e.g., public drunkenness)	Rank: 3.25	4 ✓
30%	Public safety (general feeling of safety)	Rank: 3.33	3 ✓
40%	Summer activities for children	Rank: 3.50	4 ✓
10%	Public transportation options	Rank: 4.00	1 ✓
20%	Fewer special events (town or business sponsored)	Rank: 4.50	2 ✓

10 Respondents

For the top five issues you ranked, what specific actions would have the biggest impact on fixing these problems over the next five years?

Having police monitor intersections where there are yellow flashing lights to police cars that don’t stop and watch for pedestrians that don’t activate the cross walk lights,

8/17/2026

Add bathrooms and a changing stations on the bay and on the ocean side

8/16/2026

Crowd control. Noise at night. People on the beach making noise well in the morning hours.

8/13/2026

Dewey has been becoming a more year-round place to be, and to visit. Having more businesses open surely helps. Places like Ocean City Maryland spend big bucks advertising their town, would be nice to see Dewey Beach spend money promoting our town, as the business community gives back alot, and is a big part of what brings people to this town. Promoting the offseasons, events, and continued work with the business community to grow shoulder season events that help all would be great.

8/13/2026

Enforce the rules you have. Speeding cars. People jay walking. Ban people presetting chairs at 7 am and returning at noon!

8/7/2026

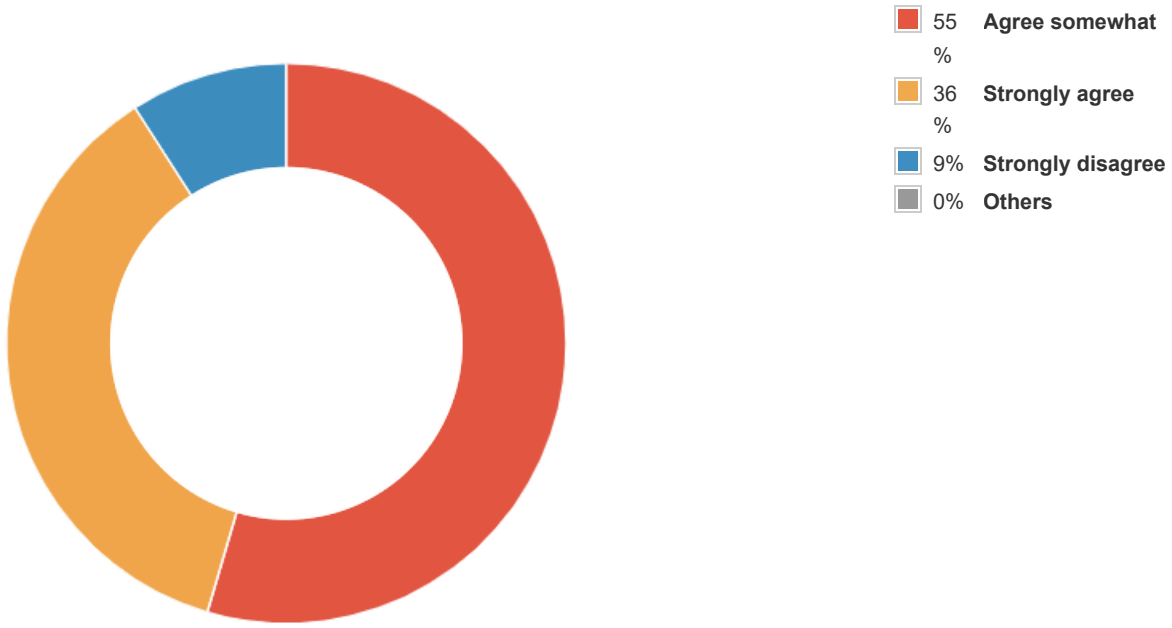
Removing the crosswalks every 50 feet and having pedestrians actually walk to the intersections and cross with the lights. They can do it! They walk to the bars!

8/4/2026

ENFORCE THE Delaware State Occupancy allowed in every establishment before a catastrophe! Certain business seem to own the police department and town looking the other Way. It's time to reign in the drunken fiasco in the town. You want families? control the drunken nonsense

8/3/2026

Dewey Beach should strive to become a more year-round town, including expanding efforts to offer more "shoulder season" (spring and fall) activities.



11 respondents

Over the next five to ten years, what specific amenities and improvements could make Dewey Beach a better place to live?

Parking, more movies on beach, designated pick up areas

8/29/2026

Work with the state and count officials to explore ways to ease traffic. On Friday evenings, Saturdays and Sundays traffic is so consistently bad it’s taking 45-60 minutes just to get between Dewey and Route 9 - very frustrating

8/17/2026

Better promotion of how accessibly Dewey is in the shoulder seasons. More events on the water, as in the bay area...not many have a Bay so close to a town, its underutilized, we could be having events on the bay to show off this town.

8/13/2026

Enforce beach etiquette. No huge tents and rows of chairs with no one there!
Add a tax so that things are equitable

8/7/2026

It’s filthy dirty. Trash and throw up in the streets in the mornings. It’s embarrassing. Maybe a change in bar hours and better enforcement along with street cleaning.

8/4/2026

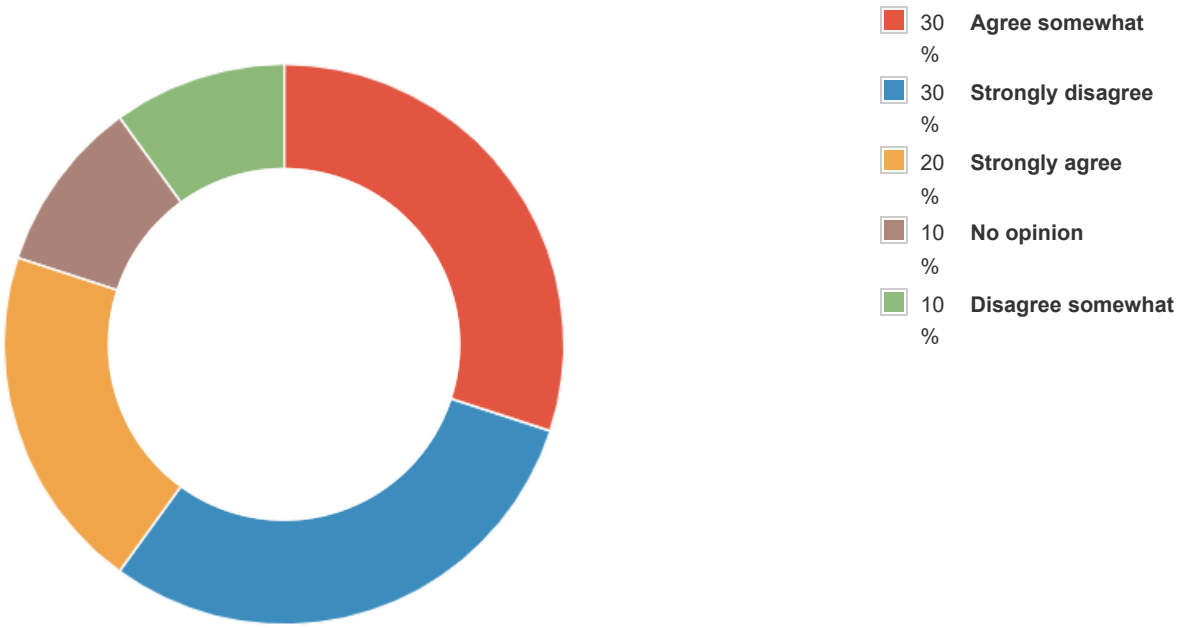
Parking

8/4/2026

Build public bathrooms and change facilities at the entrances to beaches at least two in each side of rt 1

8/3/2026

I feel safe when walking or biking at night in Dewey Beach. (Consider factors like lighting and visibility)



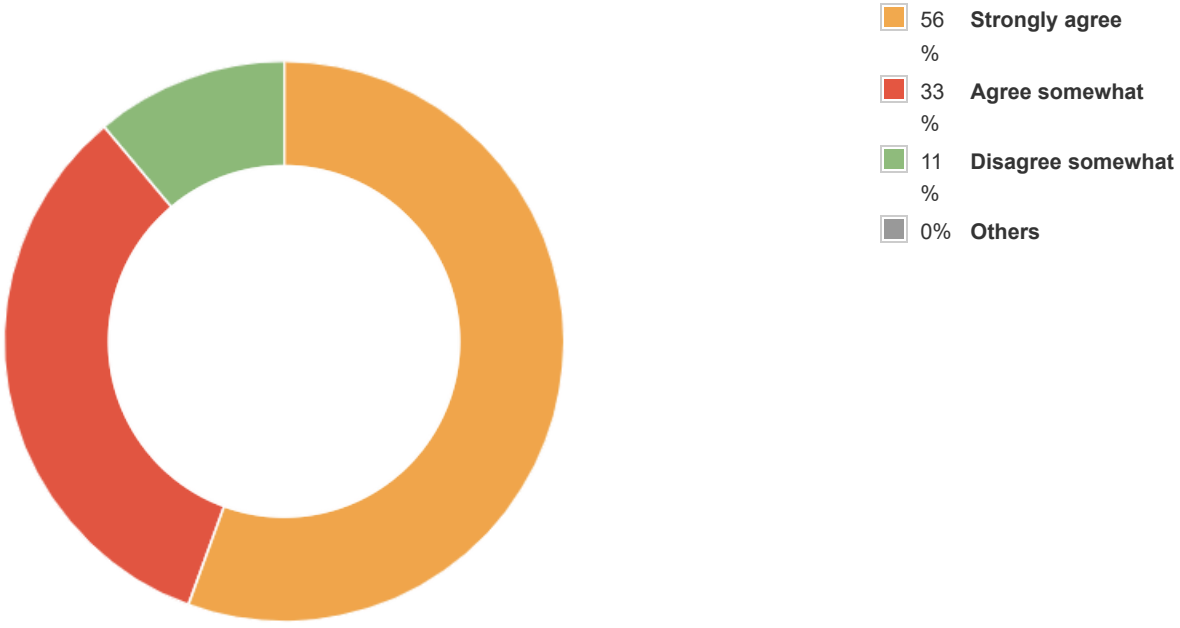
10 respondents

If the Town needed to generate more revenue to ensure financial sustainability, would you prefer: (Check all that apply)

33%	Increasing the accommodations tax (on residential rentals)	3 ✓
33%	Allowing development of new hotels to increase the base of the hotel tax	3 ✓
33%	Annexing of areas contiguous to Dewey Beach	3 ✓
33%	Other	3 ✓

9 Respondents

Adaptation to sea level rise and flooding should remain a high priority for the town.



9 respondents

Several recent flood events have impacted Dewey Beach, including Hurricane Sandy in 2012, Winter Storm Jonas in 2016, high tides in February and October 2021, September 2023, and August 2024. How was your business impacted:

89%	My business was not impacted by flooding	8 ✓
22%	Paid clean-up costs	2 ✓
11%	Closed for a period of time due to damages	1 ✓
0%	Closed due to lack of utilities	0 ✓
0%	Closed due to lack of access	0 ✓
0%	Loss of inventory	0 ✓

9 Respondents

Aside from major storms, have any other events impacted you?

Not events so much as constant traffic congestion.

8/17/2026

Covid obviously, power outages...as we someday need to bury the power lines in town. Blizzards, although the town has drastically improved its snow clean up.

8/13/2026

Valdalism

8/7/2026

none

8/3/2026

We as a town need to control the lack of occupancy and alcohol control because the owners of these bars own the town and want to make a buck

8/3/2026

If yes, when, how often, and what part of town?

Main Street (Route 1)

8/17/2026

Have you implemented any strategies to adapt to flooding or mitigate its impacts on your property? If yes, what were they?

None

8/13/2026

No

8/7/2026

Flooding is a concern however hey public rest rooms and changing stations and stop the drinks from making Dewey Beach unpopular

8/3/2026

If you have additional comments, please include them in the space provided below.

I love Dewey Beach. I am just concerned that the traffic problems, dining availability without long waits and increasingly smaller beach areas could make visitors thing twice about summer vacations at Dewey.

8/17/2026

I have added everything

8/3/2026

thank you. I hope you appreciate an honest review

8/3/2026

We have a great staff from the manager on down and we should recognize them monthly

8/3/2026

We live Dewey but the town officials need to get on board with reality before something major happens with the alcohol problem. Id you want families to come then enforce occupancy in bare and stop the blatant abuse of the bars servicing people who are overly intoxicanted. nAdd bathrooms and changing areas NOT in local businesses

8/3/2026

COMP PLAN SURVEY PROPERTY OWNERS & RESIDENTS

Dewey Beach Survey for Residents and Residential Property owners

Project Engagement

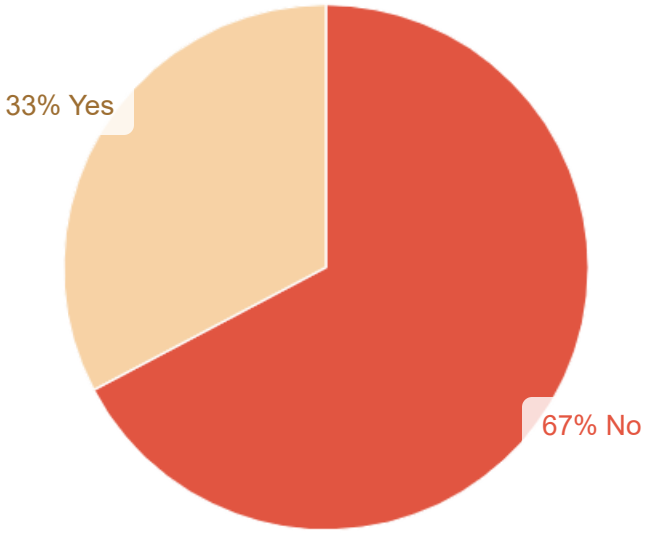
VIEWS	PARTICIPANTS	RESPONSES	COMMENTS
1,974	593	9,973	1,373

Check all that apply to you:

68%	Residential property owner and Non-resident	386 ✓
27%	Residential property owner and Full-time resident	156 ✓
8%	Resident and Renter	44 ✓

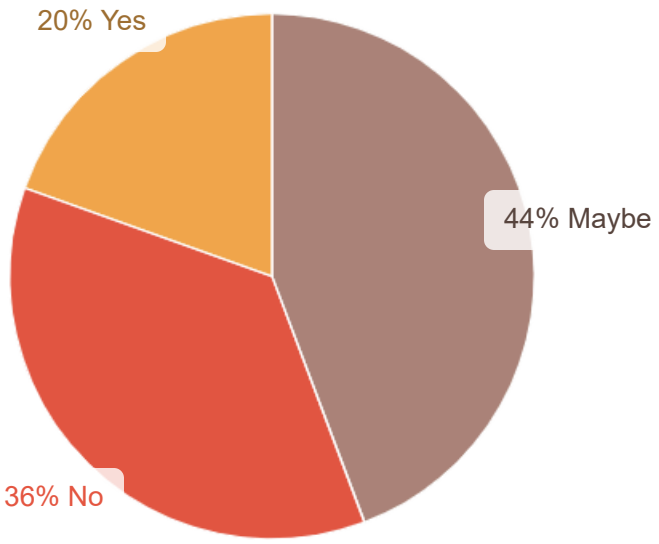
569 Respondents

Do you use your property as a rental?



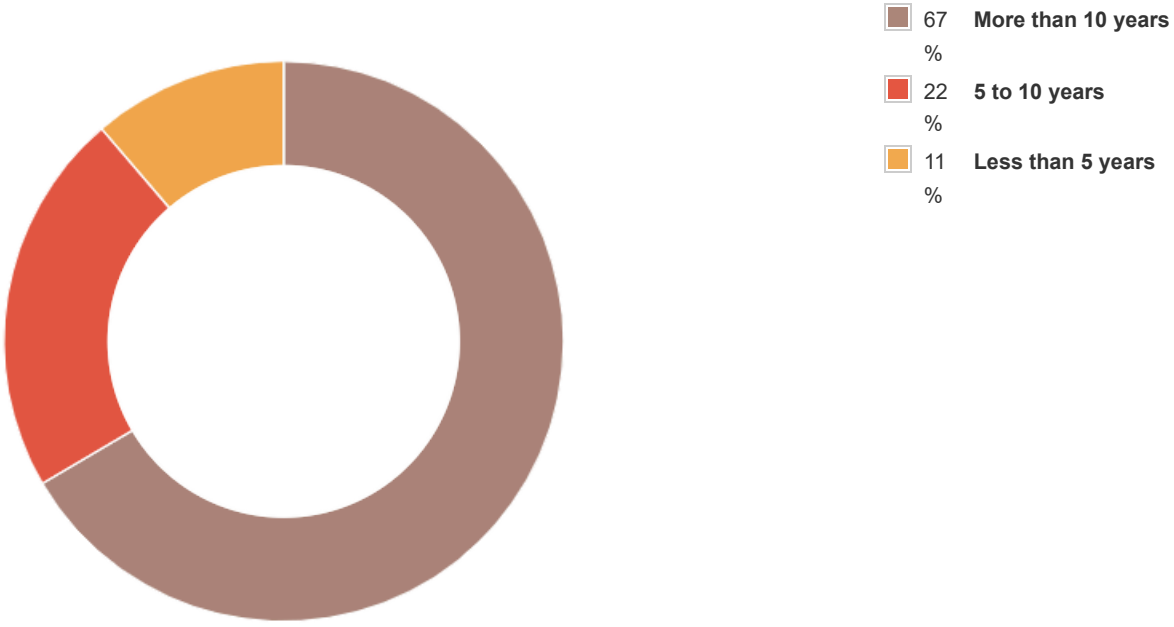
382 respondents

Do you plan to make your residential property your primary residence in the future?



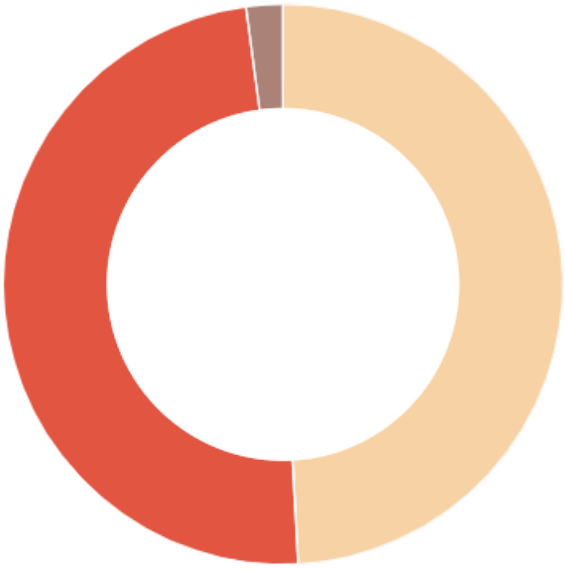
384 respondents

I have owned property in Dewey Beach for:



523 respondents

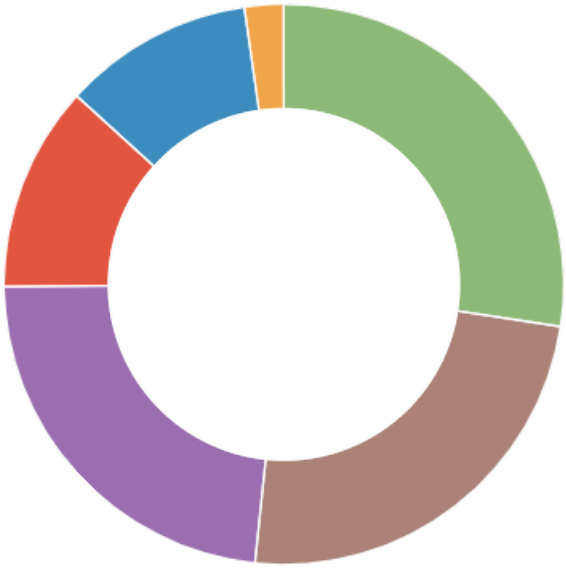
My property is a:



- 49% **Single-family dwelling**
- 49% **Condo or unit in a multi-family dwelling**
- 2% **Other**

521 respondents

How much time do you spend in Dewey Beach on average in a year?



- 27% **3 to less than 6 months**
- 24% **1 to less than 3 months**
- 23% **9 to 12 months**
- 12% **2 weeks to less than 1 month**
- 11% **6 to less than 9 months**
- 2% **Less than 2 weeks**

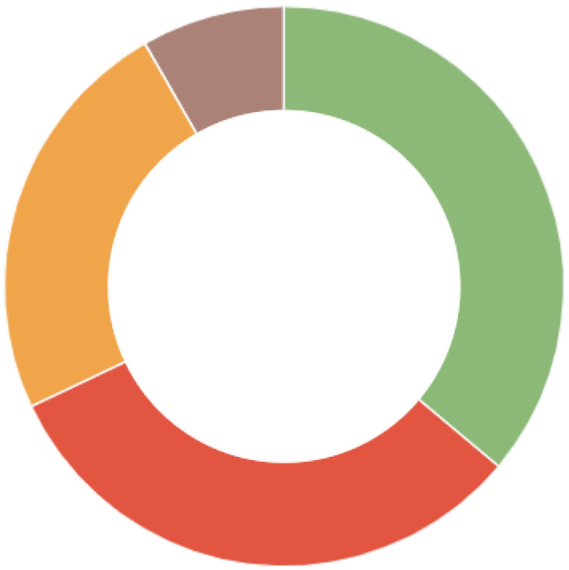
573 respondents

Do you plan to make any changes to your property or the way you use it within the next five years?

56%	Do not plan to make changes	289 ✓
29%	Minor addition or interior renovation	149 ✓
9%	Establish residency in Dewey Beach	45 ✓
5%	Stop renting my property	28 ✓
4%	Other	20 ✓
2%	Build a major addition	12 ✓
2%	Tear down and rebuild	10 ✓
1%	Convert to a rental property	4 ✓

516 Respondents

My property is located at:



- 36% **Bay side of Route 1 and south of Houston Street**
- 32% **Ocean side of Route 1 and south of Houston Street**
- 24% **Ocean side of Route 1 and north of Houston Street**
- 8% **Bay side of Route 1 and north of Houston Street**

543 respondents

Positive characteristics ranking: Please indicate the top 5 characteristics that you believe are most positive about Dewey Beach. Drag and drop them at the top with 1 being most positive.

70%	Accessibility of ocean beach	Rank: 1.93	273 ✓
82%	Walking access to restaurants, eateries, and other food establishments	Rank: 2.65	318 ✓
43%	Dog-friendly beach	Rank: 2.73	168 ✓
34%	Family-oriented atmosphere	Rank: 2.73	132 ✓
63%	Clean and safe beach	Rank: 2.97	245 ✓
7%	Party atmosphere	Rank: 3.32	28 ✓
30%	Nighttime entertainment	Rank: 3.34	117 ✓
53%	Active summer season / quiet offseason balance	Rank: 3.47	205 ✓
20%	Accessibility to bay	Rank: 3.54	78 ✓
1%	Quality and number of rental accommodations	Rank: 3.60	5 ✓
32%	Safe and secure nighttime environment	Rank: 3.61	125 ✓
19%	Quality and number of restaurants	Rank: 3.89	74 ✓
3%	Other	Rank: 4.08	12 ✓

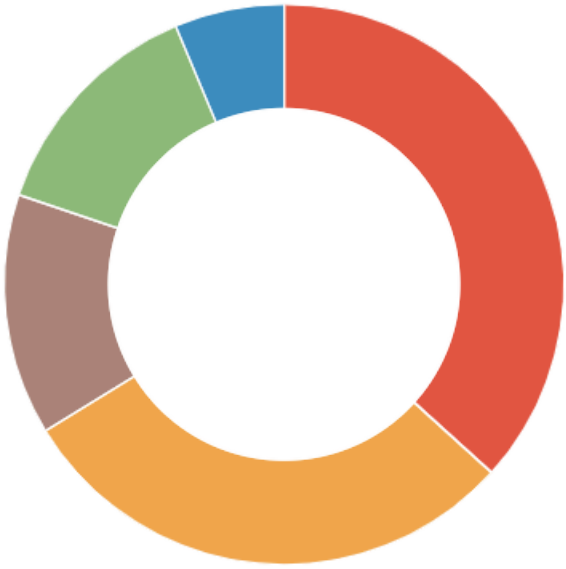
389 Respondents

Improvements ranking: Please indicate the top 5 areas most in need of improvement in Dewey Beach. Drag and drop these at the top, with 1 being the most in need of improvement.

57%	Pedestrian safety	Rank: 2.23	213 ✓
17%	Other	Rank: 2.44	63 ✓
15%	Summer activities for children	Rank: 2.47	55 ✓
47%	Stricter control of inappropriate behavior (e.g., public drunkenness)	Rank: 2.48	177 ✓
47%	More year-round restaurants	Rank: 2.59	175 ✓
33%	Summer season noise	Rank: 2.60	124 ✓
7%	Fewer special events (town or business sponsored)	Rank: 2.79	28 ✓
19%	Family-oriented activities	Rank: 2.79	72 ✓
18%	Availability of family-oriented restaurants	Rank: 2.81	68 ✓
25%	Public transportation options	Rank: 3.00	94 ✓
25%	More special events (town or business sponsored)	Rank: 3.05	93 ✓
19%	Beach safety	Rank: 3.06	70 ✓
31%	Public safety (general feeling of safety)	Rank: 3.23	116 ✓
33%	Shopping and convenience outlets in town	Rank: 3.26	125 ✓

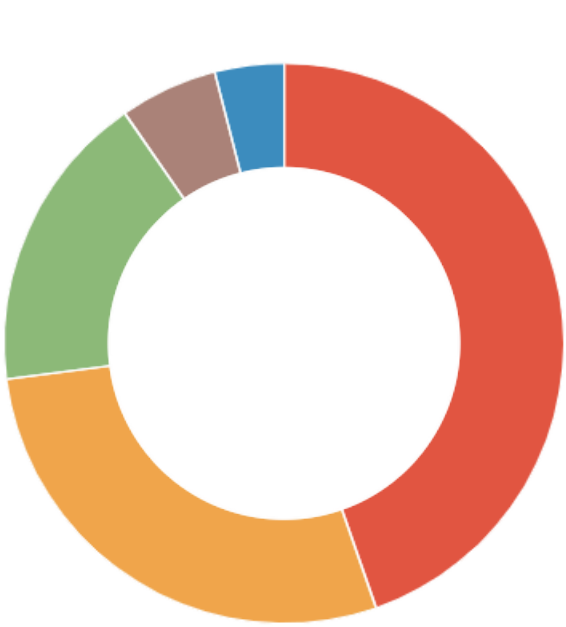
375 Respondents

Dewey Beach should strive to become a more year-round town, including expanding efforts to offer more "shoulder season" (spring and fall) activities.



474 respondents

I feel safe when walking or biking at night in Dewey Beach. (Consider factors like lighting and visibility)



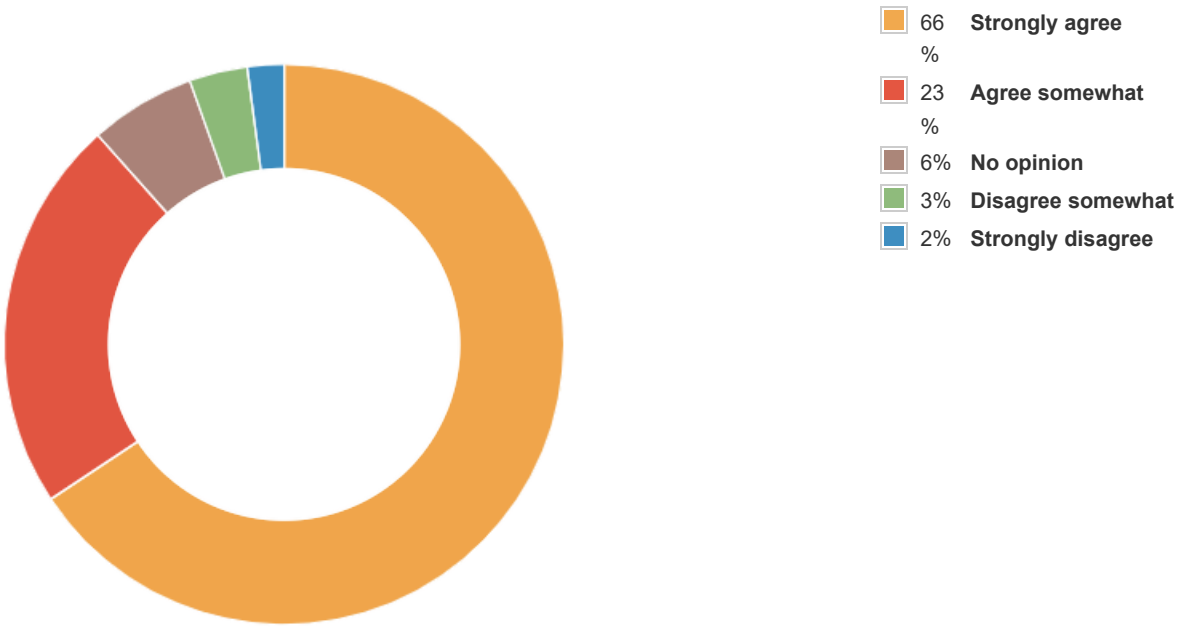
477 respondents

If the Town needed to generate more revenue to ensure financial sustainability, would you prefer: (Check all that apply)

56%	Increasing the accommodations tax (on residential rentals)	247 ✓
37%	Annexing of areas contiguous to Dewey Beach	164 ✓
23%	Other	99 ✓
17%	Allowing development of new hotels to increase the base of the hotel tax	73 ✓

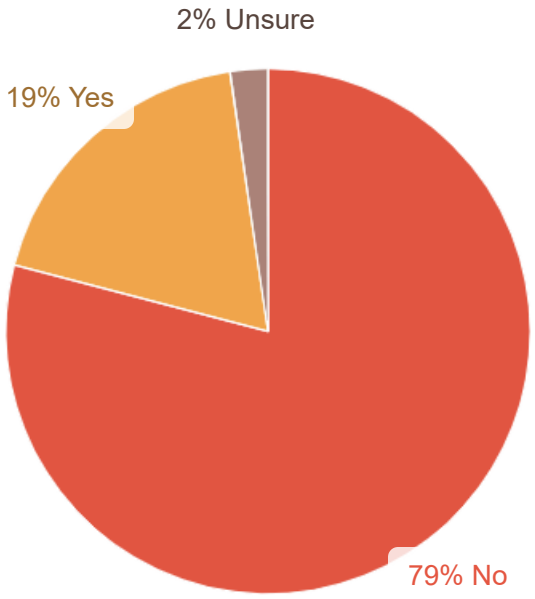
439 Respondents

Adaptation to sea level rise and flooding should remain a high priority for the town.



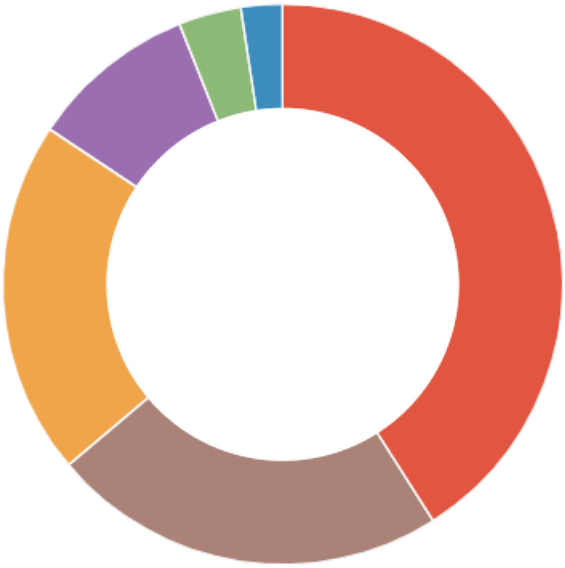
475 respondents

Has your property been impacted by flooding?



473 respondents

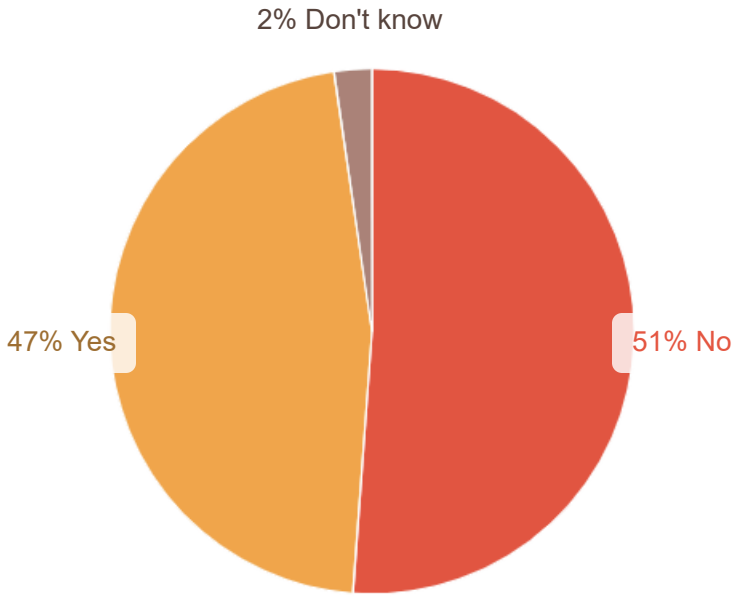
How long did the flooding last?



- 41% **6 to 24 hours**
- 23% **1 to 3 days**
- 20% **Under 6 hours**
- 10% **Unsure/don't know**
- 4% **4 to 7 days**
- 2% **More than a week**

83 respondents

Did your property sustain damage?



86 respondents

COMP PLAN SURVEY VISITORS

Dewey Beach Visitor Survey Copy

Project Engagement

VIEWS	PARTICIPANTS	RESPONSES	COMMENTS
1,009	241	2,194	199

Do you or someone in your family own property in Dewey Beach?

78%	No	180 ✓
23%	Yes	52 ✓

231 Respondents

How long is your current or most recent stay in Dewey Beach?

42%	One week	75 ✓
19%	Weekend	33 ✓
17%	One day/evening	31 ✓
16%	More than two weeks	28 ✓
6%	Two weeks	11 ✓

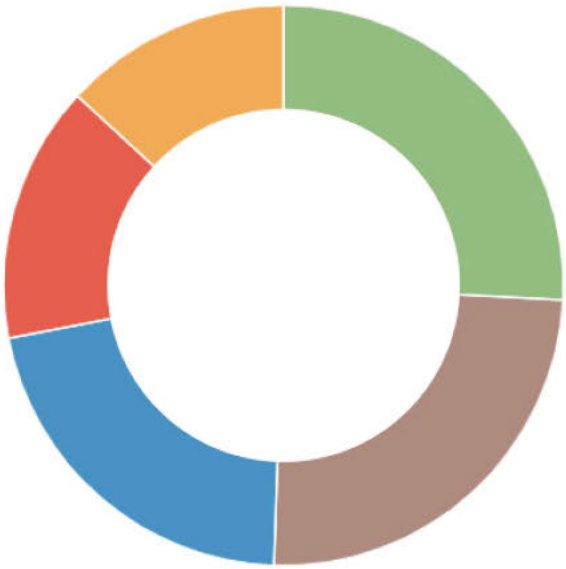
178 Respondents

Did you stay or are you staying in a:

54%	House	79 ✓
23%	Condominium	33 ✓
16%	Hotel or motel	24 ✓
7%	Other	10 ✓

146 Respondents

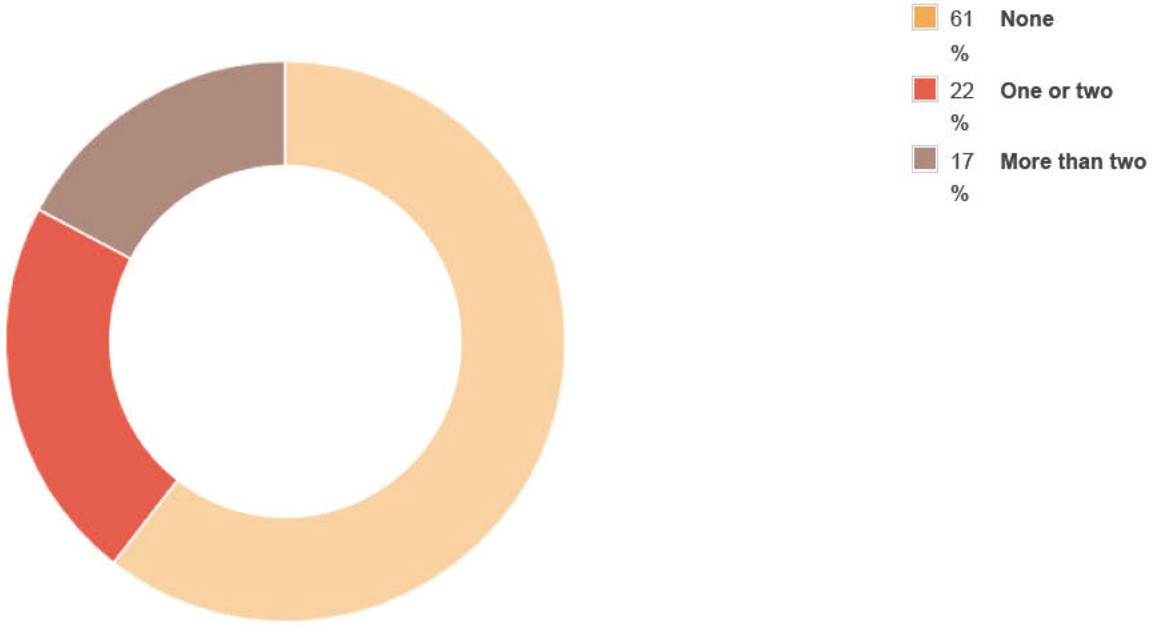
How many people stayed with you in the same accommodation?



- 26% Four to six
- 25% Two or three
- 21% Seven or more
- 15% One
- 13% None

182 respondents

How many children were in your party? (age 17 or younger)



157 respondents

Among the following issues or characteristics, please indicate the top 5 that you believe are the most positive about Dewey Beach and represent why you chose to visit over other nearby beach communities. (Rank 1 to 5, with 1 being the most positive).

70%	Clean and safe beach	Rank: 2.05	99 ✓
20%	Party atmosphere	Rank: 2.29	28 ✓
4%	Other	Rank: 2.40	5 ✓
32%	Dog-friendly beach	Rank: 2.67	46 ✓
58%	Accessibility of ocean beach	Rank: 2.77	82 ✓
25%	Family-oriented atmosphere	Rank: 2.80	35 ✓
39%	Quality and number of restaurants	Rank: 2.89	55 ✓
71%	Walking access to restaurants, eateries, and other food establishments	Rank: 3.07	101 ✓
26%	Nighttime entertainment	Rank: 3.30	37 ✓
15%	Quality and number of rental accommodations	Rank: 3.41	22 ✓
32%	Safe and secure nighttime environment	Rank: 3.44	45 ✓
14%	Accessibility of bay	Rank: 3.65	20 ✓
25%	Active and busy summer season with a quiet offseason	Rank: 3.89	35 ✓

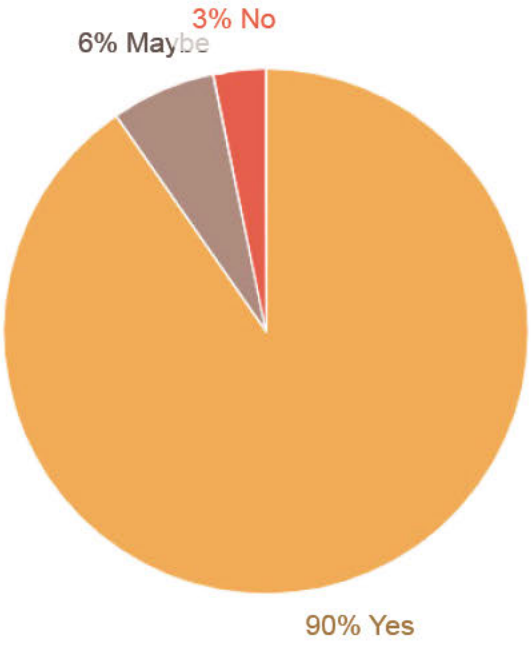
142 Respondents

Please indicate which of the following are the 5 areas in most need of improvement over the next five years. (Rank 1 to 5, with 1 being the most in need of improvement).

20%	Other	Rank: 1.85	26 ✓
49%	Pedestrian safety	Rank: 2.13	62 ✓
36%	Stricter control of inappropriate behavior (e.g., public drunkenness)	Rank: 2.35	46 ✓
39%	Public transportation options	Rank: 2.57	49 ✓
21%	Family-oriented activities	Rank: 2.63	27 ✓
15%	Summer season noise levels	Rank: 2.63	19 ✓
39%	More year-round restaurants	Rank: 2.64	50 ✓
28%	Shopping and convenience outlets in town	Rank: 2.92	36 ✓
17%	Availability of family-oriented restaurants	Rank: 2.95	22 ✓
32%	Public safety (general feeling of safety)	Rank: 3.07	41 ✓
19%	Summer activities for children	Rank: 3.13	24 ✓
5%	Fewer special events (town or business sponsored)	Rank: 3.83	6 ✓
23%	Beach safety	Rank: 3.86	29 ✓

127 Respondents

Do you plan to return to Dewey Beach for another stay?



124 respondents

If you have additional comments about Dewey Beach, please include them in the space below:

Your over expensive parking and [redacted] gotcha rules is a joke. [redacted]

8/27/2026

Increase dog friendly restaurants!

8/23/2026

There is a huge amount of local people that routinely eat and drink in Dewey. You haven't asked their opinion.

8/23/2026

None

8/23/2026

We have been coming to Dewey as summer renters, sometimes year round, for about 20 years. The town has changed a lot, some good and some bad. We don't want the local feel to be replaced by big budget commercialization.

8/20/2026

Beach is great, atmosphere is great and the people are nice. I love it that after dinner we can bring the pups out to the beach!

8/19/2026

been visiting 40 years it's getting better

8/17/2026

We own a home in Delaware we only come to Dewey for restaurants and beach

8/17/2026

Love the ability to get a permit and do a fire on the beach. We choose Dewey because of that. :)

8/17/2026

We have been bringing our family to Deweyfor 40 years and still live it.

8/17/2026

The blend of nightlife and family oriented stuff is key.

8/16/2026

we love coming as a family and have made many soecial memories

8/16/2026

Overall we love Dewey and do not think it needs major improvements

8/14/2026

Pedestraian crossing for Rt 1 is a huge success
It's feeling way over-regulated. Too many rules

8/13/2026

We live here year round, but our house is the 1st house not in Dewey beach proper. We love Dewey Beach and are happy to retire here and or adult kids come all the time.

8/13/2026

We love Dewey Beach!

8/13/2026

Keep up the good work-you are appreciated. Wish we were able to purchase!

8/13/2026

we have been coming to Dewey for over thirty years and plan to continue - it is part of our family history and traditions. We, my wife and I, want to and plan to eventually retire to the beach. It is truly a special place for us.

8/13/2026

I've been doing group houses in Dewey every summer since the late 80s. How about a public beach on the Bayside where people can hang out with their dogs during the daytime?

8/13/2026

I have a place nearby which you should have a category for. I have never stayed in Dewey and can’t imagine needing to.

8/13/2026

I have been coming down to Dewey Beach for 30 years. Love the town, atmosphere and the people in it. Rented for 22 yrs and my friend bought a townhouse in Dewey 8 yrs ago. And come down every other weekend during the summer and a lot during the months after.

8/13/2026

Your town officials have gone out of their way to make us feel welcome every time we visit townhall. I am so glad you have people like Bill Zolpher & Paul Bauer doing a great job caring about the people that come to vacation in Dewey Beach. Yes, as long as my husband's health allows us to travel, you will see us their in June & October for our life changing celebrations.

THANKS TO ALL THE OFFICIALS WHO MAKE OUR VACATION EVENTS IN DEWEY ALWAYS SAFE & MEMORABLE. Kudos to the Police Chief!!!! I sure couldn't handle that rowdy summer crowd!

8/13/2026

We love Dewey, it is perfect for us!

8/13/2026

I've been coming here for a week a summer since I was 21
5 years ago we changed it to 2 weeks

It's been 15 years of Dewey beach summers

I have no complaints except for the tents on the beach I love it here

8/13/2026

No

8/13/2026

Dewey needs more public parking. I would visit Dewey much more, but the lack of adequate public parking is a HUGE deterrent year-round, but especially in the summer.

8/13/2026

We love Dewey Beach and we plan to return time and time again!

8/13/2026

Dewey Beach is a gem; there are few places on the east coast that offer a mix of laid back beach life, night life and great food, along with very dog friendly beach rules. But we recognize that quality of life in Dewey and for visitors is affected by outside forces -- the out of control development in Sussex bringing more people and cars, water quality in the inland bays and climate change, including heat waves and more flooding.

8/10/2026

I like Dewey the way it is for the most part. I don't want it to become another Rehoboth with a lot of rules and regulations. I like that I can party in Dewey and walk to most of the restaurants and bars.

8/5/2026

We love Dewey. It's our Happy place! We have a brick to prove it :)

8/4/2026

I live right outside the limits of Dewey Beach, technically Rehoboth. We exclusively use Dewey Beach beach access since it is closer than Rehoboth and less crowded. We would love it if there was access to restrooms near the beach so we don’t always have to pee in the ocean. We usually ride our bikes to the beach from our house and it’s too far to go back and forth just to use the bathroom.

8/4/2026

In addition to frequent seasonal renting at both houses & hotels. I escape to dewey off season a few times each season for a few weekends. Hotel & rental prices increased significantly are impacting affordability & frequency of visits. No hotel is town is 5star and worthy of $500night rate. Off season is not the same and thanksgiving used to be a fun holiday weekend but no sip/shop and schellville closed in 2025 making it no longer a draw to celebrate season kickoff in DE or Dewey. Target marketing and events for adult families and individuals/groups looking for a fun weekend getaway.

8/4/2026

We own property just a squeak outside of Dewey town limits. We have owned it since 1990, so we consider Dewey our home away from home. On the whole, I think the local government does a good job. The beach is fantastic, as well as the bay.
Many things have improved in terms of cleanliness of the streets and less noise, but building and zoning need to be reined in to retain the charm. Also, the restaurant quality is poor, with the exception of Woodys.
The giant tvs in all the restaurants are tacky. And North Beach needs to get rid of the used-car spotlight they pollute the beautiful night sky with.
But we love Dewey and we thank everyone who makes it a wonderful place.
Thanks for the opportunity to comment.

8/4/2026

Me and my family love Dewey! We have been coming for 5 years and plan to keep this tradition.

8/4/2026

Town looks great. I think the Town Manager is doing a great job. If I had any suggestion it would be to search out the solutions for protecting pedestrians in high traffic communities and go visit. If the town can't afford it, make Alex and Monty split it. Europe, japan, whatever it takes.

I am 52 and know times have changed, but the cops feel aggressive.

Lastly, I deeply appreciate [redacted] investment in the town, but I think we are at saturation. [redacted] the town needs more than 2 tastes to flourish.

8/4/2026

I love Dewey and a regular seasonal renter for its unique beach town walkable chill vibe,escape atmosphere, friendly people, affordable but the town continues to change and significantly since the pandemic. The push towards families is a big mistake. For all and will have a negative impact on businesses as a whole.

8/3/2026

I love Dewey. If I would win Powerball, purchasing a home here would be a dream come true. Four generations of my family have spent time here because we love it. We are getting closer to generation five getting to come! I know over a year of my life has been spent here along the shore. Some years we have stayed a couple weeks and some years it's been a day or two. We are a family group that would be the kind of visitor that you want. One that enjoys the beach, loves going out to the restaurants and to enjoy the bay as well as the beach. A family that doesn't create issues, but makes good memories here. We miss the shops in Ruddertowne. We liked having the Dough Re Me and Ed's Crabs and the Sea Shell shop and bookstore that used to be here. Having a little grocery option is nice!

8/3/2026

I love Dewey, but the lack of parking is my primary deterrent to visiting there.

8/3/2026

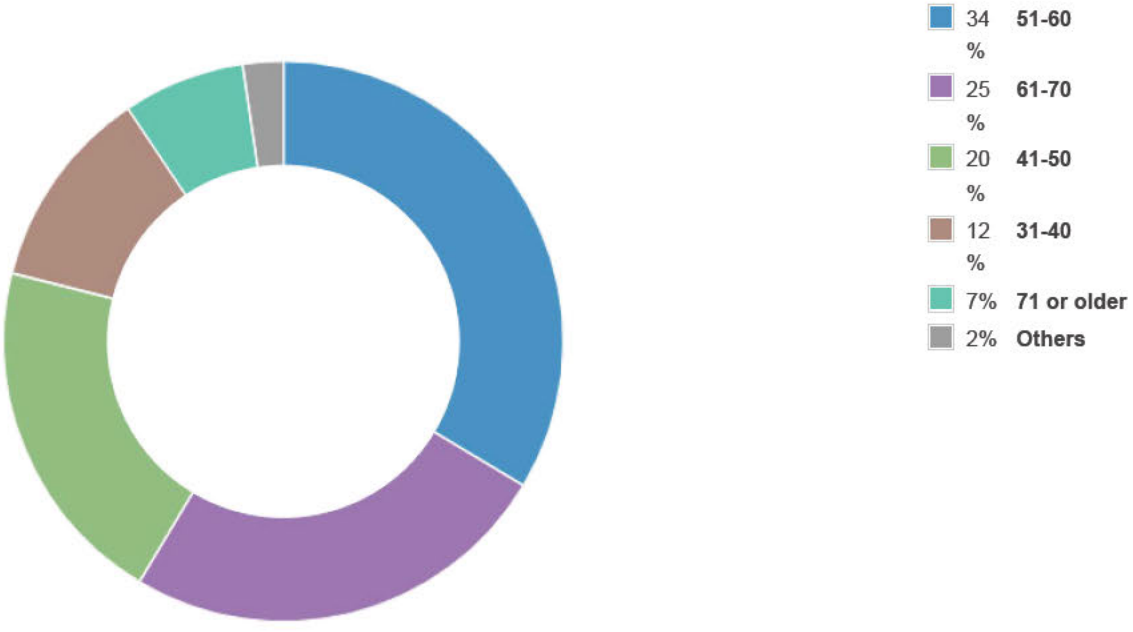
It is critical to maintain the party/nighttime atmosphere that makes Dewey unique, while still ensuring that the town is accessible and welcoming to all. As Dewey continues to gentrify and the social patterns of young adults change, there is a risk of losing what makes it a special place, unless there is a concerted effort to preserve it. Accessibility of parking, rental options at different price levels, and public safety are critical to preserving what has worked for decades.

8/3/2026

I love Dewey and hope to continue to return for years in the future. Coastal Hwy traffic increases and does not make the drive in a pleasant one. I don't think there is much Dewey can do with that but I do feel like it impacts visits. I would also like Dewey to keep more of a small town vibe and not allow huge hotels to build in town.

8/3/2026

What is your age?



128 respondents

EXTRACTED PAGES FROM DE 2026 CLIMATE CHANGE PROJECTIONS REPORT

world might evolve in the absence of climate policy: **SSP1**, a world of sustainability-focused growth and equality; **SSP2**, a "middle of the road" world where trends broadly follow their historical patterns; **SSP3**, a fragmented world of "resurgent nationalism"; **SSP4**, a world of ever-increasing inequality; and **SSP5**, a world of rapid and unconstrained growth in economic output and energy use (O'Neill, 2014).

When each RCP is paired with one or more SSP, a plausible narrative emerges of how the future might unfold with regards to socioeconomic, demographic, and technological trends. A global agreement on four combinations as standard scenarios ("Tier 1") was reached to include SSP1-2.6, SSP2-4.5, SSP3-7.0, and SSP5-8.5 and are described below (O'Neill, 2016).

- **SSP1-2.6**: This scenario with 2.6 W/m² by the year 2100 is a remake of the optimistic scenario RCP2.6 and was designed with the aim of simulating a development that is compatible with the 2°C (3.6°F) target. *This scenario also assumes climate protection measures being taken.*
- **SSP2-4.5**: As an update to scenario RCP4.5, SSP2-4.5 with an additional radiative forcing of 4.5 W/m² by the year 2100 represents the medium pathway of future greenhouse gas emissions. *This scenario assumes that climate protection measures are being taken.*
- **SSP3-7.0**: With 7 W/m² by the year 2100, this scenario is in the upper-middle part of the full range of scenarios. It was newly introduced after the RCP scenarios, closing the gap between RCP6.0 and RCP8.5. *This scenario envisions regional rivalry, where countries prioritize national and regional security over environmental considerations, leading to slower economic growth and increased inequalities.*
- **SSP5-8.5**: With an additional radiative forcing of 8.5 W/m² by the year 2100, this scenario represents the upper boundary of the range of scenarios described in the literature. It can be understood as an update of the CMIP5 scenario RCP8.5, now combined with socioeconomic reasons. *This scenario assumes that **NO** climate protection measures are being taken.*

SSP1-2.6 is often perceived as highly unlikely since it requires stringent climate policies to reach the 2.6 W/m2 radiative forcing (van Vuuren, 2011). As such, the SSP-RCP pathways used in this report only include the latter three scenarios: SSP2-4.5, SSP3-7.0, and SSP5-8.5.

2.1.3. SLR Modeling in IPCC AR6

Since the release of the last Delaware SLR projections report in 2017, the IPCC has released two reports that included projected estimates of sea levels until at least year 2100: the Special Report on the Ocean and Cryosphere in a Changing Climate (SROCC) in 2019, supported by CMIP5 modeling efforts, and the Sixth Activity Report (AR6) in 2021, supported by CMIP6 modeling efforts. Information in AR6 formed the basis for the projections in the US SLR Interagency Task Force Technical Report (2022) and the Fifth National Climate Assessment (2023). These two US reports form the basis for the current Delaware 2025 SLR projections

summarized in this report. Hence, some relevant notable improvements and new features of CMIP6 models and AR6 results specific to oceans and coasts are mentioned here.

In addition to the improvement and new features of CMIP6 models mentioned previously, AR6 included additional recent sea level observations (e.g., tide gauges, satellite altimetry, ice sheet mass loss) that also allowed for improved estimates of individual sea level change components that are consistent with the global mean sea level budget. CMIP6 modeling incorporated a more refined ocean stratification to better model circulation and expansion due to density changes. Recent paleoclimate reconstructions and model simulations of global mean sea levels (GMSL), dating back to the Mid-Pliocene Warm Period and the Last Interglacial Period (and other paleo time periods), were included in the CMIP6 modeling efforts to narrow constraints of GMSL and provide insight into feedbacks of contributing mechanisms, strengthening the overall assessment. Note the Last Interglacial period was a time when GMSL was 5-10 meters higher than today at similar surface temperatures (0.5°C to 1.5°C above 1850-1900 mean) and less CO2 atmospheric concentrations (266-282 ppm) (Fox-Kemper et al., 2021).

Sea level projections included in AR6 were based on contributing processes that could be ascribed at least medium confidence. The suite of CMIP6 model runs for SLR included the following SSP/RCP forcing scenarios: SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0, and SSP5-8.5. Note SSP1-1.9 was not included in the suite of scenarios used for Delaware temperature and precipitation projections but plays a more significant role in the lower end of SLR projections. SSP1-1.9 limits warming by 2100 to approximately 1.5°C above 1850-1900 levels after a slight overshoot, and implies net zero CO2 emissions around the middle of the century (Cross-Chapter Box 1.4 in Arias et al., 2021).

In regards to generating the plausible range of future sea levels, AR6 also included the use of high-impact, low-confidence (HI/LC) projections related to ice sheet dynamics and the response of GMSL changes. They include unexpected ice-shelf disintegration in Antarctica, sudden marine ice-sheet and ice-cliff instability, and rapid changes in Greenland's ice balance (Fox-Kemper et al., 2021). There is little formal understanding and very few available ocean/ice models that can reliably simulate these processes. For both the Greenland and Antarctic ice sheets, the HI/LC projections integrate information from the Structured Expert Judgement study of Bamber et al. (2019). For the Antarctic ice sheet, the low confidence projections also incorporate results from a simulation study that incorporates Marine Ice Cliff Instability (DeConto et al., 2021). Although there is deep uncertainty concerning these processes, they are expected to contribute to rising sea level in most non-polar locations throughout the world under moderate to greater emissions in the later half of the century and beyond, with a larger role under greater warming. These HI/LC processes were included in separate model runs under low emission (SSP1-2.6 LC) and high emission (SSP5-8.5 LC) scenarios.

The low confidence dynamic processes of ice sheets also play a role in low emission scenarios at time frames beyond 2100. Based on historical comparisons, modeling, and the current process-based understanding of GMSL rise, there is a certain amount of already committed sea level rise, although the exact amounts and uncertainty ranges are relatively large. For example,

under the SSP1-2.6 scenario, which keeps warming below 2.0C, the range of GMSLR by 2300 is 0.5 - 3.2 m (17-83%); under the SSP5-85 scenario, the range of GMSLR by 2300 is approximately 2-7 m. Further out, under a scenario limiting global warming to 1.5C by 2100, committed GMSL over the next 2000 years is expected to increase by 2-3 m, increasing to 6 m for global warming scenario under 2.0°C.

Based on only the medium confidence process (i.e., excluding the HI/LC processes) in AR6, GMSL is projected to rise between 0.18 m (0.15–0.23 m, 67% likely range; SSP1-1.9) and 0.23 m (0.20–0.30 m, 67% likely range; SSP5-8.5) by 2050. GMSLR amounts are relative to the mean sea level over 1995-2014, approximately 2005 as the mid-point year. By 2100, the projected rise is between 0.38 m (0.28–0.55 m, 67% likely range; SSP1-1.9) and 0.77 m (0.63–1.01 m, likely range; SSP5-8.5). Before 2050-2060 or so, there is little difference in projected GMSL among the scenarios, with uncertainty range around each scenario on par with the difference between the median scenario projections. Projected GMSL results for both the medium confidence and high-impact/low confidence processes are plotted in **Figure 2.2**.

Key SLR-related messages in AR6 (Fox-Kemper et al., 2021) include the following:

- It is *virtually certain* that GMSL will continue to rise until at least 2100, as all assessed contributors to GMSL are virtually certain to continue contributing throughout the century.
- Higher amounts of GMSL rise before 2100 could be caused by earlier-than-projected disintegration of marine ice shelves, the abrupt, widespread onset of marine ice sheet instability and marine ice cliff instability around Antarctica, and faster-than-projected changes in the surface mass balance and discharge from Greenland.
- Beyond 2100, GMSL will continue to rise for centuries due to continuing deep-ocean heat uptake and mass loss of the Greenland and Antarctic ice sheets, and will remain elevated for thousands of years (high confidence).

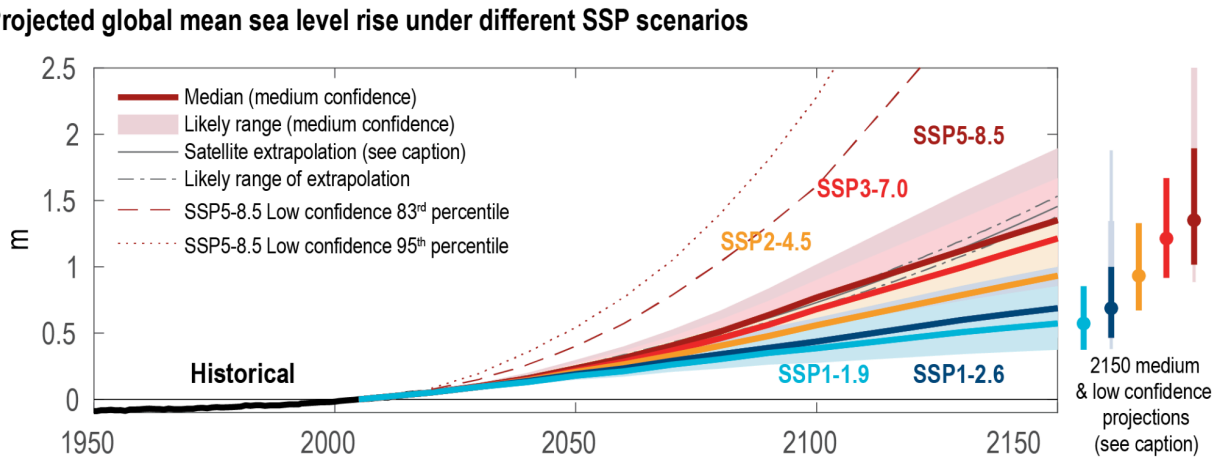


Figure 2.2. Projected global mean sea level under different Shared Socio-economic Pathway (SSP) - Representative Concentration Pathways (RCP) scenarios. Medium confidence process runs (solid lines) are distinguished from the SSP5-8.5 low confidence process runs (dashed lines, unlabeled). Reproduced from Fig 9.27 in IPCC AR6 Chapter 9 (Fox-Kemper, et al., 2021).

Lastly, as mentioned in the Introduction, the strength of AMOC also is a significant factor in sea levels and storm tracks along the US East Coast. While there is low confidence in the amount of AMOC change from 20th century observations, it is very likely that AMOC will decline over the 21st century. Future slowing of the AMOC is expected to result in an increase of sea levels along the East and Mid-Atlantic coasts. And although none of the CMIP6 models features an abrupt AMOC collapse before 2100, they neglect meltwater release from the Greenland Ice Sheet, and as a result, IPCC reduced its confidence level from high confidence in AR5 to medium confidence in AR6 that an abrupt collapse before 2100 would not occur.

More detailed information on IPCC AR6 sea level rise modeling efforts can be found in Chapter 9: Ocean, Cryosphere and Sea Level Change of the AR6 report (Fox-Kemper et al., 2021). Global maps and time series plots of the sea level projections are available through the NASA IPCC Sea Level Projection Tool[5].

2.2. Downscaling Models and Scenarios for Temperature and Precipitation

While GCMs provide the means to understand the climate futures at the global and continental scale, the grid box size (resolution) is not adequate to analyze the regional and local impacts (Vogel et al., 2023). For this reason, downscaling methods are used to interpret model output at a much finer spatial scale. Downscaling methods are generally classified as dynamical or statistical. *Dynamical models* use the coarse-scale GCM output as inputs to a finer-scale regional climate model that provides a physically-based result. These models often retain biases from the coarse GCM inputs and those inherent in the regional climate model. Most importantly, this method is computationally expensive in both time and computer power. *Statistical models* make use of existing local, high-resolution observation data to derive statistical relationships from the coarse-scale GCM to a finer-scale resolution. This method is less computer-intensive than its counterpart and relies on a robust historical record to provide local accuracies, which are generally quite robust in the United States (Jones, 2023). This report reviewed relevant and available statistically downscaled products that would provide the finer-scale required to investigate Delaware's future scenarios, and two products emerged as the best options for this work: the Seasonal Trends and Analysis of Residuals Empirical-Statistical Downscaling Model (STAR-ESDM) and the Localized Constructed Analogs version 2 (LOCA2). Both STAR-ESDM and LOCA2 products were used in the NCA5 and have been analyzed for their efficacy for local studies such as this one.

In the past, statistically downscaled methods relied on station-based observations and would be statistically aligned to that station's historical records. This provided a set of points on which to run the downscaling, but the end result would only represent a time series at that point in space. Recently, downscaling methods are utilizing gridded observational products to give a more

[5] https://sealevel.nasa.gov/ipcc-ar6-sea-level-projection-tool

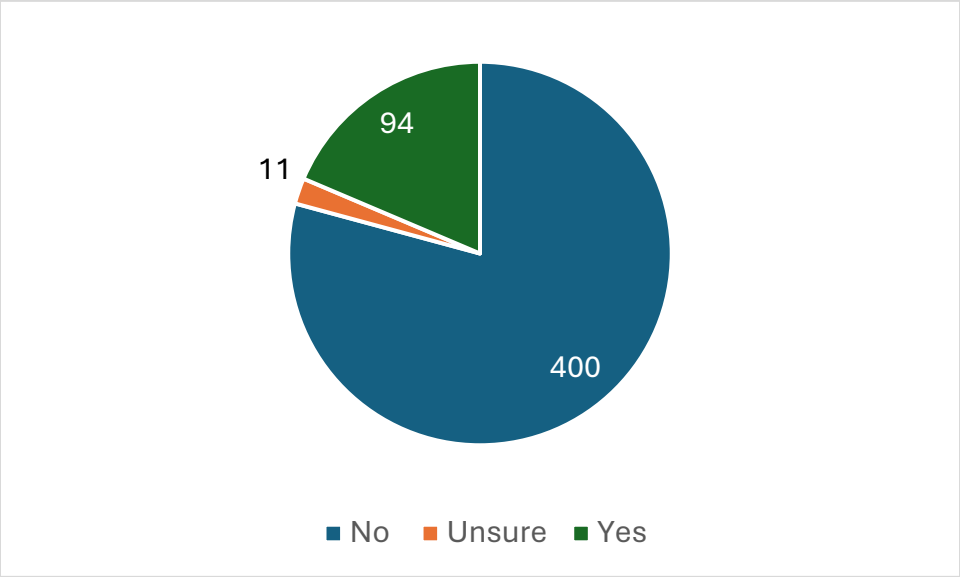
UD FLOOD SURVEY

Flooding Surveys

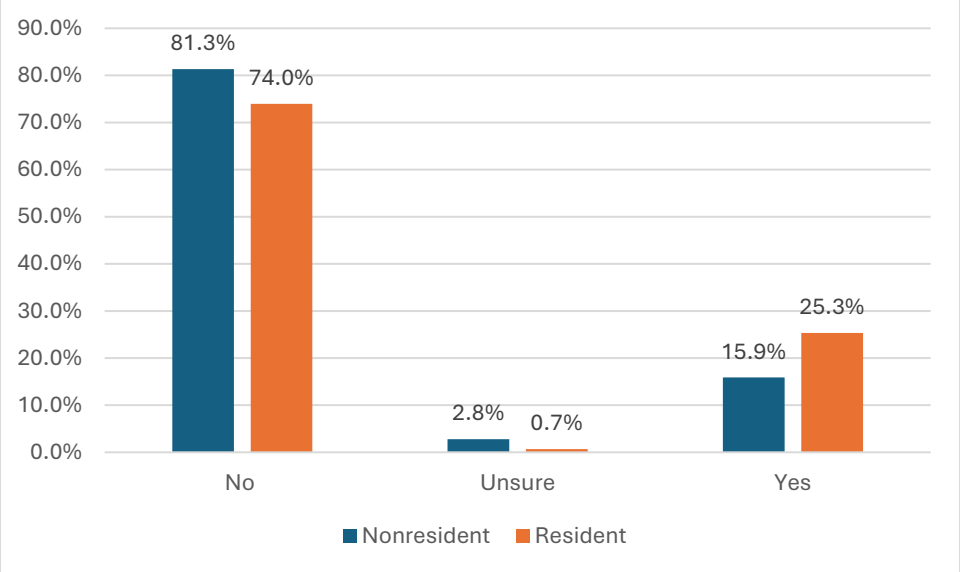
Residential responses

Has your property been impacted by flooding?

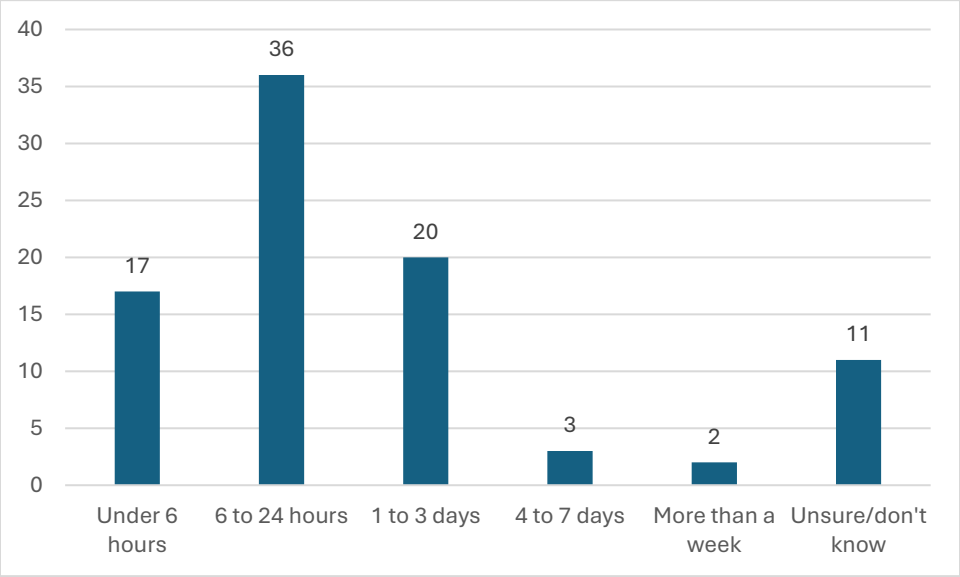
All residential respondents (total responses 505)



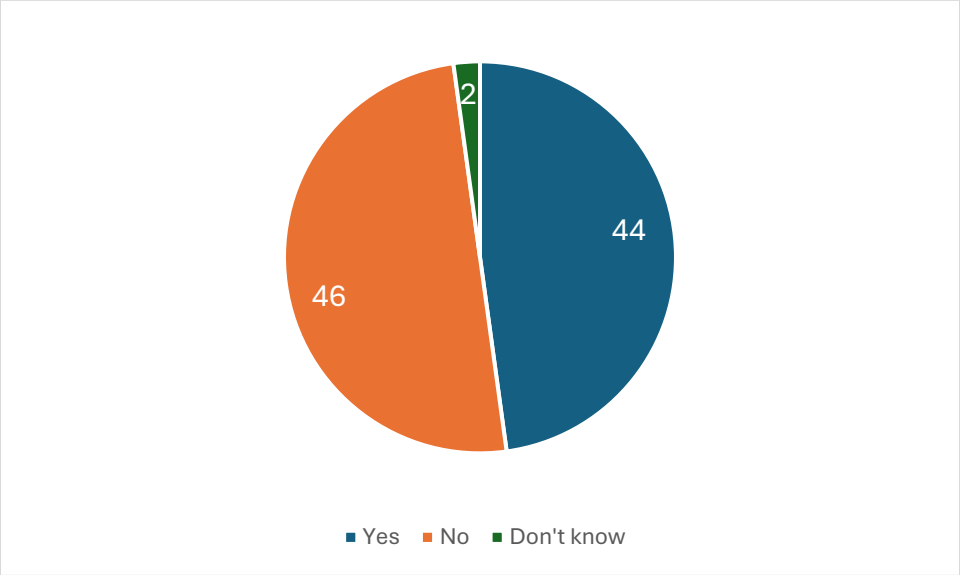
Residents v nonresidents (total responses 505)



How long did the flooding last? (89 responses)

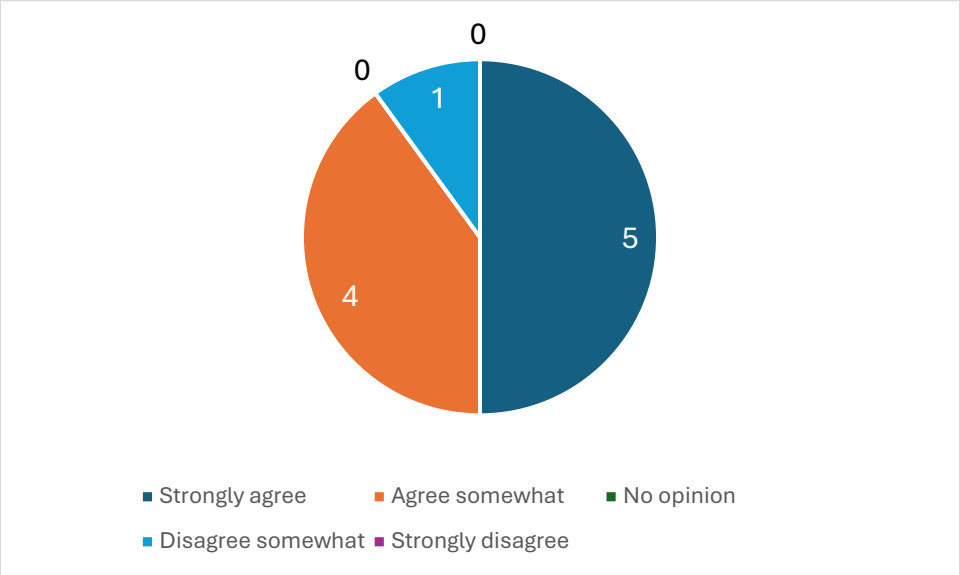


Did your property sustain damage? (92 responses)



Business responses

13. Adaptation to sea level rise and flooding should remain a high priority for the town. (10 responses)



14. How was your business impacted by recent flood events (Hurricane Sandy 2012, Winter Storm Jonas 2016, high tides Feb/Oct 2021, Sept 2023, Aug 2024)?

My business was not impacted by flooding	8	80.0%
Paid clean-up costs	2	20.0%
Closed for a period of time due to damages	1	10.0%
Closed due to lack of access	1	10.0%
Total responses	**10**	

15. Aside from major storms, have any other events impacted you? (5 responses)

- Valdalism
- Covid obviously, power outages…as we someday need to bury the power lines in town. Blizzards, although the town has drastically improved its snow clean up.
- We as a town need to control the lack of occupancy and alcohol control because the owners of these bars own the town and want to make a buck; none
- Not events so much as constant traffic congestion.
- Covid obviously. But in general nothing major, the town has greatly upgraded its storm prep and cleanup, its not gone unnoticed!

16. If yes, when, how often, and what part of town? (1 responses)

Main Street (Route 1)

17. Have you implemented any strategies to adapt to flooding or mitigate its impacts? If yes, what were they? (2 responses)

- No
- Flooding is a concern however hey public rest rooms and changing stations and stop the drinks from making Dewey Beach unpopular