TEP 2017 Community Survey

Background

In late 2017, the Tillamook Estuaries Partnership (TEP) and the University of Oregon's Institute for Policy Research and Engagement (IPRE) conducted an online survey to gather community perspectives about the issues currently impacting Tillamook County's estuaries and watersheds. In addition to a series of public workshops hosted in communities throughout Tillamook County, the survey provided residents, property owners, and business owners with an opportunity to contribute to the update of the Tillamook Bays Comprehensive Conservation and Management Plan (CCMP). The input solicited through the survey helps to ensure that the concerns and actions outlined in the plan are relevant to current conditions.

This memorandum describes the survey methodology and summarizes the results of the survey. We include the raw survey results as Part 2 of this document for those who wish to see a full breakdown of survey responses.

Survey Methodology

The IPRE used an online survey to collect the perceptions of the public on the health of and threats to the estuaries and watersheds in Tillamook County. The survey was distributed through four main channels:

- Tillamook Estuaries Partnership's listserv – a list of individuals who have expressed interest or participated in TEP's activities over the past several years.
- Listservs of local watershed councils – lists of individuals who have expressed interest or participated in the activities of local watershed councils that partner with TEP on conservation and management efforts.
- Announcements in local newspapers – TEP publicized the survey opportunity in a variety of newspapers and newsletters that cover current events and issues in Tillamook County.
- Facebook – TEP publicized the survey link using Facebook post on the TEP Facebook page, as well as paid Facebook ads.

This sampling design aimed to reach as many residents as possible, but particularly targeted those who have had greater involvement with Tillamook's estuaries and watersheds. While survey results should not be interpreted as representative of Tillamook's entire population, they do provide some insight into the perspective of residents with a particular interest in or connection to the county's estuaries and watersheds.

The survey received 200 responses. Not all respondents completed all questions to the survey; throughout the report we present the number of respondents for each question to provide context.

Who took the survey?

To better understand the characteristics of survey respondents, the survey asked respondents for their gender identity, age, status of residence in Tillamook County, and how they interacted with estuaries and watersheds. In general:

- **Survey respondents skewed male and older.** Sixty-five percent of survey respondents identify as male, while only 33% identify as female and 2% identify as non-binary. Fifty-three percent of survey respondents were 55 years or older, 35% were 35-54 years of age, and 11% were 21-34.

- **The majority of respondents were long-time residents of Tillamook County.** Forty percent of survey respondents indicated they have lived in or owned property in Tillamook County for 20 years or more. Thirty-five percent of respondents indicated they have lived in the area for 5-19 years, and 25% indicated less than five years of residence. The large majority of respondents, 88%, indicated that their primary residence was in Tillamook County. Ten percent of respondents indicated that their primary purpose is a vacation or seasonal home, and 5% indicated they own a rental or investment property, or a commercial or business property.

- **The majority of respondents bring the perspective of recreators rather than professionals who interact with the environment for work.** While most respondents indicated they interact with Tillamook County's estuaries and watersheds recreationally, only about a quarter of respondents use the estuaries and watersheds for business or commercial purposes. Of these, just under a third indicated that their work was related to conservation and restoration.

Organization of this Report

This document provides a summary of the public survey by section.

Part 1: Key Findings describes survey results pertaining to:

- **Interactions with Watersheds in Tillamook County** including the most commonly visited watersheds, the most common recreational activities, and the most common commercial activities.

- **Environmental Quality Concerns and Actions** separated by individual watershed, including the importance of current action areas listed in the CCMP, current water quality of the watershed, perceived improvement and potential for improvement of water quality, overall environmental health of the watershed, threats to environmental health, suggestions for future areas of focus for the TEP, and other concerns or threats that respondents perceive for the watersheds.

- **Familiarity with the Tillamook Estuaries Partnership and CCMP** including respondents' knowledge of the TEP, knowledge of the CCMP, knowledge of the update to the CCMP, and preferences for future contact about the Tillamook County watersheds.

Part 2: Raw Survey Results provides figures and tables of the survey results.

Part 1: Survey Results Summary

Part I describes survey results of the Tillamook CCMP survey, including common interactions with the watersheds in Tillamook County, environmental quality concerns and actions, and respondents' familiarity with the Tillamook Estuaries Partnership.

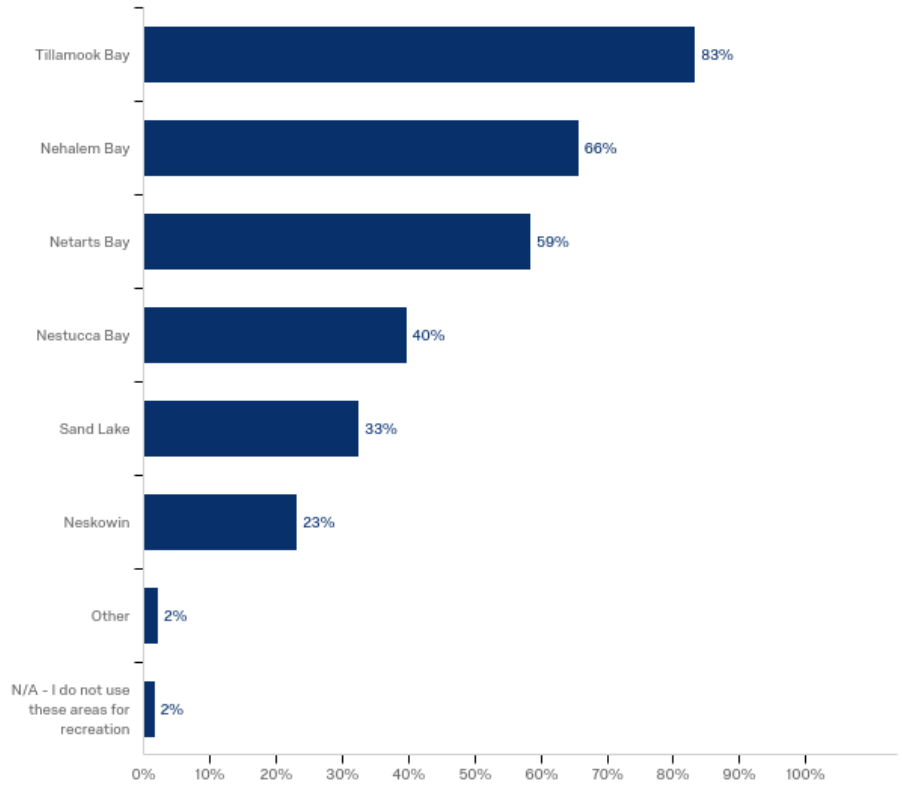
Interactions with Watersheds in Tillamook County

To better understand how residents in the area use the watersheds, the survey asked respondents to indicate which of the watersheds they had visited for recreation or commercial activities in the last year, how residents use the watersheds for recreation or commercial activity, the frequency of visits to the watersheds for recreation, and other ways the respondents interact with the watersheds of Tillamook County.

Recreation

As Figure 1 shows, most survey respondents use Tillamook County watersheds for recreation. Only 2% of survey respondents said they did not recreate in any of the watersheds in the past year.

Figure 1. Percent of respondents who recreated in each watershed in the past year.



Most respondents participate in shoreland activities like hiking or walking, crabbing or clamming, and relaxing in parks. We asked respondents to identify the recreational activities that they enjoy in the watersheds and provided several recreational activities for respondents to choose from. The majority (74%) of respondents indicated that they hike or walk in the estuaries, crab or clam (59%), fish (57%), or relax in the parks bordering the watershed (51%). Many respondents also indicated boating (43%), wildlife observation (41%), and kayaking, canoeing, or paddle boarding (32%) as common recreational

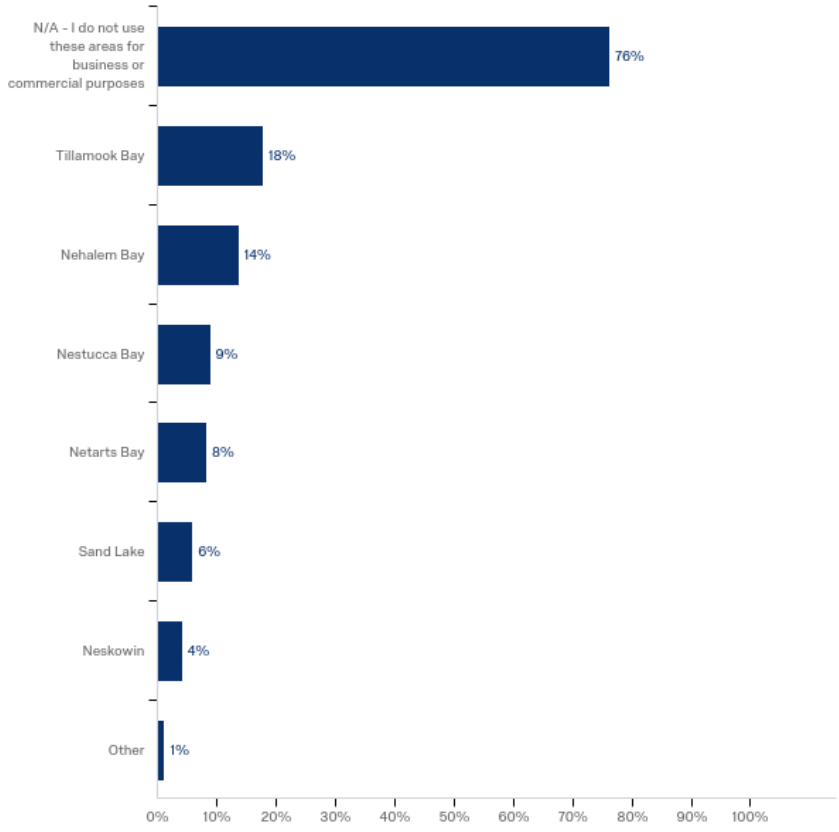
activities. Notably, a very small percentage of survey respondents (9%), indicated that they use the watershed for recreational swimming. Other forms of recreation included, photography, walking dogs, and horseback riding.

Overall, respondents indicated that they recreate in the watershed fairly regularly. Two-thirds of respondents visiting the watershed either a few times per month (39%), a few times per week (23%), or even daily (4%). Over 90% of respondents said they visit the watershed for recreation at least a few times per year.

Business & Commercial Use

As Figure 2 shows, only a minority of respondents use the watersheds for business or commercial purposes.

Figure 2. Percent of respondents who used each watershed in the past year for business or commercial purposes.



Of the respondents who use the watersheds for commercial or business purposes, less than half used the watersheds for "traditional" commercial purposes like agriculture, fishing, and timber. The largest proportion of respondents who said they use the watersheds for commercial or business purposes (28%) indicated that they work for an agency or organization that deals with restoration or conservation of the Tillamook County watersheds. Smaller proportions of respondents indicated that their business is commercial guiding (18%), commercial forestry (13%), public forestry (13%), leading commercial tours or hikes (13%), farming (8%), commercial fishing (8%), or commercial shellfish harvesting, 5%. Ten percent of

respondents said their business relies on proximity to the water for views or access to the watersheds, emphasizing importance for the health of the watersheds.

Other Types of Interaction

The survey asked respondents to provide further detail on how they interact with the watershed aside from recreation, or commercial and business activities. Of the open-ended responses, a significant proportion, 18%, said they volunteer in watershed cleanup or participate in community education programs to promote the health of the watersheds. A further 18% of respondents described a personal emotional connection with the watersheds, and 16% indicated that they own property adjacent to the watersheds. Many respondents used this opportunity to outline in further detail their recreational, business, and commercial activities with the watersheds, including water related recreation (e.g., canoeing, fishing, crabbing), land related recreation (e.g., horseback riding, agate hunting, walking), other recreational activities (e.g., photography, bringing out of town guests, tours), and other business and commercial activities (e.g., fishing, guiding).

Environmental Quality Concerns and Actions

The survey asked respondents to respond to a number of questions on the environmental quality and actions in a watershed of their choice: Nehalem Bay, Neskowin, Nestucca Bay, Netarts Bay, Sand Lake, or Tillamook Bay. Perhaps unsurprisingly, the largest proportion of respondents (47%) elected to respond based on their perceptions of Tillamook Bay. Twenty-one percent elected to respond for Netarts Bay, 19% for Nehalem Bay, 9% for Nestucca Bay, 2% for Sand Lake, and 1% for Neskowin.

Responses to this section of the survey include information about:

- The importance of the current action areas listed in the CCMP
- Current perceived water quality of individual watersheds and perceived improvement and potential for improvement of water quality
- Overall perceived environmental health of the watershed and perceived threats to environmental health
- Suggestions for future actions areas to focus on in the CCMP
- Other concerns or threats that respondents perceive for the watersheds

We present results by watershed, ordered from the watershed with the most responses to the least.

Tillamook Bay (Approximately 79 Responses)

Importance of Current CCMP Actions

The survey asked respondents to rank, based on the level of importance, action areas listed in the current CCMP. The majority of respondents for Tillamook Bay perceived all of the action areas as at least "somewhat important" or "important."

Figure 3. Importance of CCMP Actions for Tillamook Bay.

	Important	Somewhat important	Neither important nor unimportant	Somewhat unimportant	Not important	Total
Water Quality	84%	11%	1%	1%	3%	79
Habitat	82%	11%	1%	3%	3%	79
Natural Hazards	59%	23%	8%	8%	3%	78
Education and Outreach	51%	37%	8%	1%	4%	79

Water Quality

Although most respondents thought water quality was good and had improved over the past 10 years, respondents were evenly split when asked if they thought water quality would improve or decline in the next 10 years. Fifty-seven percent of respondents rated water quality in Tillamook Bay as "fairly good," or "very good," and 45% of respondents said they believed the water quality of Tillamook Bay has improved over the past 10 years (35% said they were "unsure"). When asked about the future, however, 43% of respondents predicted that the water quality of Tillamook Bay will improve in the next 10 years while 43% thought it will stay the same or get worse. In contrast, 53% of respondents are "somewhat optimistic" or "optimistic" that the overall environmental health of Tillamook Bay will get better in the next 10 years, and 32% are at least "somewhat pessimistic" that improvements will occur.

Environmental Health

Respondents were asked to rank, based on the level of importance, threats to the current environmental health of Tillamook Bay.

Figure 4. Importance of threats to the environmental health of Tillamook Bay.

	Important	Somewhat important	Neither important nor unimportant	Somewhat unimportant	Not important	Total
Invasive species	69%	23%	5%	1%	1%	78
Agricultural run-off	62%	23%	6%	5%	4%	78

	Important	Somewhat important	Neither important nor unimportant	Somewhat unimportant	Not important	Total
Loss of riparian areas (trees and vegetation along the stream bank)	62%	24%	5%	5%	4%	78
Septic failures	60%	27%	8%	5%	0%	77
Loss of wetlands	57%	25%	6%	5%	6%	79
Increasing temperatures	54%	19%	14%	4%	9%	78
Changing forest landscapes	43%	29%	12%	6%	10%	77
Urban and residential development	41%	37%	13%	3%	6%	78
Sea level rise	35%	22%	19%	10%	14%	79

Most respondents perceived all the threats to environmental health as at least "somewhat important," or "important." Respondents perceived sea level rise as the least important (although not an unimportant) threat.

The survey asked respondents what they thought the top three biggest threats to the environmental health of Tillamook Bay will be in the next 10 years. Out of 10 options, respondents identified the three biggest perceived threats as:

- Agricultural run-off (57%)
- Urban and residential development (44%)
- Invasive species (39%)

Many respondents also consider the loss of riparian areas (30%), increasing temperatures (29%), and loss of wetlands (27%) as the biggest threats to Tillamook Bay.

The survey asked respondents to provide further details on their perceived threats to Tillamook Bay now or in the future. Open ended responses included concerns over:

- The water temperature and depth of Tillamook Bay, the need for dredging and the increasing temperatures of shallows waters (due to invasive species plant life, and large deposits of silt)
- Pollution to the bay from human activity (urban development, refuse, septic runoff, hunting, agricultural activity, industrial pesticide use, and herbicide use)
- Timber practices, such as clear cutting (causing riverbank degradation and greater silt buildup), herbicide and pesticide use, and unenforced logging setbacks from waterways
- Misguided human environmental intervention
- Insufficient restoration, protection, and rehabilitation of wildlife (particularly Salmon hatching, and overpopulation of sea lions)

Actions to Improve Environmental Health

Finally, respondents were asked to review and expand upon a list of activities the TEP is currently pursuing to improve the environmental health of the County's bays and watersheds. Open ended responses included:

- Skepticism for the impact of the listed activities, specifically water quality monitoring, road decommissioning, native plant nurseries, and the removal of fish barriers
- Suggestions that TEP should provide or advocate for better regulation in the estuary, specifically to mitigate the impacts of septic run-off, land use, timber harvest issues, recreation, and tourism
- Suggestions that TEP advocate for better timber practices, specifically against aerial spraying of herbicides and clearcutting (to alleviate the impacts of soil degradation)
- Support for TEP to engage in further research, protection, and rehabilitation of watershed systems and habitats, specifically removal of invasive plant species, restoration programs for native plants and riparian forests, and improving water flow in shallow areas
- Support for TEP to research, protect, and rehabilitate watershed fauna, specifically through the removal of fish barriers, and seeding the waters with hatchery fish
- Support for TEP to engage in further outreach, education, and involvement of the local population

Netarts Bay (Approximately 33 Responses)

Importance of Current CCMP Actions

The survey asked respondents to rank, based on the level of importance, action areas listed in the current CCMP. The majority of respondents for Netarts Bay perceived all of the action areas as at least "somewhat important" or "important."

Figure 5. Importance of CCMP Actions for Netarts Bay.

	Important	Somewhat important	Neither important nor unimportant	Somewhat unimportant	Not important	Total
Water Quality	94%	6%	0%	0%	0%	31
Habitat	87%	13%	0%	0%	0%	32
Education and Outreach	58%	35%	6%	0%	0%	31
Natural Hazards	53%	33%	10%	3%	0%	30

Water Quality

The majority of respondents thought water quality was good, but most were unsure whether it had improved over the past 10 years, and most thought that it would either stay the same of decline over the next 10 years. Seventy-eight percent of respondents rated the current water quality of Netarts Bay as "fairly good," or "very good." The majority of respondents (79%) indicated that they were "unsure" whether the water quality of Netarts bay has improved over the last 10 years. Only 6% of respondents thought that the water quality of Netarts Bay will improve in the next 10 years, while 27% think it will stay the same and 39% think it will get worse. In contrast, 58% of respondents are "somewhat optimistic" or "optimistic" that the overall environmental health of Netarts Bay will get better in the next 10 years, and 30% are at least "somewhat pessimistic" that improvements will occur.

Environmental Health

Respondents were asked to rank, based on the level of importance, threats to the current environmental health of Netarts Bay.

Figure 6. Importance of threats to the environmental health of Netarts Bay.

	Important	Somewhat important	Neither important nor unimportant	Somewhat unimportant	Not important	Total
Invasive species	68%	26%	6%	0%	0%	31
Loss of wetlands	61%	29%	10%	0%	0%	31
Agricultural run-off	60%	23%	10%	3%	3%	30
Septic failures	58%	39%	0%	3%	0%	31
Increasing temperatures	56%	25%	9%	6%	3%	32
Changing forest landscapes	55%	35%	6%	0%	3%	31
Loss of riparian areas (trees and vegetation along the stream bank)	48%	45%	6%	0%	0%	31
Sea level rise	42%	32%	13%	3%	10%	31
Urban and residential development	42%	42%	10%	6%	0%	31

The majority of respondents perceived all the threats to environmental health as at least "somewhat important," or "important." Of these threats, however, sea level rise and urban and residential development were perceived as being the least important (although not unimportant) threats.

The survey asked respondents what they think the top three biggest threats to the environmental health of Netarts Bay will be in the next 10 years. Out of 10 options, respondents identified the four biggest perceived threats as:

- Urban and residential development (41%)
- Increasing temperatures (41%)
- Sea level rise (38%)
- Invasive species (38%)

These results contrast somewhat with perceptions expressed in Figure 6 : respondents considered sea level rise and urban and residential development to be less important to the environmental health of Netarts Bay than all other factors, and yet respondents ranked them as top threats to environmental health in the next 10 years. Other threats respondents frequently selected for their top three include changing forest landscapes (31%), agricultural run-off (28%), loss of riparian areas (28%), and septic failures (25%).

The survey asked respondents to provide further details on their perceived threats to Netarts Bay now or in the future. Open ended responses included concerns over:

- The water temperature and depth of Netarts Bay, (concerns over increasing number of seasonal red tides)
- Pollution to the bay from human activity (septic runoff, recreation, micro plastics, hypoxia, pesticide use, and herbicide use)
- Timber practices, such as herbicide and pesticide use, and pollution from machinery,
- Misguided human environmental intervention
- Insufficient restoration, protection, and rehabilitation of wildlife (particularly overfishing)

Actions to Improve Environmental Health

Finally, respondents were asked to review and expand upon a list of activities the TEP is currently pursuing to improve the environmental health of the County's bays and watersheds. Open ended responses included:

- Skepticism for the impact of the listed activities the TEP is currently pursuing, specifically road decommissioning, and efforts surrounding fish passage barriers
- Suggestions that TEP should provide or advocate for better education on estuary health, specifically the impacts of human activity: septic run-off, land use, timber harvest issues, recreation and tourism
- Suggestions that the TEP advocate for better timber practices, specifically against aerial spraying of herbicides
- Support for TEP to engage in further advocacy for regulation on watershed systems and habitats, specifically protecting water quality
- Suggestions that TEP improve its outreach and educational efforts for the local population

Nehalem Bay (Approximately 30 Responses)

Importance of Current CCMP Actions

The survey asked respondents to rank, based on the level of importance, action areas listed in the current CCMP. The majority of respondents for Nehalem Bay perceived all of the action areas as at least "somewhat important" or "important."

Figure 7. Importance of CCMP Actions for Nehalem Bay.

	Important	Somewhat important	Neither important nor unimportant	Somewhat unimportant	Not important	Total
Water Quality	90%	7%	3%	0%	0%	30
Habitat	87%	13%	0%	0%	0%	30
Natural Hazards	53%	33%	13%	0%	0%	30
Education and Outreach	50%	33%	13%	3%	0%	30

Water Quality

The majority of respondents thought water quality was good, but many were unsure whether water quality had improved over the past 10 years and respondents were split when asked if they thought water quality would improve or decline in the next 10 years. Fifty-seven percent of respondents rated water quality in Nehalem Bay as "fairly good," or "very good." The majority of respondents (66%) indicated that they were "unsure" whether the water quality of Nehalem Bay has improved over the last 10 years. Thirty percent of respondents thought that the water quality of Nehalem Bay will improve in the next 10 years, while 23% think it will stay the same and 27% think it will get worse. In contrast, 47% of respondents are optimistic that the overall environmental health of Nehalem Bay will get better in the next 10 years, and 30% are at least "somewhat pessimistic" that improvements will occur.

Environmental Health

Respondents were asked to rank, based on the level of importance, threats to the current environmental health of Nehalem Bay.

Figure 8. Importance of threats to the environmental health of Nehalem Bay.

	Important	Somewhat important	Neither important nor unimportant	Somewhat unimportant	Not important	Total
Loss of riparian areas (trees and vegetation along the stream bank)	72%	14%	10%	0%	3%	29
Loss of wetlands	72%	17%	7%	0%	3%	29
Increasing temperatures	69%	14%	10%	0%	7%	29
Urban and residential development	59%	34%	0%	3%	3%	29
Invasive species	59%	38%	3%	0%	0%	29
Changing forest landscapes	59%	28%	7%	0%	7%	29
Agricultural run-off	57%	36%	4%	0%	4%	28

Septic failures	48%	21%	21%	3%	7%	29
Sea level rise	36%	29%	18%	4%	14%	28

The majority of respondents perceived all the threats to environmental health as at least "somewhat important," or "important." Interestingly, respondents perceived sea level rise as the least important (although not an unimportant) threat.

The survey asked respondents what they think the top three biggest threats to the environmental health of Nehalem Bay will be in the next 10 years. Out of 10 options, respondents identified the three biggest perceived threats as

- Loss of riparian areas (48%)
- Increasing temperatures (48%)
- Urban and residential development (38%)

Many respondents also consider changing forest landscapes (34%), invasive species (31%), agricultural run-off (31%), and loss wetlands (28%) as the biggest threats to Nehalem Bay. Seven percent of respondents thought none of the options were a threat.

The survey asked respondents to provide further details on their perceived threats to Nehalem Bay now or in the future. Open ended responses included concerns over:

- The water temperature and depth of Nehalem Bay, the need for dredging and the increasing temperatures of shallows waters (due to invasive species plant life, and large deposits of silt)
- Pollution to the bay from human activity (urban development, septic runoff, hunting, pesticide use, and herbicide use)
- Timber practices, such as clear cutting (causing riverbank degradation and greater silt buildup), herbicide and pesticide use, and pollution from machinery
- Misguided human environmental intervention
- Insufficient restoration, protection, and rehabilitation of wildlife (particularly coho salmon)

Actions to Improve Environmental Health

Finally, respondents were asked to review and expand upon a list of activities the TEP is currently pursuing to improve the environmental health of the County's bays and watersheds. Open ended responses included:

- Skepticism for the impact of the listed activities the TEP is currently pursuing, specifically water quality monitoring, road decommissioning, native plant nurseries, and educational programs for the public
- Suggestions that TEP should provide or advocate for better education on estuary health, specifically the impacts of septic run-off, land use, timber harvest issues, and tourism
- Suggestions that the TEP advocate for better timber practices, specifically against aerial spraying of herbicides and clearcutting
- Support for TEP to engage in further research of impacts on watershed systems and habitats, specifically inventorying feeder creeks, and restoration programs for native plants and riparian forests
- Support for TEP to engage in further research and support for watershed fauna, specifically beaver habitat

Nestucca Bay (Approximately 14 Responses)

The survey asked respondents to rank, based on the level of importance, action areas listed in the current CCMP. The actions areas provided included: water quality, habitat, natural hazards, and education and outreach. The majority of respondents for Nestucca Bay perceived all of the action areas as at least "somewhat important" or "important."

Figure 9. Importance of CCMP Actions for Nestucca Bay.

	Important	Somewhat important	Neither important nor unimportant	Somewhat unimportant	Not important	Total
Habitat	93%	7%	0%	0%	0%	14
Water Quality	86%	14%	0%	0%	0%	14
Education and Outreach	71%	14%	7%	7%	0%	14
Natural Hazards	21%	43%	29%	7%	0%	14

Water Quality

The majority of respondents thought water quality was good, but most were unsure whether it had improved over the past 10 years, and most thought that it would either stay the same of decline over the next 10 years. Seventy-nine percent of respondents rated the water quality as "fairly good," or "very good." Forty-three percent of respondents indicated that they were "unsure" whether the water quality of Nestucca Bay has improved over the last 10 years, and 36% of respondents thought it had declined. When asked about the future, 36% of respondents thought the water quality would stay the same over the next 10 years, and 29% thought it would decline. Respondents expressed similar pessimism about the overall environmental health of Nestucca Bay in the future, with 53% saying they were "somewhat pessimistic" or "pessimistic" that the health of the bay will improve in the next 10 years.

Environmental Health

Respondents were asked to rank, based on the level of importance, threats to the current environmental health of Nestucca Bay.

Figure 10. Importance of threats to the environmental health of Tillamook Bay.

	Important	Somewhat important	Neither important nor unimportant	Somewhat unimportant	Not important	Total
Agricultural run-off	93%	7%	0%	0%	0%	14
Loss of wetlands	93%	0%	7%	0%	0%	14
Urban and residential development	79%	21%	0%	0%	0%	14
Septic failures	79%	21%	0%	0%	0%	14
Loss of riparian areas (trees and vegetation along	79%	21%	0%	0%	0%	14

the stream bank)						
Invasive species	71%	29%	0%	0%	0%	14
Increasing temperatures	71%	29%	0%	0%	0%	14
Changing forest landscapes	50%	36%	14%	0%	0%	14
Sea level rise	29%	50%	21%	0%	0%	14

The majority of respondents perceived all the threats to environmental health as at least "somewhat important," or "important." Interestingly, respondents perceived sea level rise and changing forest landscapes as the least important (although not unimportant) threats.

The survey asked respondents what they think the top three biggest threats to the environmental health of Nestucca Bay will be in the next 10 years. Out of the 10 options, respondents identified the three biggest perceived threats as:

- Urban and residential development (71%)
- Agricultural run-off (50%)
- Increasing temperatures (50%)

Many respondents also consider invasive species (43%), loss of riparian areas (29%), and loss of wetlands (21%) as the biggest threats to Nestucca Bay.

The survey asked respondents to provide further details on their perceived threats to Nestucca Bay now or in the future. Open ended responses included concerns over:

- Pollution to the bay from human activity (urban development, septic runoff, and tourism)
- Timber practices, such as clear cutting (causing riverbank degradation, greater silt buildup, and bigger floods)
- Insufficient management of wildlife (particularly Sea Lions)

Actions to Improve Environmental Health

Finally, respondents were asked to review and expand upon a list of activities the TEP is currently pursuing to improve the health of the County's bays and watersheds. Open ended responses included:

- Suggestions that TEP should provide or advocate for better research on estuary health, specifically the impacts of human development, and tourism
- Suggestions that the TEP advocate for better timber practices, specifically against aerial spraying of herbicides and clearcutting

Sand Lake (Approximately 4 Responses)

Note: With only three or four respondents providing comments about Sand Lake, it is difficult to generalize any conclusions about the health of Sand Lake.

The survey asked respondents to rank, based on the level of importance, action areas listed in the current CCMP. The majority of respondents for Sand Lake perceived all of the action areas as at least "somewhat important" or "important."

Figure 11. Importance of CCMP Actions for Sand Lake.

	Important	Somewhat important	Neither important nor unimportant	Somewhat unimportant	Not important	Total
Habitat	75%	25%	0%	0%	0%	4
Water Quality	75%	0%	25%	0%	0%	4
Natural Hazards	50%	25%	0%	0%	25%	4
Education and Outreach	50%	25%	0%	0%	25%	4

Water Quality

Respondents all agreed that Sand Lake had "fairly good," or "very good" water quality, but were evenly split as to whether water quality had improved in the last 10 years and whether it would continue to improve in the next 10 years. One respondent indicated they were "pessimistic" that the overall environmental health of Sand Lake will get better in the next 10 years, while two said they were "neither pessimistic nor optimistic."

Environmental Health

Respondents were asked to rank, based on the level of importance, threats to the current environmental health of Sand Lake.

Figure 12. Importance of threats to the environmental health of Sand Lake.

	Important	Somewhat important	Neither important nor unimportant	Somewhat unimportant	Not important	Total
Sea level rise	67%	0%	0%	0%	33%	3
Septic failures	67%	0%	0%	33%	0%	3
Agricultural run-off	67%	0%	0%	0%	33%	3
Loss of wetlands	67%	0%	0%	0%	33%	3
Increasing temperatures	67%	0%	0%	0%	33%	3
Urban and residential development	33%	0%	33%	0%	33%	3
Invasive species	33%	67%	0%	0%	0%	3
Loss of riparian areas (trees and vegetation along the stream bank)	33%	33%	0%	0%	33%	3
Changing forest landscapes	33%	33%	0%	0%	33%	3

Two of the three respondents thought all the threats to environmental health were at least "somewhat important," or "important." Overall, respondents thought the loss of riparian areas and changing forest landscapes were less important (though not necessarily unimportant) threats.

The survey asked respondents what they think the top three biggest threats to the environmental health of Sand Lake will be in the next 10 years. Responses were split evenly with an equal number of respondents rating the following as the biggest threats:

- Sea level rise
- Urban and residential development
- Invasive species
- Septic failures
- Loss of wetlands
- Increasing temperatures

The survey asked respondents to provide further details on their perceived threats to Sand Lake now or in the future. Open ended responses included concerns over:

- Misguided human environmental intervention (specifically the impacts that the removal of the local horse population has had on other wildlife)

Actions to Improve Environmental Health

Finally, respondents were asked to review and expand upon a list of activities the TEP is currently pursuing to improve the health of the County's bays and watersheds. Open ended responses included:

- Suggestions that TEP should provide or advocate for better education on estuary health, specifically the impacts of recreation and tourism
- Support for TEP to engage in further research of impacts on watershed systems and habitats, specifically protecting sensitive bird habitats

Neskowin Bay (2 Responses)

Note: With only two respondents providing comments about of Neskowin Bay, it is difficult to generalize any conclusions about the health of Neskowin Bay.

The survey asked respondents to rank, based on the level of importance, action areas listed in the current CCMP. The two respondents for Neskowin Bay did not agree on any.

Figure 13. Importance of CCMP Actions for Neskowin Bay.

	Important	Somewhat important	Neither important nor unimportant	Somewhat unimportant	Not important	Total
Water Quality	50%	0%	0%	0%	50%	2
Habitat	0%	50%	0%	0%	50%	2
Natural Hazards	0%	50%	0%	0%	50%	2
Education and Outreach	0%	50%	0%	0%	50%	2

Water Quality

When asked how they would rate the current water quality of Neskowin Bay, both respondents thought the water quality was "fairly good," or "very good." One respondents indicated that they were "unsure" whether the water quality of Neskowin bay has improved over the last 10 years, and the other said that it has improved. Both respondents agreed that water quality will get better over the next 10 years, and both are optimistic that the overall environmental health of Neskowin Bay will get better in the next 10 years.

Environmental Health

Respondents were asked to rank, based on the level of importance, threats to the current environmental health of Neskowin Bay.

Figure 14. Importance of threats to the environmental health of Neskowin Bay.

	Important	Somewhat important	Neither important nor unimportant	Somewhat unimportant	Not important	Total
Invasive species	100%	0%	0%	0%	0%	2
Sea level rise	50%	0%	0%	0%	50%	2
Urban and residential development	0%	100%	0%	0%	0%	2
Septic failures	0%	50%	50%	0%	0%	2
Agricultural run-off	0%	50%	50%	0%	0%	2
Loss of riparian areas (trees and vegetation along the stream bank)	0%	100%	0%	0%	0%	2
Loss of wetlands	0%	50%	50%	0%	0%	2
Increasing temperatures	0%	100%	0%	0%	0%	2
Changing forest landscapes	0%	100%	0%	0%	0%	2

The survey asked respondents what they think the top three biggest threats to the environmental health of Neskowin Bay will be in the next 10 years. Out of the 10 options, both respondents perceive urban and residential development as one of the biggest threats to environmental health. The two respondents also considered sea level rise, invasive species, loss of wetlands, and changing forest landscapes as threats.

The survey asked respondents to provide further details on their perceived threats to Neskowin Bay now or in the future. Both respondents did not respond to this question.

Finally, respondents were asked to review and expand upon a list of activities the TEP is currently pursuing to improve the health of the County's bays and watersheds. Both respondents did not respond to this question.

Other Threats

After survey respondents answered questions about a specific bay, they had the opportunity to write in any other concerns they have of threats they perceive to any and/or all of the County's watersheds, either now or in the future. Open ended responses included concerns over:

- Pollution from human activity, specifically motor vehicles in the watersheds, aerial spraying of herbicides and pesticides, agricultural and live-stock run-off, micro plastics, urban and residential development, and septic leakage
- Insufficient wildlife or habitat regulation, populations, protection, or rehabilitation, specifically hatchery fish and endangered species
- Impacts from recreation, specifically increasing levels of visitors and the impacts from this activity
- Misguided human environmental intervention, specifically misguided regulations, and misinformation of the public on issues
- Impacts of timber practices, specifically clear-cutting, habitat degradation, and herbicide/pesticide use
- Water temperature and depth, specifically the impacts of increased flooding and the need for dredging

About the Tillamook Estuaries Partnership

To better understand survey respondents' relationship with the Tillamook Estuaries Partnership (TEP), the survey asked respondents to indicate whether they were aware of the TEP or the Tillamook Bay Comprehensive Conservation and Management Plan (CCMP), how they interact with the TEP (or local watershed councils, land trusts, or environmental nonprofits), awareness of the current CCMP update process, and how they would like to be contacted in the future by the TEP.

The large majority of respondents indicated that they were aware of both the TEP (84%) and the CCMP (61%) prior to taking this survey. A majority of respondents (73%) also indicated that they were aware of the TEP's efforts to update the CCMP prior to this survey. Most respondents indicated that they had learned of the TEP's efforts through an online platform, including:

- Facebook (36%)
- The TEP website (33%)
- The TEP email listserv (28%)
- A partner email listserv (21%)

A large proportion of respondents also indicated that they learned of the effort through word of mouth (31%) or a local media source (Tillamook Headlight Herald, 21%, or Pacific City Sun, 7%).

We asked respondents to indicate how they interact with the TEP, local watershed councils, land trusts, or environmental nonprofits in Tillamook County. Respondents indicated that most of their interaction with one or all of the above happens through an online platform, such as:

- Email (52%)
- Looking at the organization's website (51%)
- Interacting through social media (42%)

Smaller proportions of respondents indicated that they interact with the organizations through volunteer for educational outreach (19%), recruit or plan for special events involving the bays (18%), volunteer for

restoration or monitoring of the bays (15%), or attend board meetings, (11%). Other open-ended responses included interacting with organization employees, and helping with bay festivals (Clean Water Festival and Bounty on the Bay).

Finally, the survey asked respondents to indicate how they would like to hear about upcoming educational and outreach events in the Tillamook County watersheds. Most respondents indicated that they prefer online-based communication using:

- Social media (54%)
- The TEP website (44%)
- Email listserv (43%)

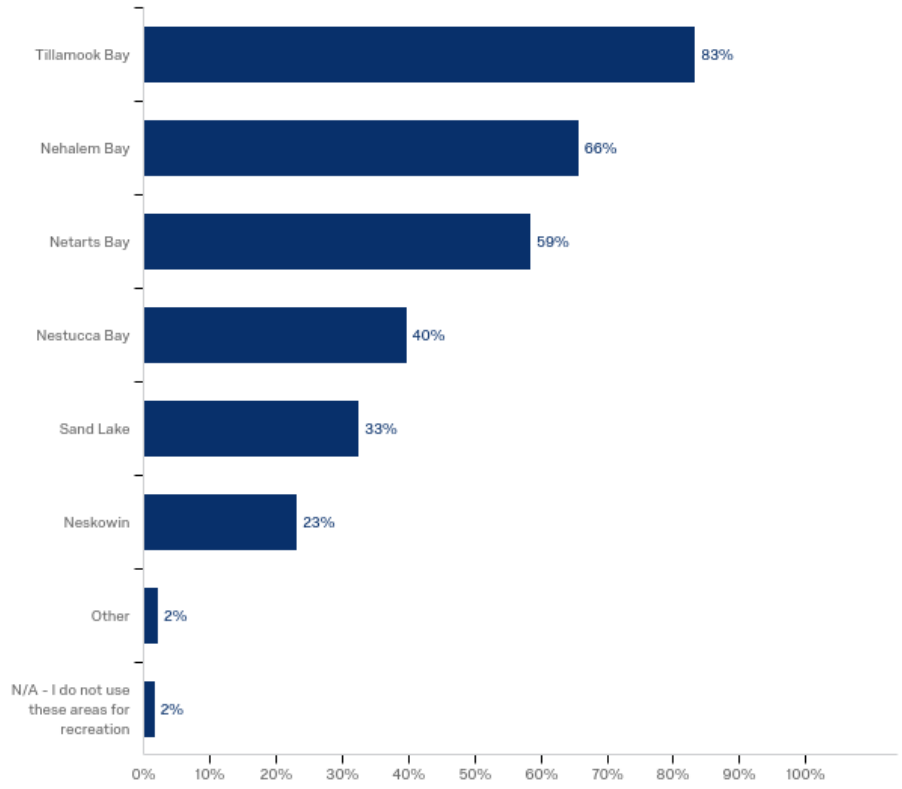
Respondents also indicated interest in communication through local newspapers (30%), community events (22%), in person public meetings (17%), and radio (14%).

Part 2: Raw Survey Results

This section provides figures and tables of the raw survey results, presented by section.

Interactions with Watersheds in Tillamook County

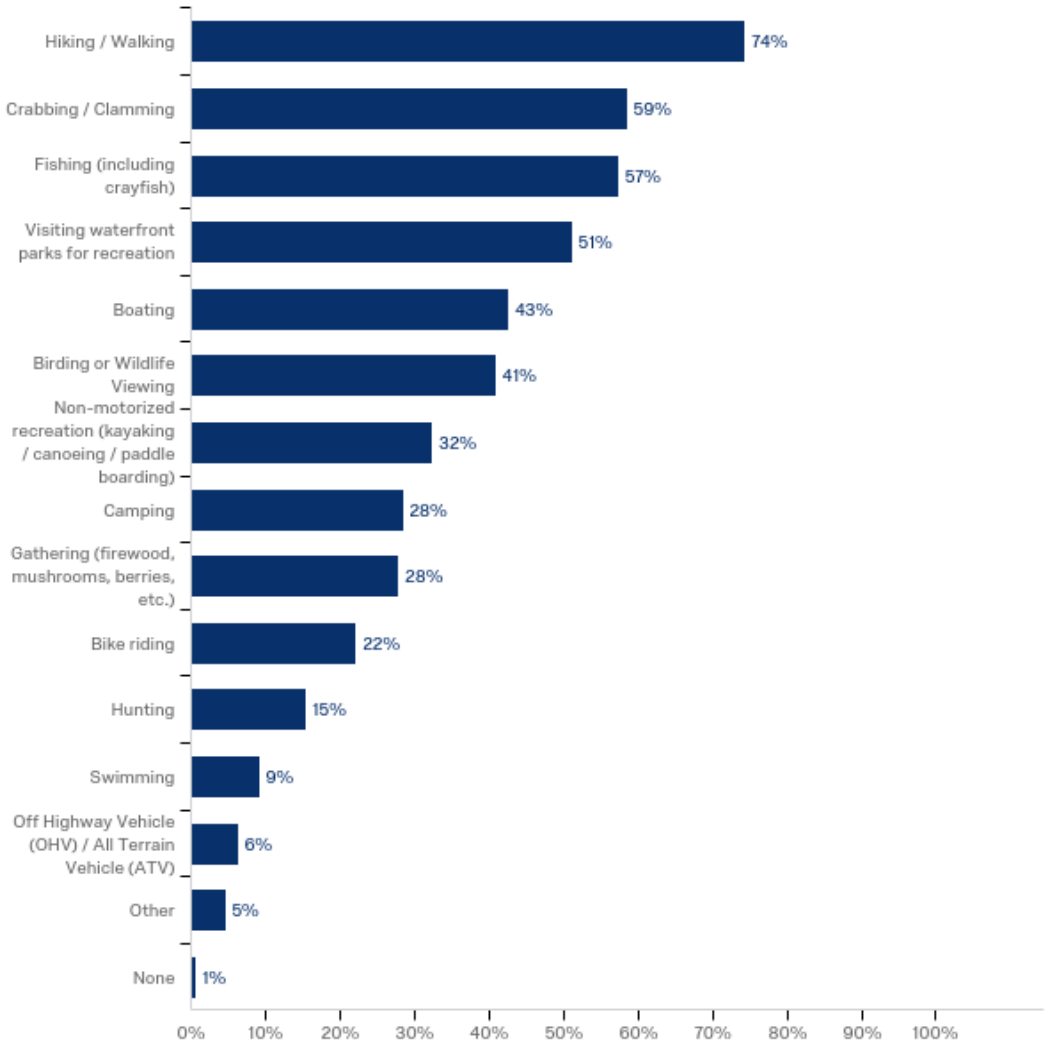
Q1. Which of the following watersheds have you visited for recreation in the last year? Please check all that apply.



Answer	%	Count
Tillamook Bay	83%	151
Nehalem Bay	66%	119
Netarts Bay	59%	106
Nestucca Bay	40%	72
Sand Lake	33%	59
Neskowin	23%	42
Other	2%	4
N/A - I do not use these areas for recreation	2%	3
Total	100%	556

Other - Text
Siletz

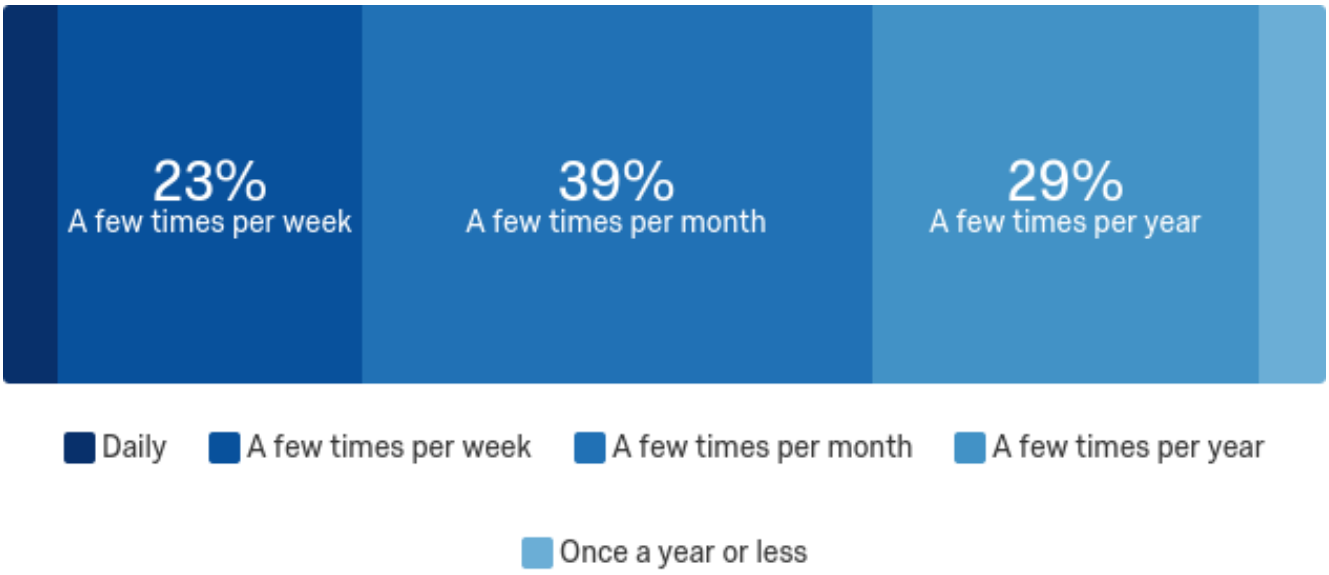
Q1a. How do you use the Tillamook County watersheds for recreation? Please check all that apply.



Answer	%	Count
Hiking/Walking	74%	131
Crabbing/Clamming	59%	103
Fishing (including crayfish)	57%	101
Visiting waterfront parks for recreation	51%	90
Boating	43%	75
Birding or Wildlife Viewing	41%	72
Non-motorized recreation (kayaking/canoeing/paddle boarding)	32%	57
Camping	28%	50
Gathering (firewood, mushrooms, berries, etc.)	28%	49
Bike riding	22%	39
Hunting	15%	27
Swimming	9%	16
Off Highway Vehicle (OHV)/ All Terrain Vehicle (ATV)	6%	11

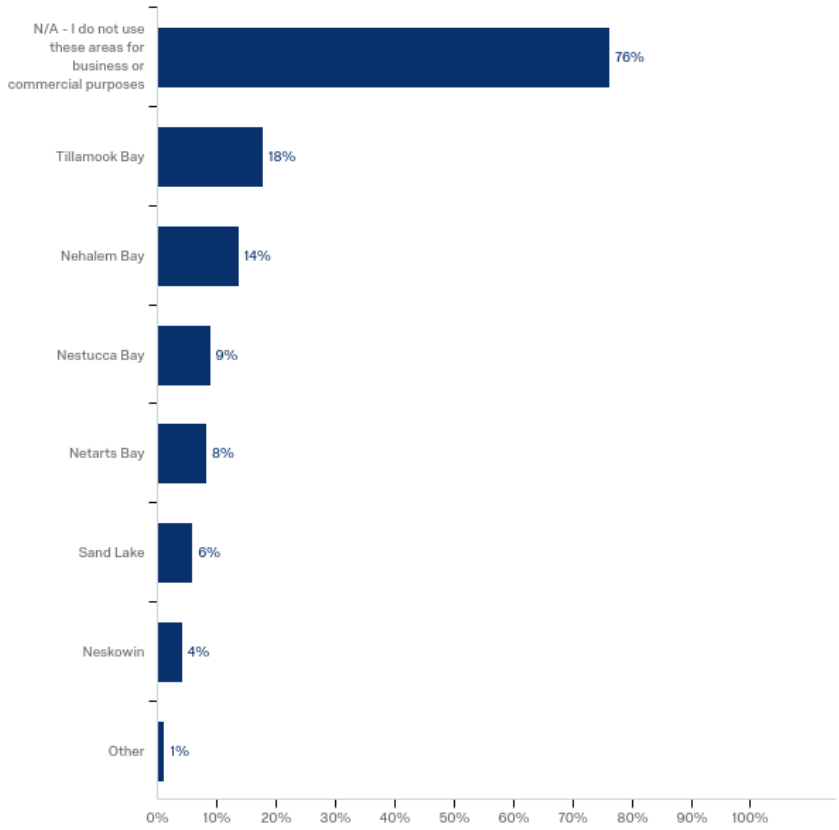
Other	5%	8
None	1%	1
Total	100%	830

Q1b. In the last year, how often did you visit the Tillamook County watersheds for recreational purposes?



Answer	%	Count
A few times per month	39%	67
A few times per year	29%	51
A few times per week	23%	40
Once a year or less	5%	9
Daily	4%	7
Total	100%	174

Q2. Which of the following watersheds have you used for business or commercial purposes in the last year? Please check all that apply.

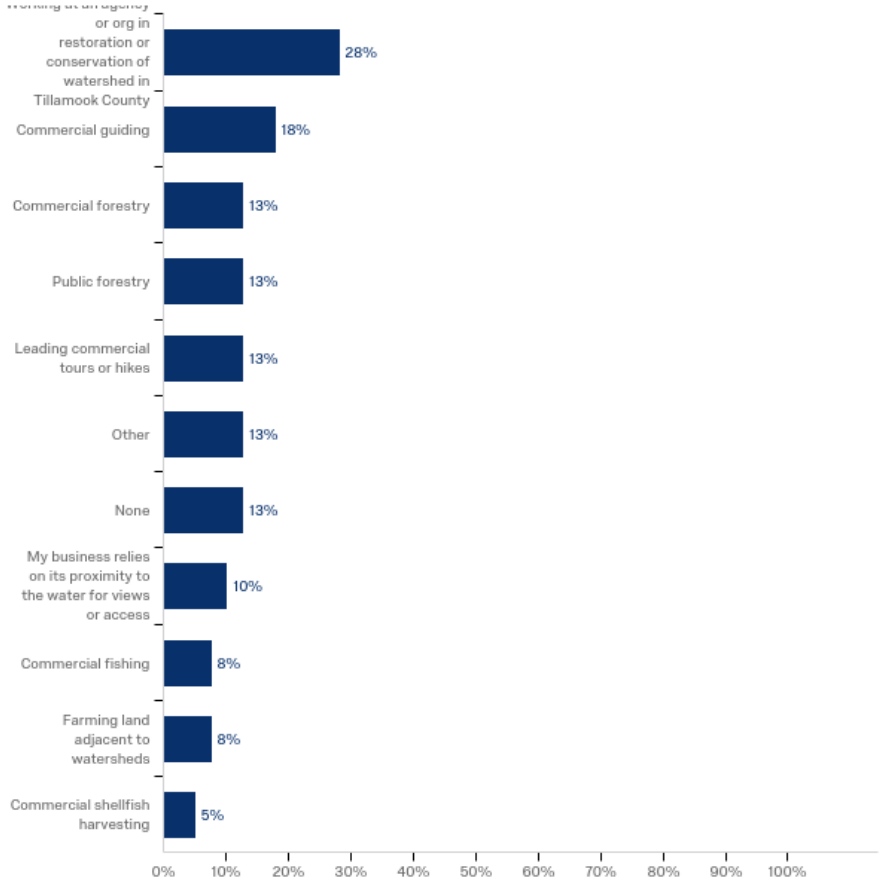


Answer	%	Count
N/A - I do not use these areas for business or commercial purposes	76%	129
Tillamook Bay	18%	30
Nehalem Bay	14%	23
Nestucca Bay	9%	15
Netarts Bay	8%	14
Sand Lake	6%	10
Neskowin	4%	7
Other	1%	2
Total	100%	230

Other - Text

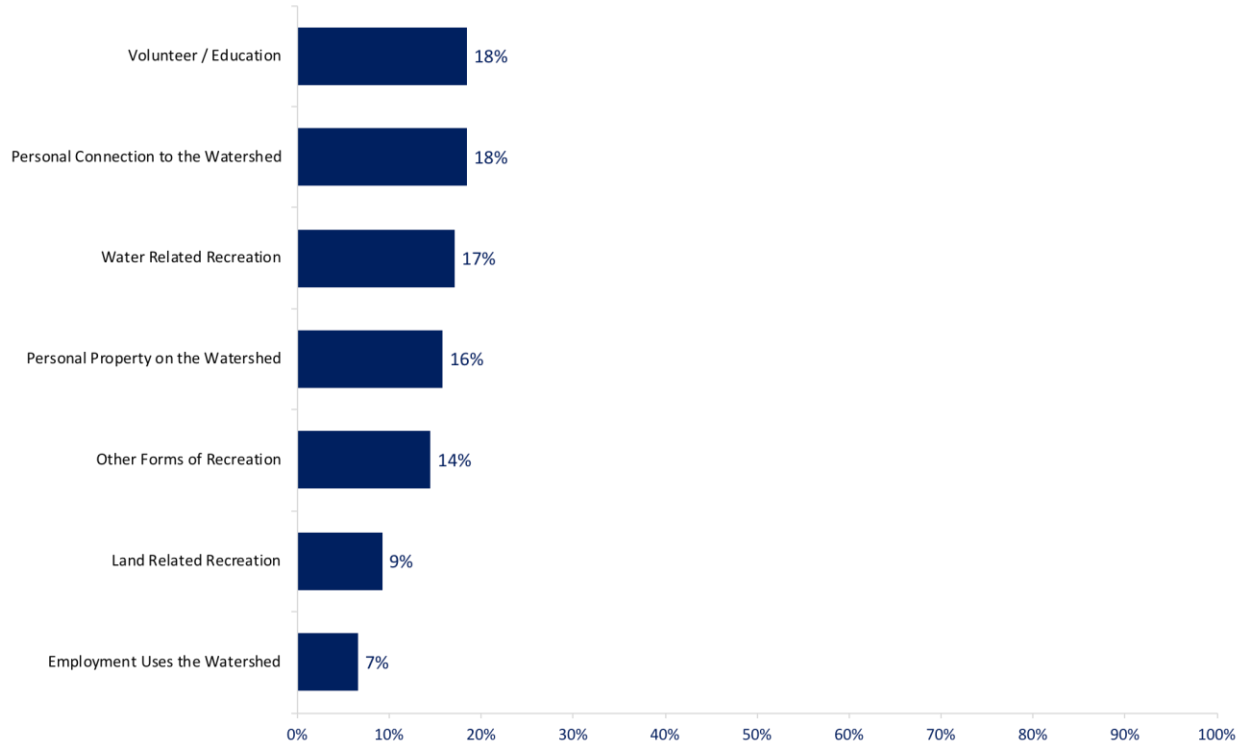
Vacation cottage rental guests - I use all of the above for entertaining guests

Q2a. How do you use Tillamook County watersheds for business or commercial purposes? Please check all that apply.



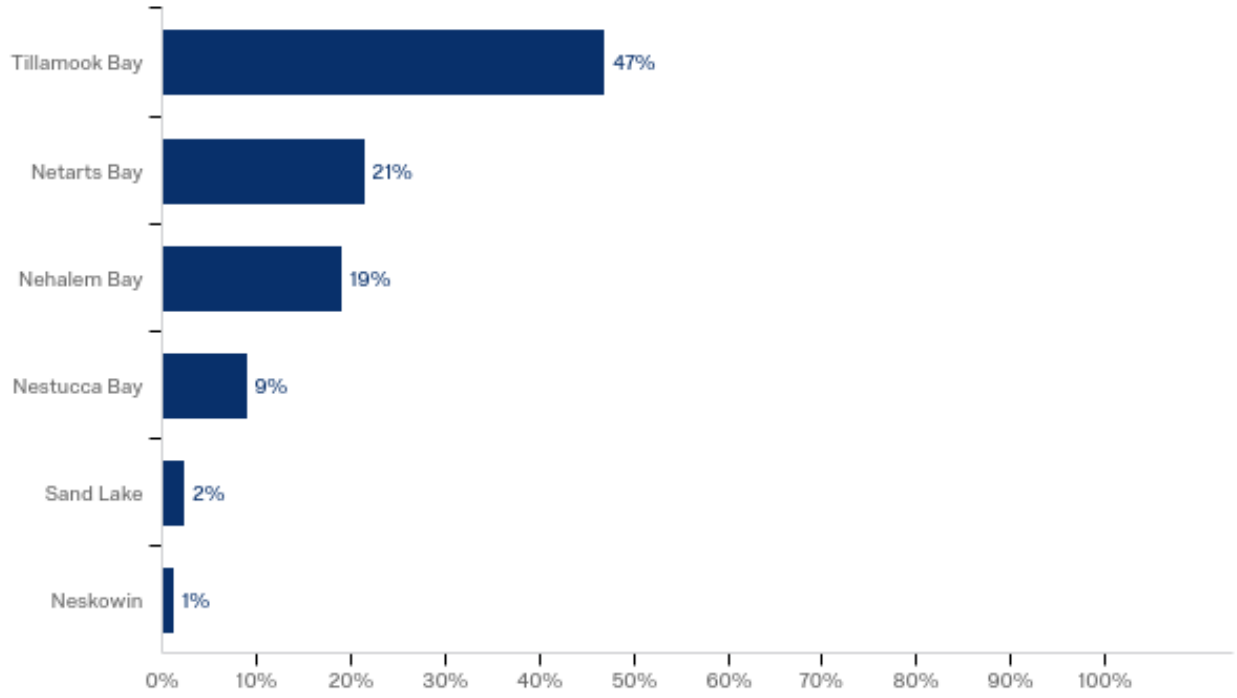
Answer	%	Count
Working at an agency or organization that deals with restoration or conservation of watershed in Tillamook County	28%	11
Commercial guiding	18%	7
None	13%	5
Commercial forestry	13%	5
Public forestry	13%	5
Other	13%	5
Leading commercial tours or hikes	13%	5
My business relies on its proximity to the water for views or access (for example, a hotel that offers "waterfront views")	10%	4
Farming land adjacent to watersheds	8%	3
Commercial fishing	8%	3
Commercial shellfish harvesting	5%	2
Total	100%	55
Other - Text		
Photography		
Working at an agency that regulates agricultural operations for water quality.		

Q3. How else do you interact with the bays and watersheds of Tillamook County?



Environmental Quality Concerns and Actions

Q4. Please select one watershed that you would like to answer questions about. Please select the watershed that you are most familiar with or interact with the most.



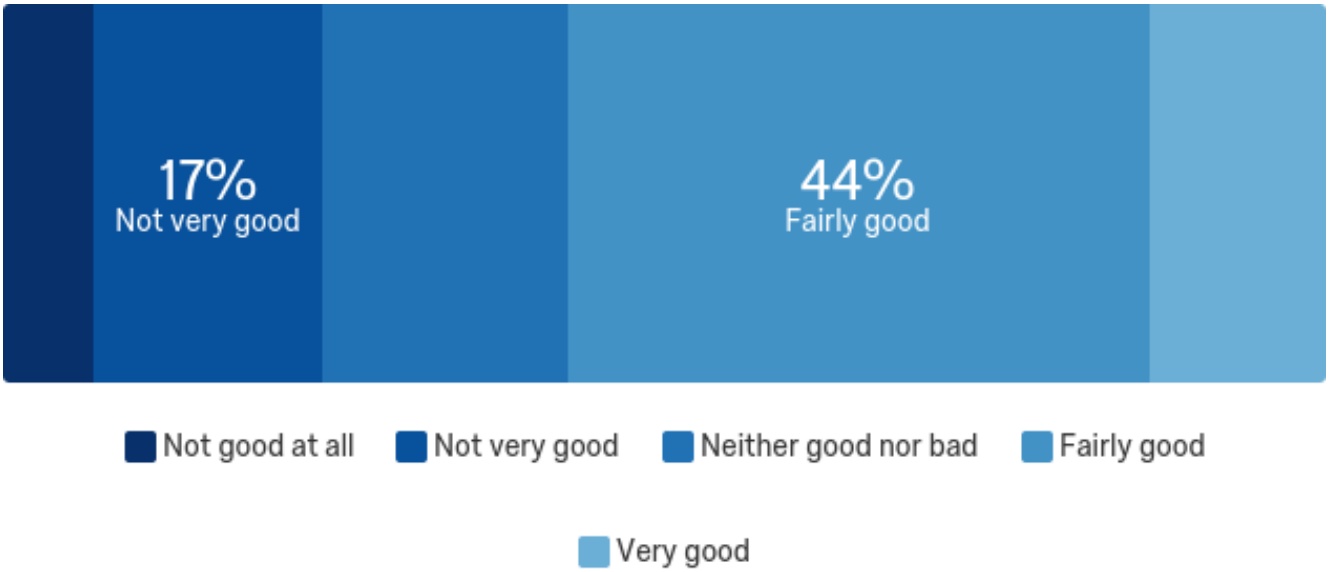
Answer	%	Count
Tillamook Bay	47%	79
Netarts Bay	21%	36
Nehalem Bay	19%	32
Nestucca Bay	9%	15
Sand Lake	2%	4
Neskowin	1%	2
Total	100%	168

Tillamook Bay (Approx. 79 Responses)

Q5. How would you rate the importance of each action area listed in the CCMP (see above for descriptions) for Tillamook Bay?

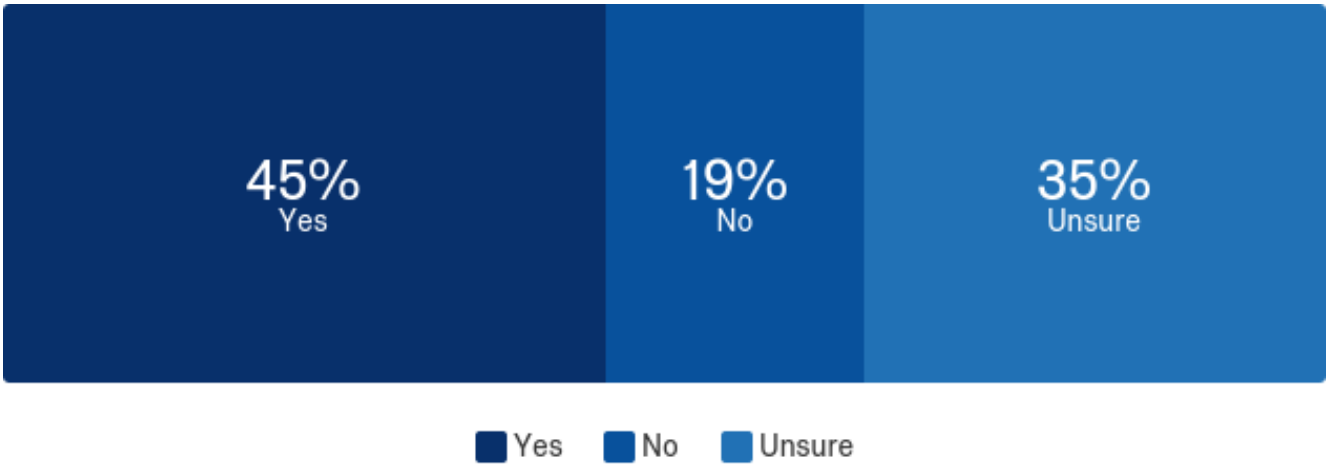
Question	Important		Somewhat important		Neither important nor unimportant		Somewhat unimportant		Not important		Total
Water Quality	84%	66	11%	9	1%	1	1%	1	3%	2	79
Habitat	82%	65	11%	9	1%	1	3%	2	3%	2	79
Natural Hazards	59%	46	23%	18	8%	6	8%	6	3%	2	78
Education and Outreach	51%	40	37%	29	8%	6	1%	1	4%	3	79

Q6. How would you rate the water quality of the Tillamook Bay right now?



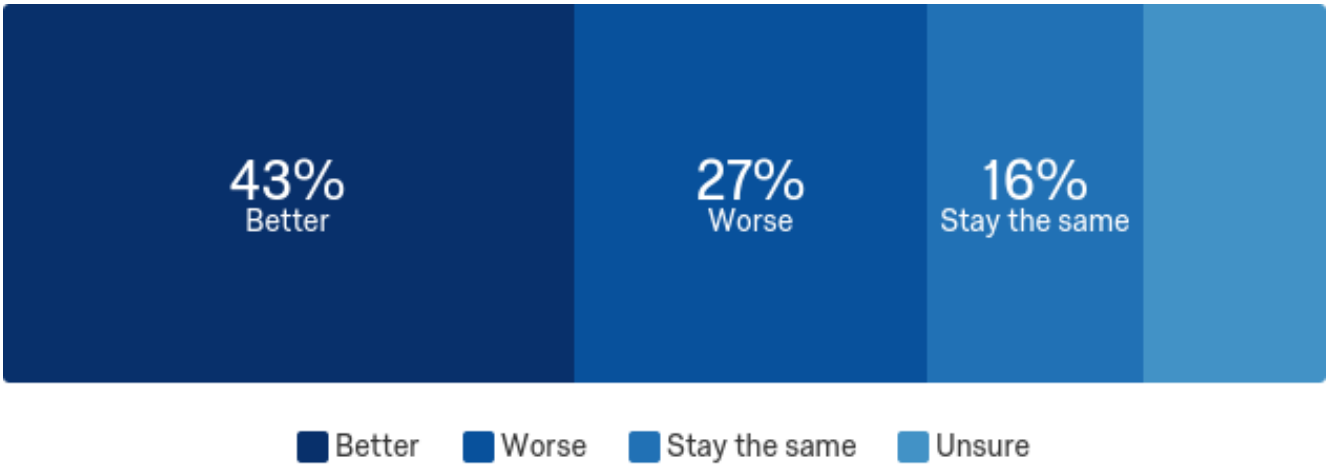
Answer	%	Count
Fairly good	44%	33
Neither good nor bad	19%	14
Not very good	17%	13
Very good	13%	10
Not good at all	7%	5
Total	100%	75

Q7. Do you think the water quality of Tillamook Bay has improved over the last 10 years?



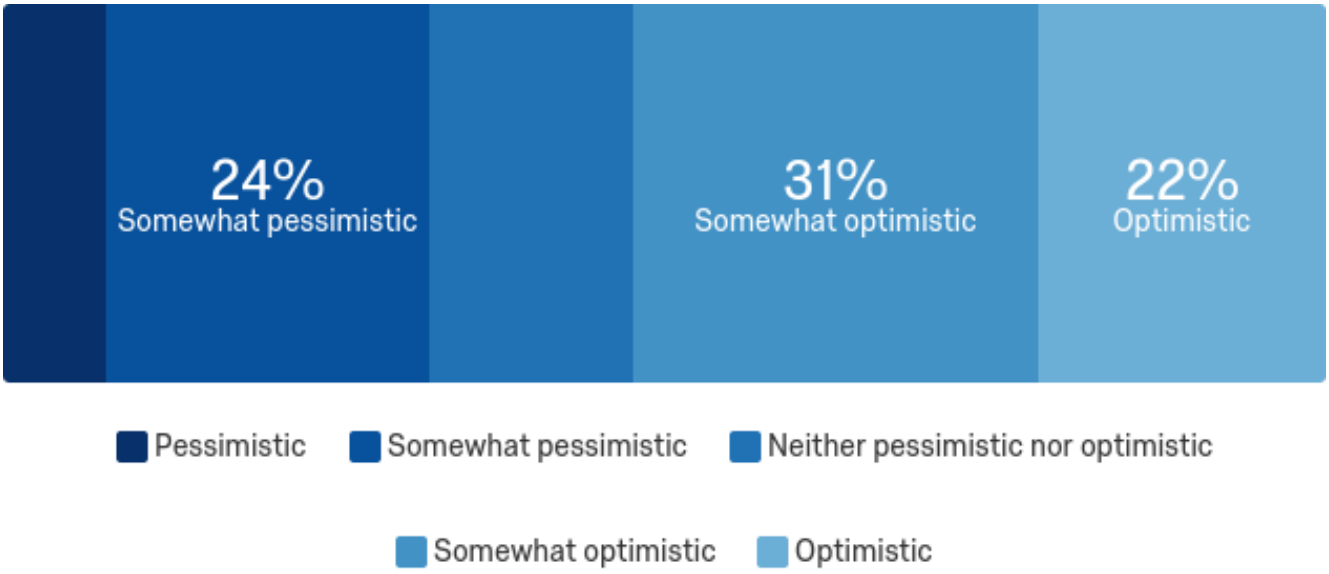
Answer	%	Count
Yes	45%	35
No	19%	15
Unsure	35%	27
Total	100%	77

Q8. Do you think that water quality in Tillamook Bay will get better, worse, or stay the same in the next 10 years?



Answer	%	Count
Better	43%	34
Worse	27%	21
Stay the same	16%	13
Unsure	14%	11
Total	100%	79

Q9. How pessimistic or optimistic are you that the overall environmental health of Tillamook Bay will get better in the next 10 years?

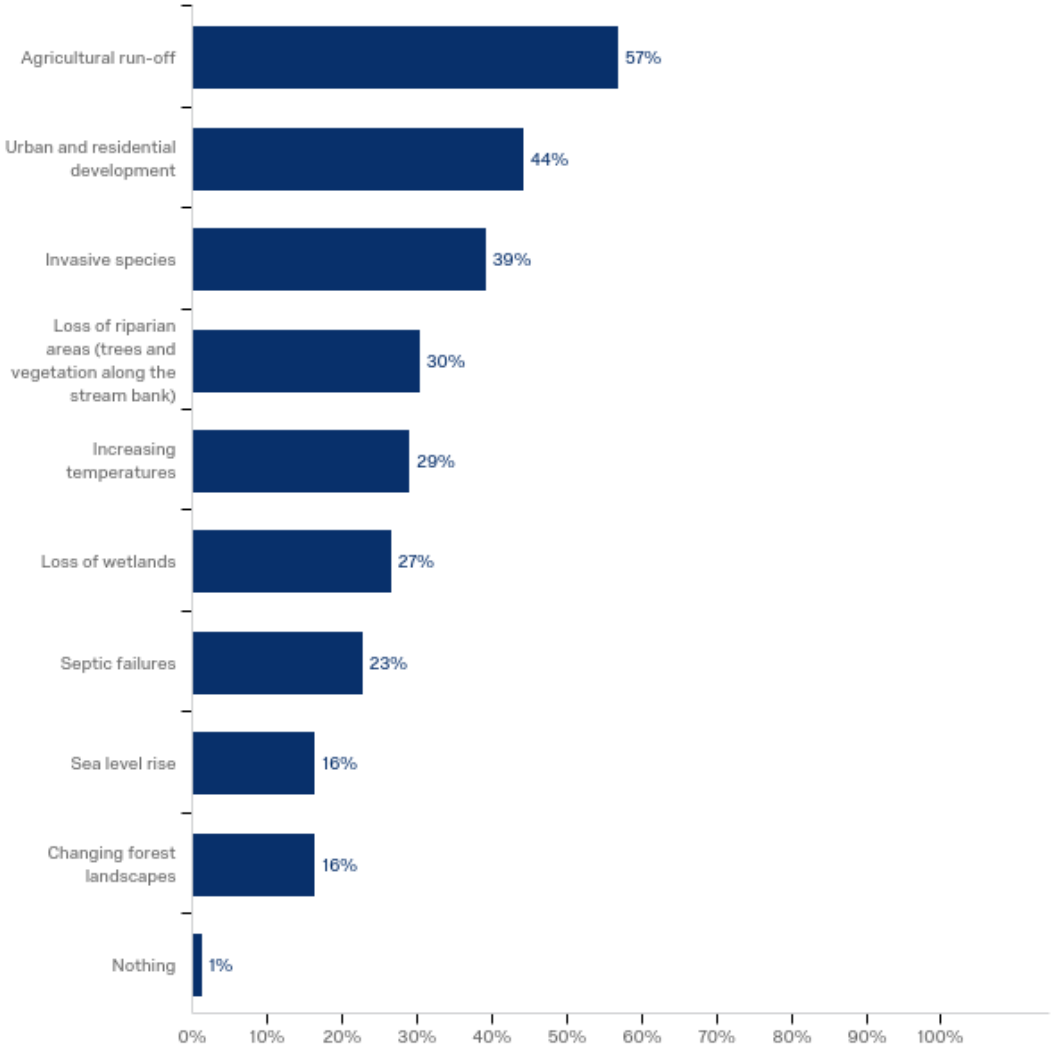


Answer	%	Count
Somewhat optimistic	31%	24
Somewhat pessimistic	24%	19
Optimistic	22%	17
Neither pessimistic nor optimistic	15%	12
Pessimistic	8%	6
Total	100%	78

Q10. How would you rate the importance of each of the following threats to the environmental health of the Tillamook Bay today?

Question	Important		Somewhat important		Neither important nor unimportant		Somewhat unimportant		Not important		Total
Invasive species	69%	54	23%	18	5%	4	1%	1	1%	1	78
Agricultural run-off	62%	48	23%	18	6%	5	5%	4	4%	3	78
Loss of riparian areas (trees and vegetation along the stream bank)	62%	48	24%	19	5%	4	5%	4	4%	3	78
Septic failures	60%	46	27%	21	8%	6	5%	4	0%	0	77
Loss of wetlands	57%	45	25%	20	6%	5	5%	4	6%	5	79
Increasing temperatures	54%	42	19%	15	14%	11	4%	3	9%	7	78
Changing forest landscapes	43%	33	29%	22	12%	9	6%	5	10%	8	77
Urban and residential development	41%	32	37%	29	13%	10	3%	2	6%	5	78
Sea level rise	35%	28	22%	17	19%	15	10%	8	14%	11	79

Q11. What do you think the top 3 biggest threats to the environmental health of Tillamook Bay will be in the next 10 years? Please choose three.



Answer	%	Count
Agricultural run-off	57%	45
Urban and residential development	44%	35
Invasive species	39%	31
Loss of riparian areas (trees and vegetation along the stream bank)	30%	24
Increasing temperatures	29%	23
Loss of wetlands	27%	21
Septic failures	23%	18
Sea level rise	16%	13
Changing forest landscapes	16%	13
Nothing	0%	1
Total	100%	224

Q12. Is there anything else you would like to tell us about the threats to the Tillamook Bay now or in the future? (Optional, please write your response in the space below)

See Part I of this memo for responses.

Q13. Below is a list of activities the Tillamook Estuaries Partnership (TEP) is currently pursuing to improve the health of the County's bays and watersheds. Are there any actions that you think do not apply to Tillamook Bay? Are there any additional actions that you think the TEP should focus on, specifically in Tillamook Bay?

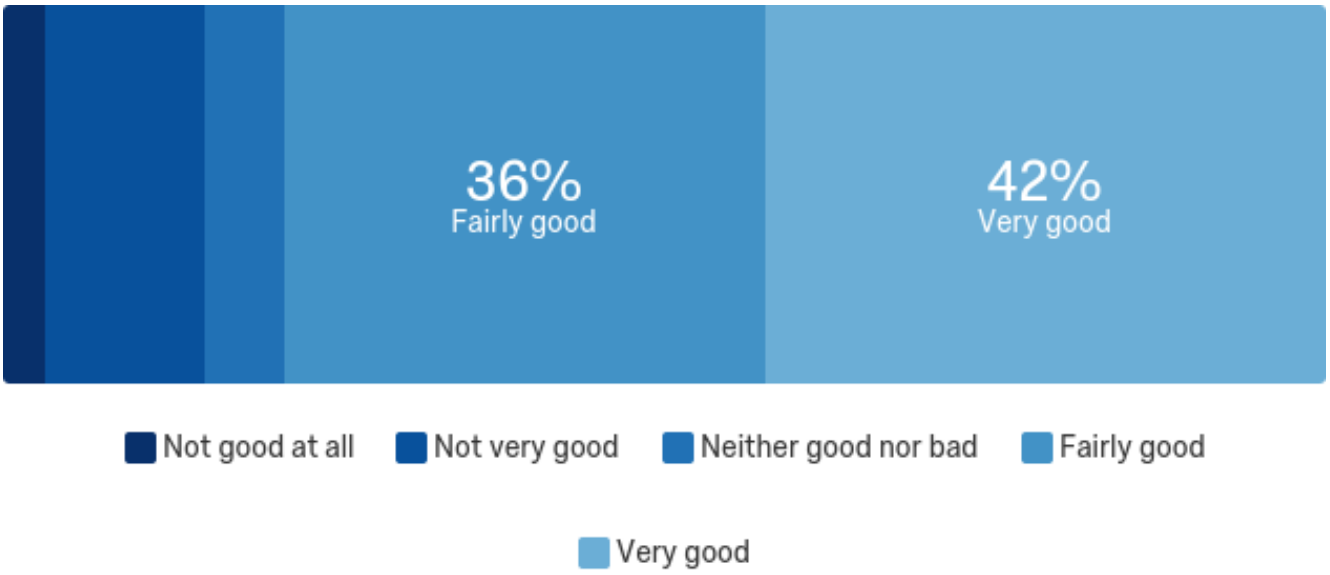
See Part I of this memo for responses.

Netarts Bay (Approx. 33 Responses)

Q5. How would you rate the importance of each action area listed in the CCMP (see above for descriptions) for Netarts Bay?

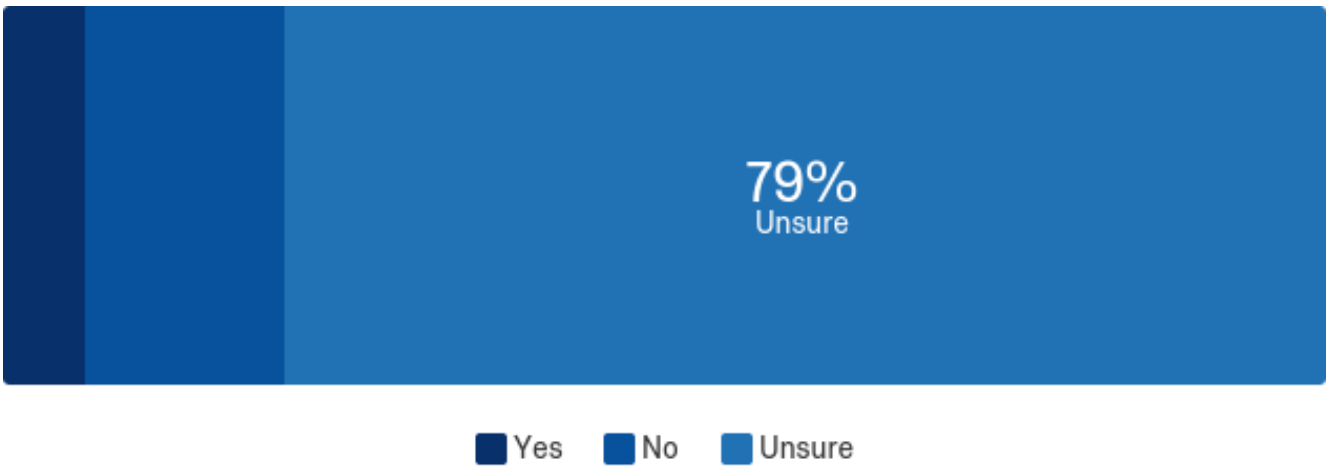
Question	Important		Somewhat important		Neither important nor unimportant		Somewhat unimportant		Not important		Total
Water Quality	94%	29	6%	2	0%	0	0%	0	0%	0	31
Habitat	87%	28	13%	4	0%	0	0%	0	0%	0	32
Education and Outreach	58%	18	35%	11	6%	2	0%	0	0%	0	31
Natural Hazards	53%	16	33%	10	10%	3	3%	1	0%	0	30

Q6. How would you rate the water quality of the Netarts Bay right now?



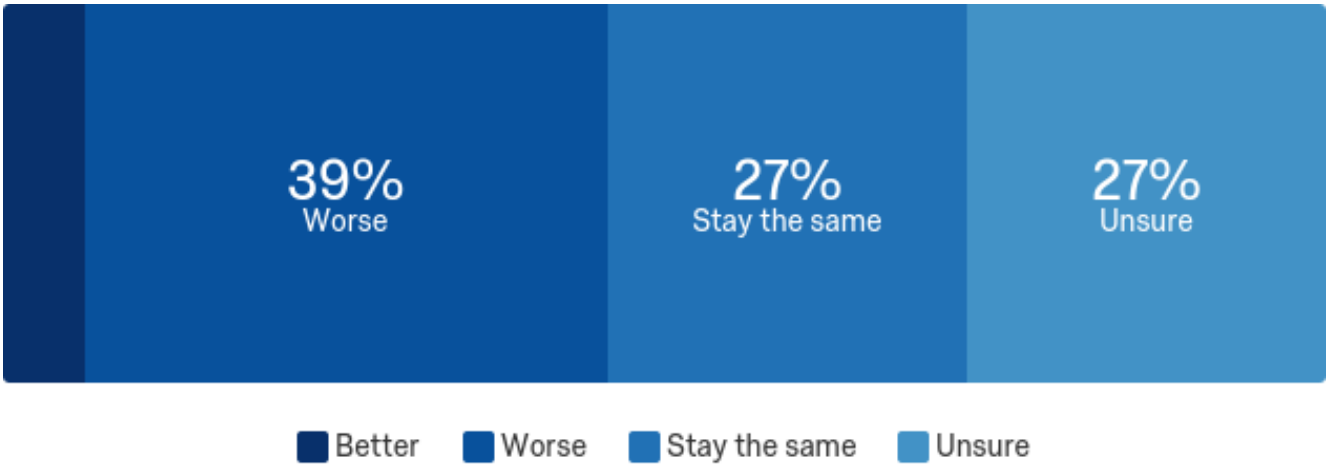
Answer	%	Count
Very good	42%	14
Fairly good	36%	12
Not very good	12%	4
Neither good nor bad	6%	2
Not good at all	3%	1
Total	100%	33

Q7. Do you think the water quality of Netarts Bay has improved over the last 10 years?



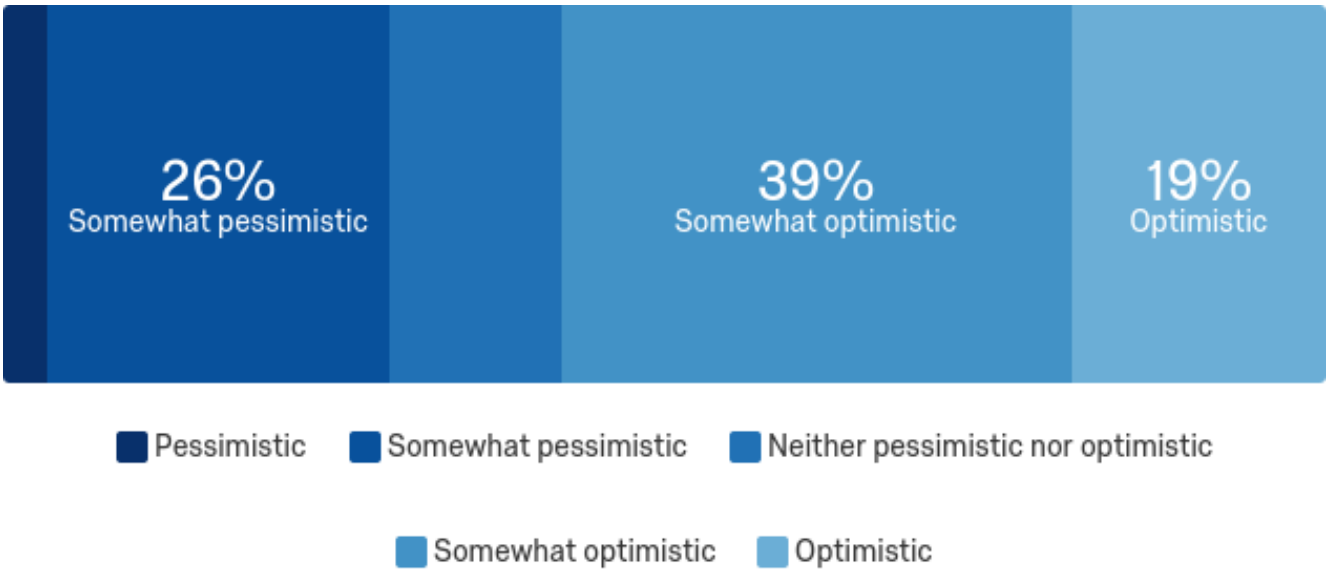
Answer	%	Count
Unsure	79%	26
No	15%	5
Yes	6%	2
Total	100%	33

Q8. Do you think that water quality in Netarts Bay will get better, worse, or stay the same in the next 10 years?



Answer	%	Count
Worse	39%	13
Stay the same	27%	9
Unsure	27%	9
Better	6%	2
Total	100%	33

Q9. How pessimistic or optimistic are you that the overall environmental health of Netarts Bay will get better in the next 10 years?

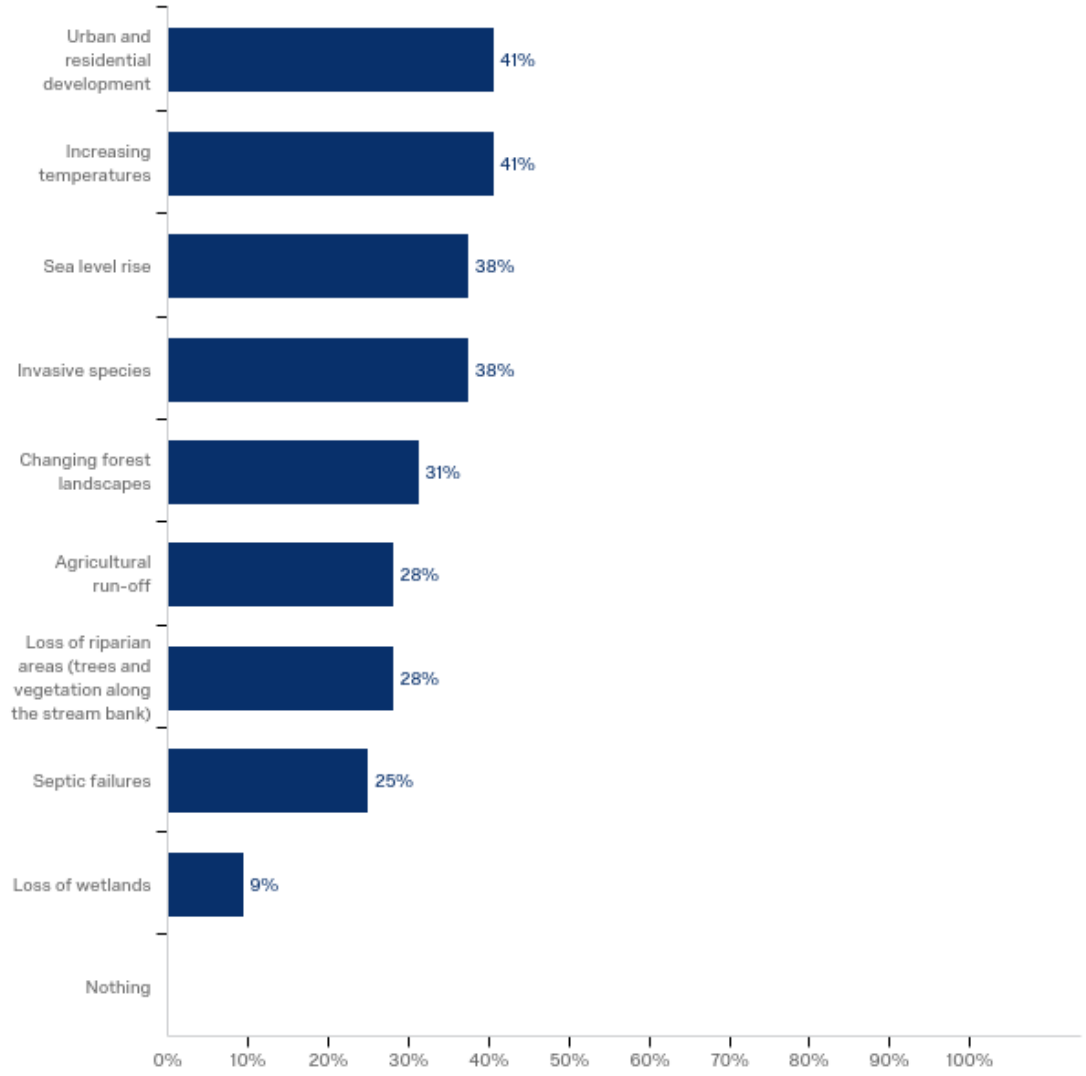


Answer	%	Count
Somewhat optimistic	39%	12
Somewhat pessimistic	26%	8
Optimistic	19%	6
Neither pessimistic nor optimistic	13%	4
Pessimistic	3%	1
Total	100%	31

Q10. How would you rate the importance of each of the following threats to the environmental health of the Netarts Bay today?

Question	Important		Somewhat important		Neither important nor unimportant		Somewhat unimportant		Not important		Total
Invasive species	68%	21	26%	8	6%	2	0%	0	0%	0	31
Loss of wetlands	61%	19	29%	9	10%	3	0%	0	0%	0	31
Agricultural run-off	60%	18	23%	7	10%	3	3%	1	3%	1	30
Septic failures	58%	18	39%	12	0%	0	3%	1	0%	0	31
Increasing temperatures	56%	18	25%	8	9%	3	6%	2	3%	1	32
Changing forest landscapes	55%	17	35%	11	6%	2	0%	0	3%	1	31
Loss of riparian areas (trees and vegetation along the stream bank)	48%	15	45%	14	6%	2	0%	0	0%	0	31
Sea level rise	42%	13	32%	10	13%	4	3%	1	10%	3	31
Urban and residential development	42%	13	42%	13	10%	3	6%	2	0%	0	31

Q11. What do you think the top 3 biggest threats to the environmental health of Netarts Bay will be in the next 10 years? Please choose three.



Answer	%	Count
Urban and residential development	41%	13
Increasing temperatures	41%	13
Sea level rise	38%	12
Invasive species	38%	12
Changing forest landscapes	31%	10
Agricultural run-off	28%	9
Loss of riparian areas (trees and vegetation along the stream bank)	28%	9
Septic failures	25%	8
Loss of wetlands	9%	3
Nothing	0%	0
Total	100%	89

Q12. Is there anything else you would like to tell us about the threats to the Netarts Bay now or in the future? (Optional, please write your response in the space below)

See Part I of this memo for responses.

Q13. Below is a list of activities the Tillamook Estuaries Partnership (TEP) is currently pursuing to improve the health of the County's bays and watersheds. Are there any actions that you think do not apply to Netarts Bay? Are there any additional actions that you think the TEP should focus on, specifically in Netarts Bay?

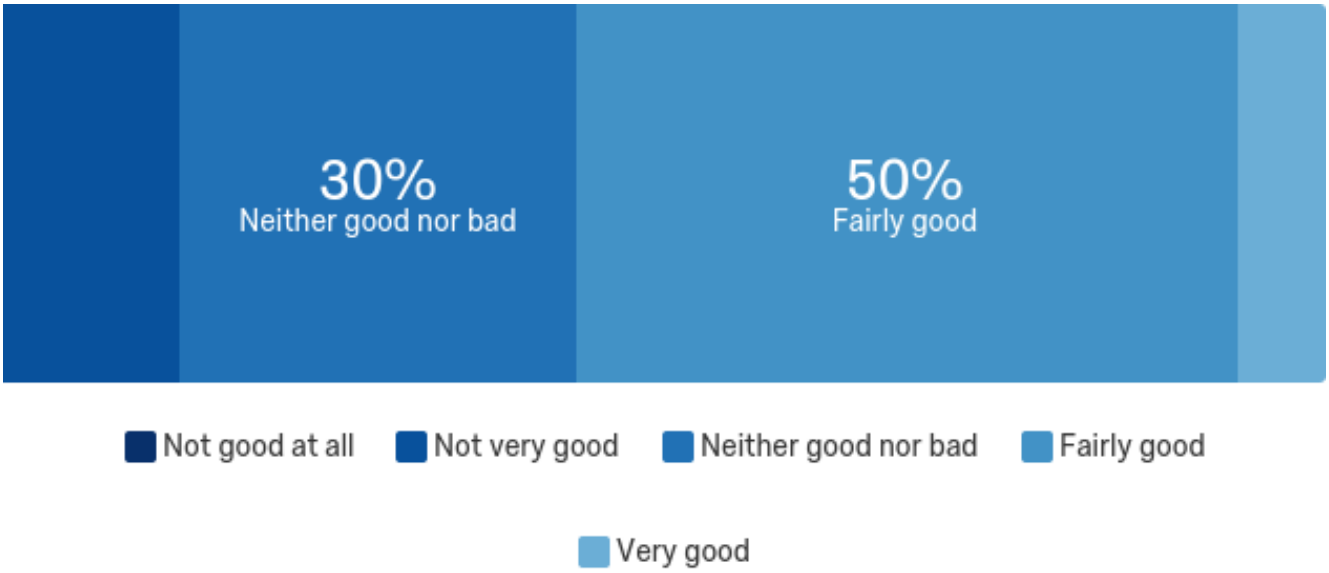
See Part I of this memo for responses.

Nehalem Bay (Approx. 30 Responses)

Q5. How would you rate the importance of each action area listed in the CCMP for Nehalem Bay?

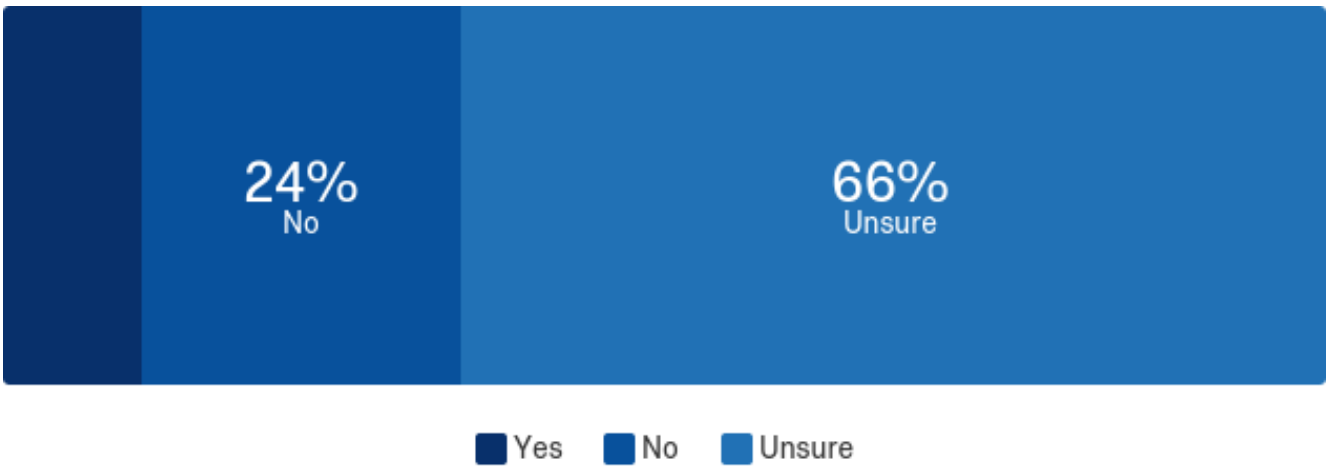
Question	Important		Somewhat important		Neither important nor unimportant		Somewhat unimportant		Not important		Total
Water Quality	90%	27	7%	2	3%	1	0%	0	0%	0	30
Habitat	87%	26	13%	4	0%	0	0%	0	0%	0	30
Natural Hazards	53%	16	33%	10	13%	4	0%	0	0%	0	30
Education and Outreach	50%	15	33%	10	13%	4	3%	1	0%	0	30

Q6. How would you rate the water quality of the Nehalem Bay right now?



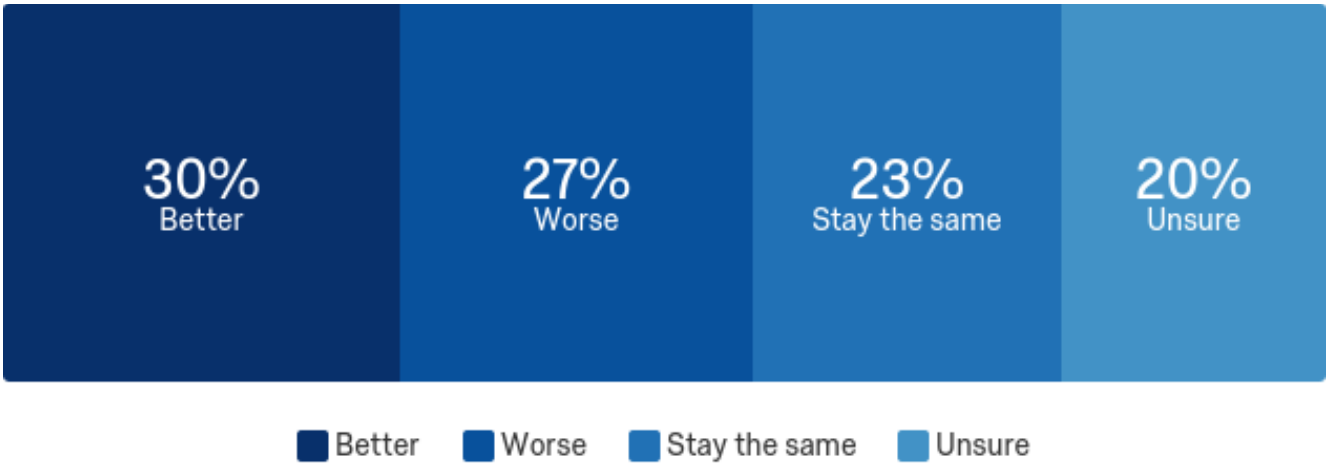
Answer	%	Count
Fairly good	50%	15
Neither good nor bad	30%	9
Not very good	13%	4
Very good	7%	2
Not good at all	0%	0
Total	100%	30

Q7. Do you think the water quality of Nehalem Bay has improved over the last 10 years?



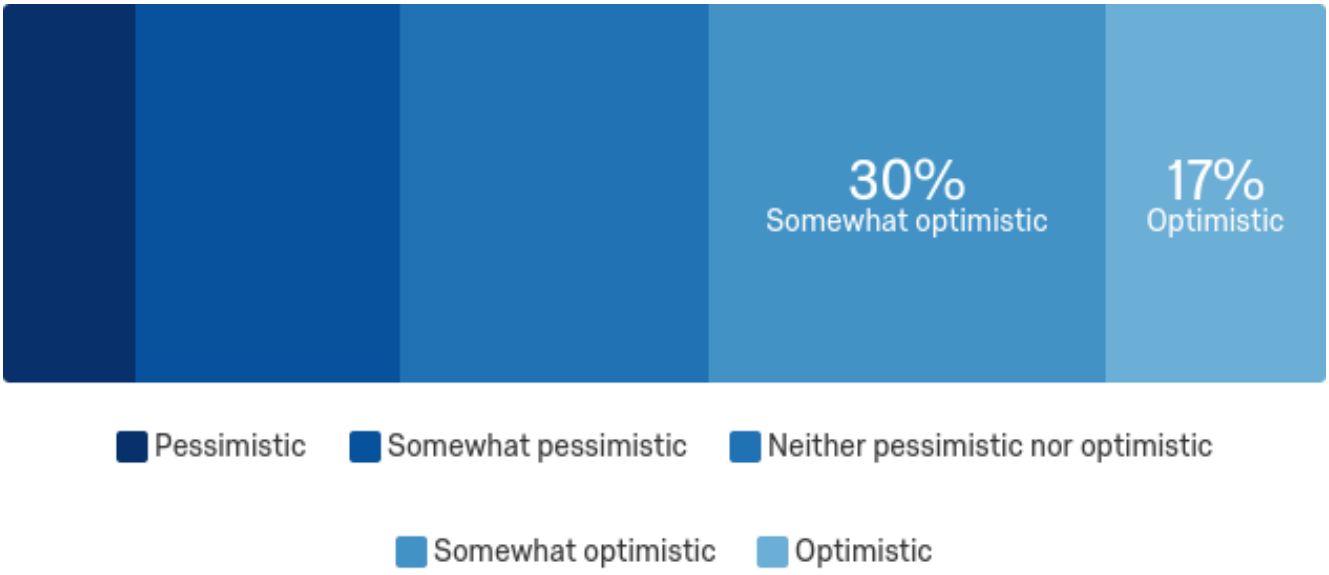
Answer	%	Count
Unsure	66%	19
No	24%	7
Yes	10%	3
Total	100%	29

Q8. Do you think that water quality in Nehalem Bay will get better, worse, or stay the same in the next 10 years?



Answer	%	Count
Better	30%	9
Worse	27%	8
Stay the same	23%	7
Unsure	20%	6
Total	100%	30

Q9. How pessimistic or optimistic are you that the overall environmental health of Nehalem Bay will get better in the next 10 years?

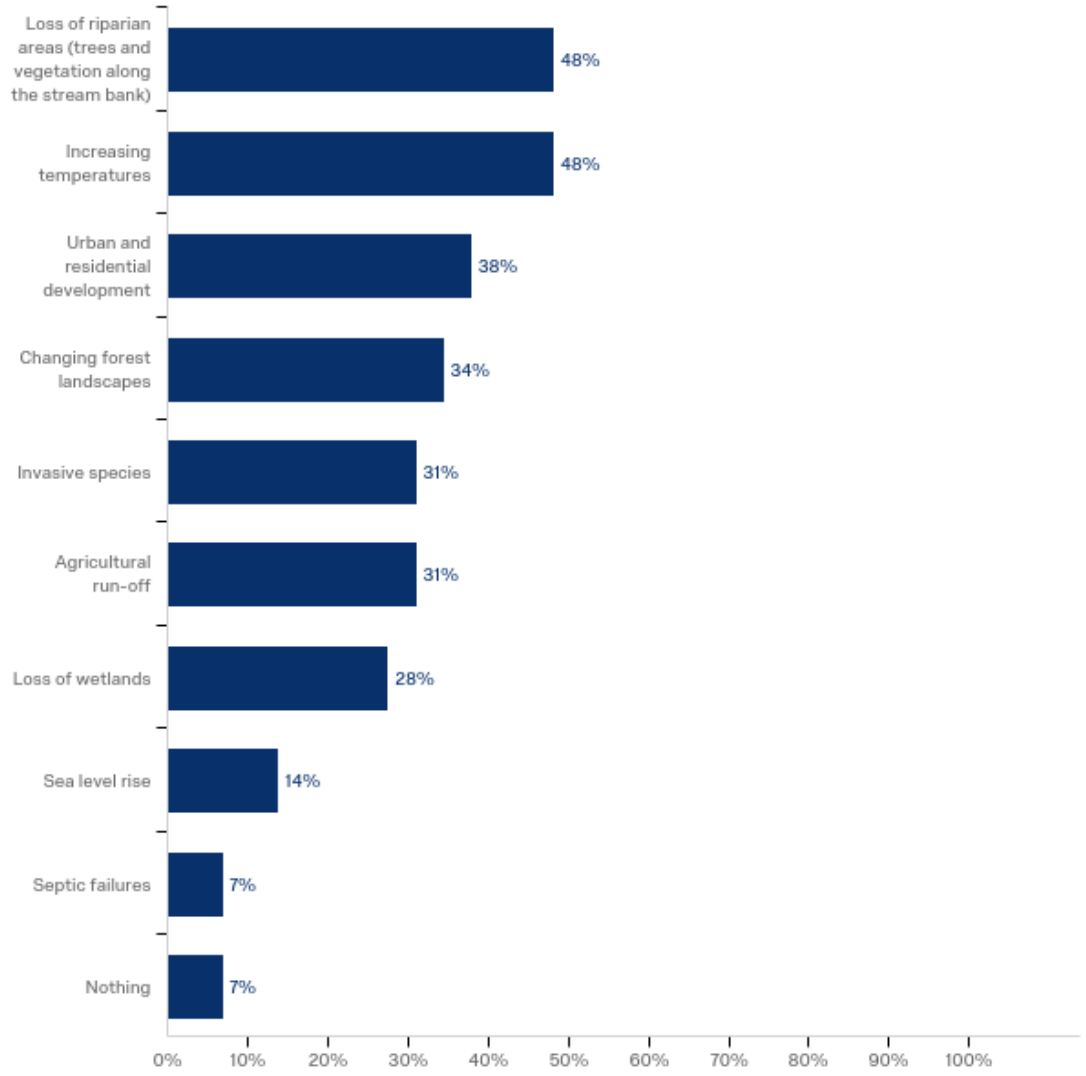


Answer	%	Count
Somewhat optimistic	30%	9
Neither pessimistic nor optimistic	23%	7
Somewhat pessimistic	20%	6
Optimistic	17%	5
Pessimistic	10%	3
Total	100%	30

Q10. How would you rate the importance of each of the following threats to the environmental health of the Nehalem Bay today?

Question	Important		Somewhat important		Neither important nor unimportant		Somewhat unimportant		Not important		Total
Loss of riparian areas (trees and vegetation along the stream bank)	72%	21	14%	4	10%	3	0%	0	3%	1	29
Loss of wetlands	72%	21	17%	5	7%	2	0%	0	3%	1	29
Increasing temperatures	69%	20	14%	4	10%	3	0%	0	7%	2	29
Urban and residential development	59%	17	34%	10	0%	0	3%	1	3%	1	29
Invasive species	59%	17	38%	11	3%	1	0%	0	0%	0	29
Changing forest landscapes	59%	17	28%	8	7%	2	0%	0	7%	2	29
Agricultural run-off	57%	16	36%	10	4%	1	0%	0	4%	1	28
Septic failures	48%	14	21%	6	21%	6	3%	1	7%	2	29
Sea level rise	36%	10	29%	8	18%	5	4%	1	14%	4	28

Q11. What do you think the top 3 biggest threats to the environmental health of Nehalem Bay will be in the next 10 years? Please choose three.



Answer	%	Count
Loss of riparian areas (trees and vegetation along the stream bank)	48%	14
Increasing temperatures	48%	14
Urban and residential development	38%	11
Changing forest landscapes	34%	10
Invasive species	31%	9
Agricultural run-off	31%	9
Loss of wetlands	28%	8
Sea level rise	14%	4
Septic failures	7%	2
Nothing	7%	2
Total	100%	83

Q12. Is there anything else you would like to tell us about the threats to the Nehalem Bay now or in the future? (Optional, please write your response in the space below)

See Part I of this memo for responses.

Q13. Below is a list of activities the Tillamook Estuaries Partnership (TEP) is currently pursuing to improve the health of the County's bays and watersheds. Are there any actions that you think do not apply to Nehalem Bay? Are there any additional actions that you think the TEP should focus on, specifically in Nehalem Bay?

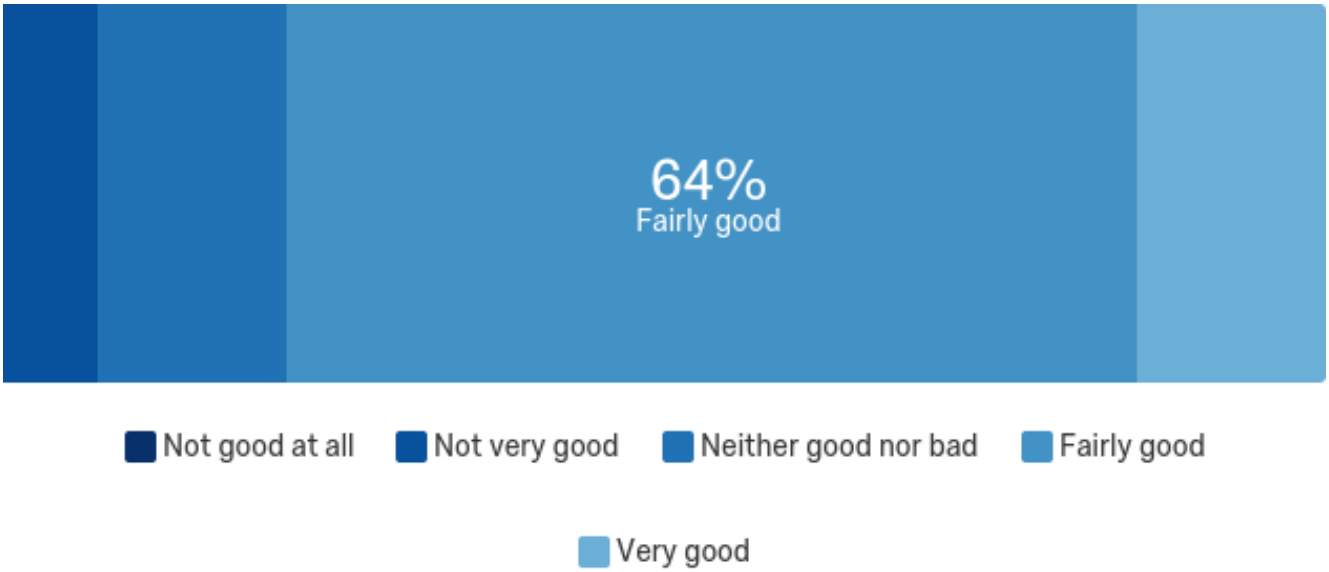
See Part I of this memo for responses.

Nestucca Bay (Approx. 14 Responses)

Q5. How would you rate the importance of each action areas listed in the CCMP (see above for descriptions) for Nestucca Bay?

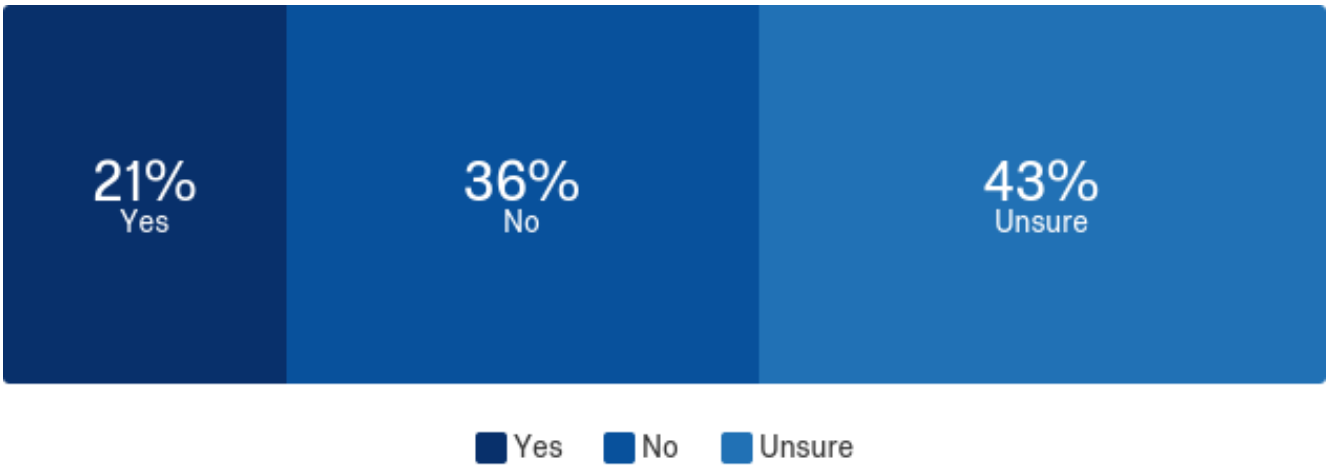
Question	Important		Somewhat important		Neither important nor unimportant		Somewhat unimportant		Not important		Total
Habitat	93%	13	7%	1	0%	0	0%	0	0%	0	14
Water Quality	86%	12	14%	2	0%	0	0%	0	0%	0	14
Education and Outreach	71%	10	14%	2	7%	1	7%	1	0%	0	14
Natural Hazards	21%	3	43%	6	29%	4	7%	1	0%	0	14

Q6. How would you rate the water quality of the Nestucca Bay right now?



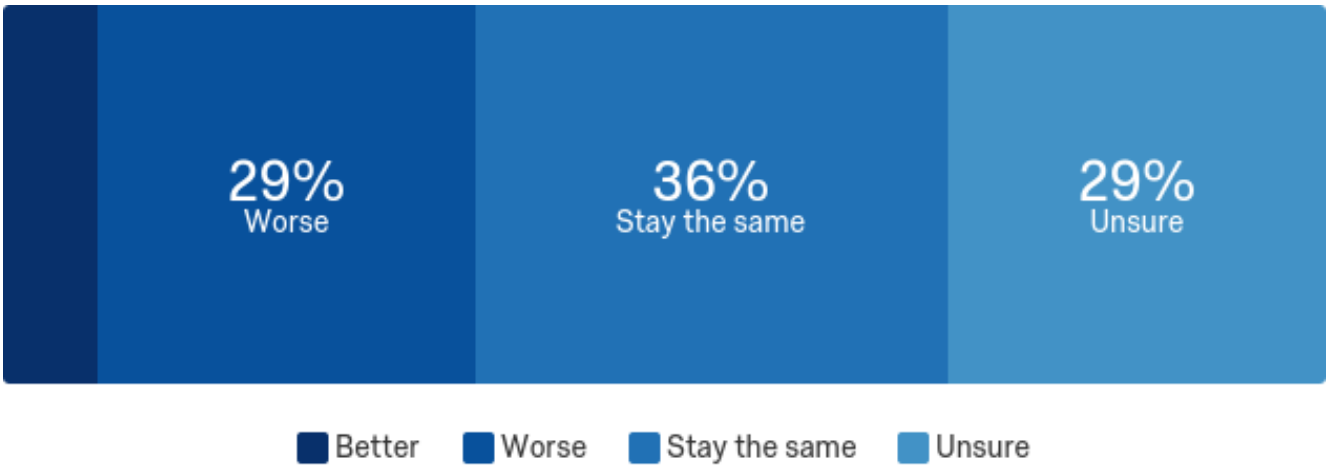
Answer	%	Count
Fairly good	64%	9
Neither good nor bad	14%	2
Very good	14%	2
Not very good	7%	1
Not good at all	0%	0
Total	100%	14

Q7. Do you think the water quality of Nestucca Bay has improved over the last 10 years?



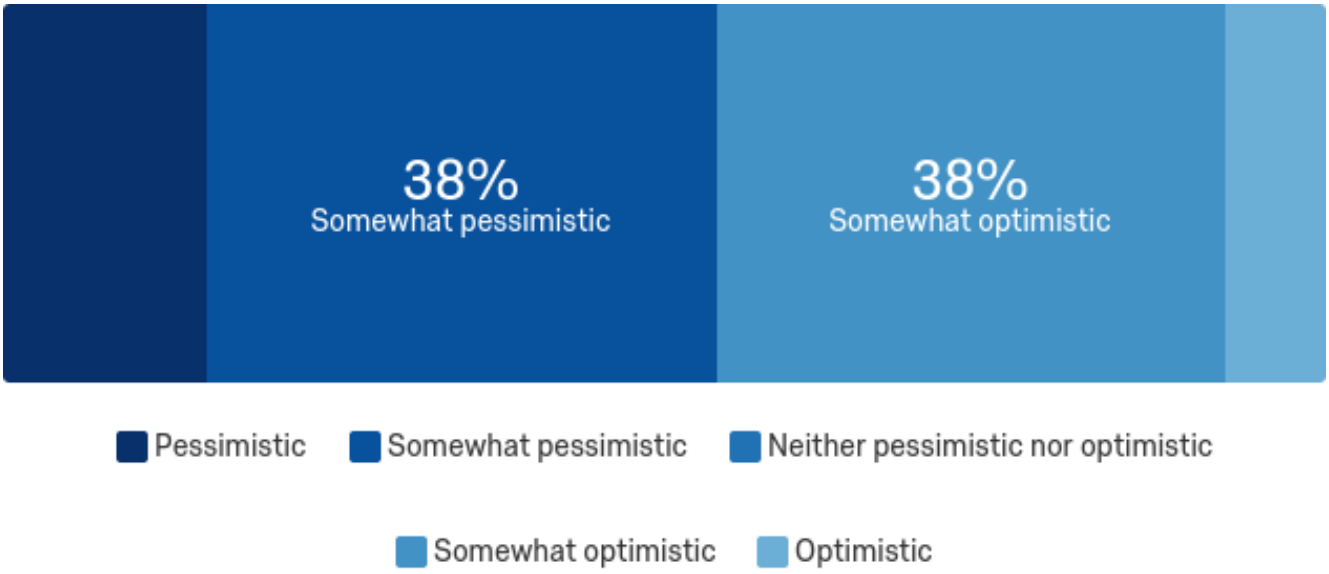
Answer	%	Count
Unsure	43%	6
No	36%	5
Yes	21%	3
Total	100%	14

Q8. Do you think that water quality in Nestucca Bay will get better, worse, or stay the same in the next 10 years?



Answer	%	Count
Stay the same	36%	5
Worse	29%	4
Unsure	29%	4
Better	7%	1
Total	100%	14

Q9. How pessimistic or optimistic are you that the overall environmental health of Nestucca Bay will get better in the next 10 years?

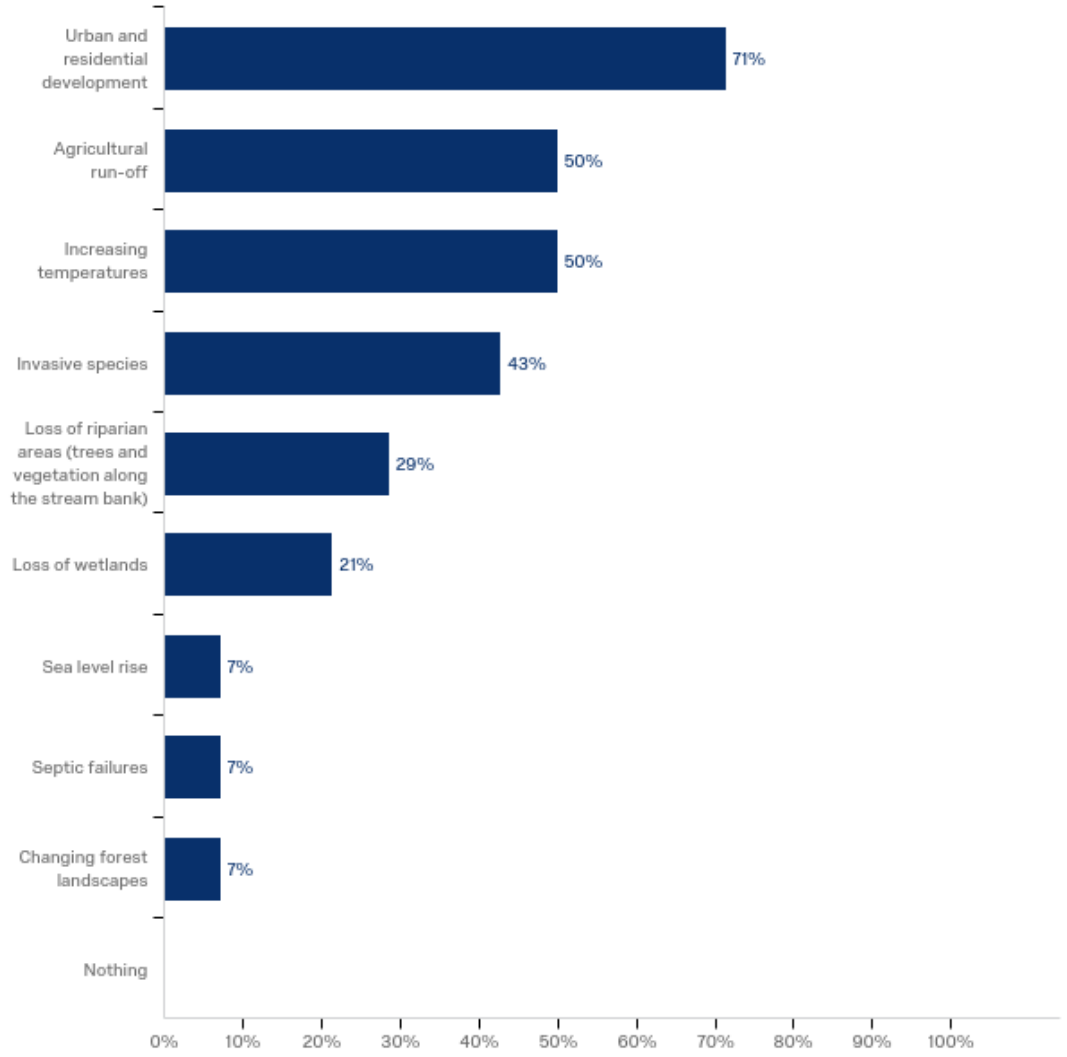


Answer	%	Count
Somewhat pessimistic	38%	5
Somewhat optimistic	38%	5
Pessimistic	15%	2
Optimistic	8%	1
Neither pessimistic nor optimistic	0%	0
Total	100%	13

Q10. How would you rate the importance of each of the following threats to the environmental health of the Nestucca Bay today?

Question	Important		Somewhat important		Neither important nor unimportant		Somewhat unimportant		Not important		Total
Agricultural run-off	93%	13	7%	1	0%	0	0%	0	0%	0	14
Loss of wetlands	93%	13	0%	0	7%	1	0%	0	0%	0	14
Urban and residential development	79%	11	21%	3	0%	0	0%	0	0%	0	14
Septic failures	79%	11	21%	3	0%	0	0%	0	0%	0	14
Loss of riparian areas (trees and vegetation along the stream bank)	79%	11	21%	3	0%	0	0%	0	0%	0	14
Invasive species	71%	10	29%	4	0%	0	0%	0	0%	0	14
Increasing temperatures	71%	10	29%	4	0%	0	0%	0	0%	0	14
Changing forest landscapes	50%	7	36%	5	14%	2	0%	0	0%	0	14
Sea level rise	29%	4	50%	7	21%	3	0%	0	0%	0	14

Q11. What do you think the top 3 biggest threats to the environmental health of Nestucca Bay will be in the next 10 years? Please choose three.



Answer	%	Count
Urban and residential development	71%	10
Agricultural run-off	50%	7
Increasing temperatures	50%	7
Invasive species	43%	6
Loss of riparian areas (trees and vegetation along the stream bank)	29%	4
Loss of wetlands	21%	3
Sea level rise	7%	1
Septic failures	7%	1
Changing forest landscapes	7%	1
Nothing	0%	0
Total	100%	40

Q12. Is there anything else you would like to tell us about the threats to the Nestucca Bay now or in the future? (Optional, please write your response in the space below)

See Part I of this memo for responses.

Q13. Below is a list of activities the Tillamook Estuaries Partnership (TEP) is currently pursuing to improve the health of the County's bays and watersheds. Are there any actions that you think do not apply to Nestucca Bay? Are there any additional actions that you think the TEP should focus on, specifically in Nestucca Bay?

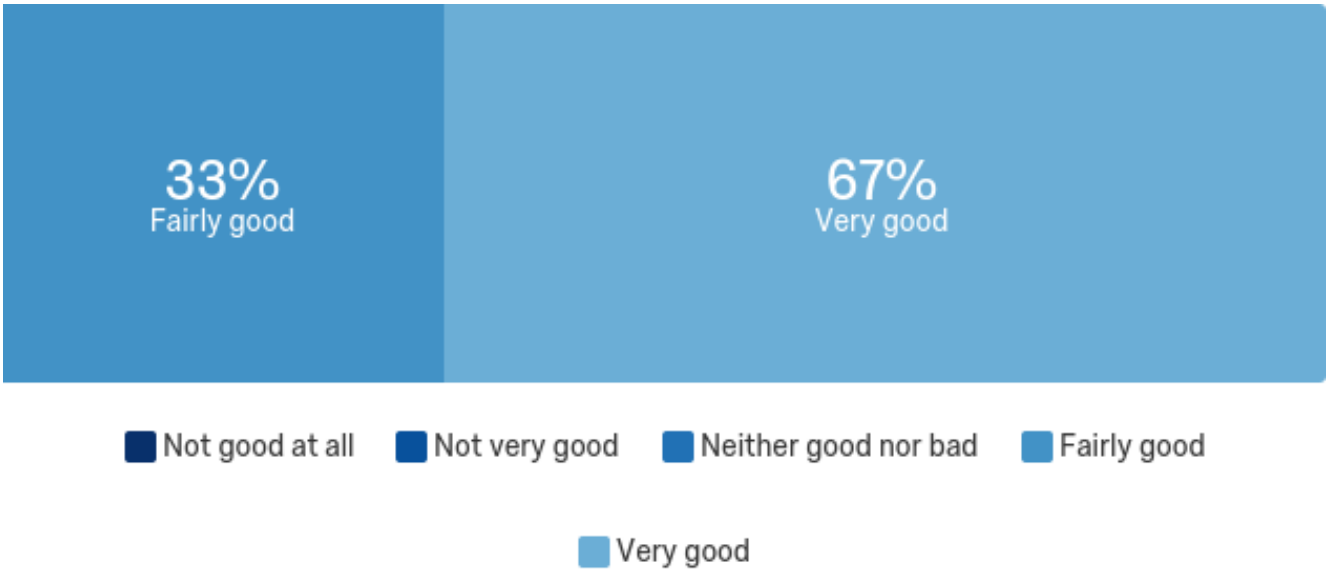
See Part I of this memo for responses.

Sand Lake (Approx. 4 Responses)

Q5. How would you rate the importance of each action area listed in the CCMP (see above for descriptions) for Sand Lake?

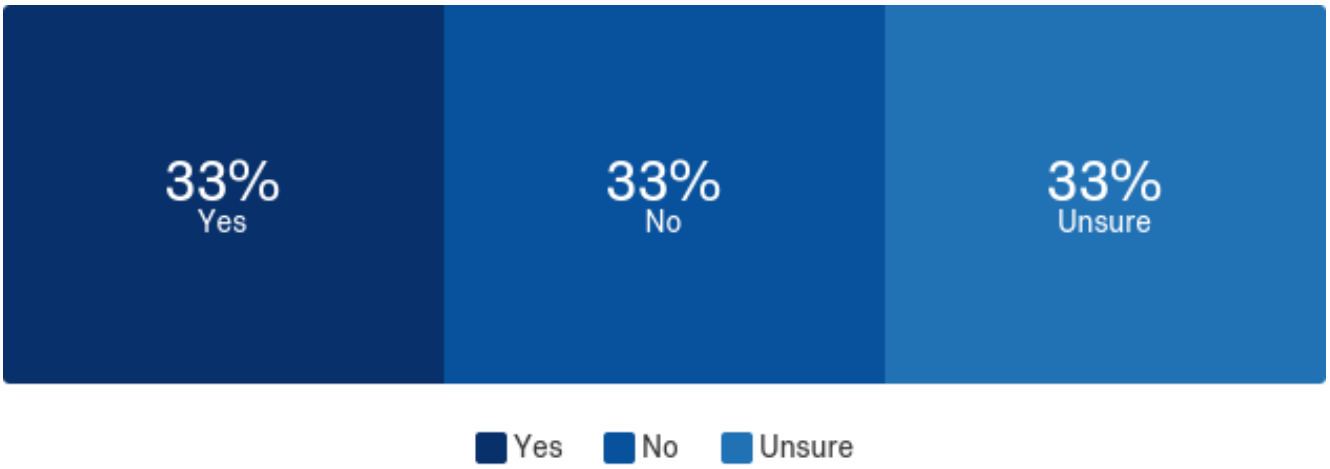
Question	Important		Somewhat important		Neither important nor unimportant		Somewhat unimportant		Not important		Total
Habitat	75%	3	25%	1	0%	0	0%	0	0%	0	4
Water Quality	75%	3	0%	0	25%	1	0%	0	0%	0	4
Natural Hazards	50%	2	25%	1	0%	0	0%	0	25%	1	4
Education and Outreach	50%	2	25%	1	0%	0	0%	0	25%	1	4

Q6. How would you rate the water quality of the Sand Lake right now?



Answer	%	Count
Very good	67%	2
Fairly good	33%	1
Not good at all	0%	0
Not very good	0%	0
Neither good nor bad	0%	0
Total	100%	3

Q7. Do you think the water quality of Sand Lake has improved over the last 10 years?



Answer	%	Count
Yes	33%	1
No	33%	1
Unsure	33%	1
Total	100%	3

Q8. Do you think that water quality in Sand Lake will get better, worse, or stay the same in the next 10 years?

Answer	%	Count
Better	33%	1
Worse	33%	1
Stay the same	33%	1
Unsure	0%	0
Total	100%	3

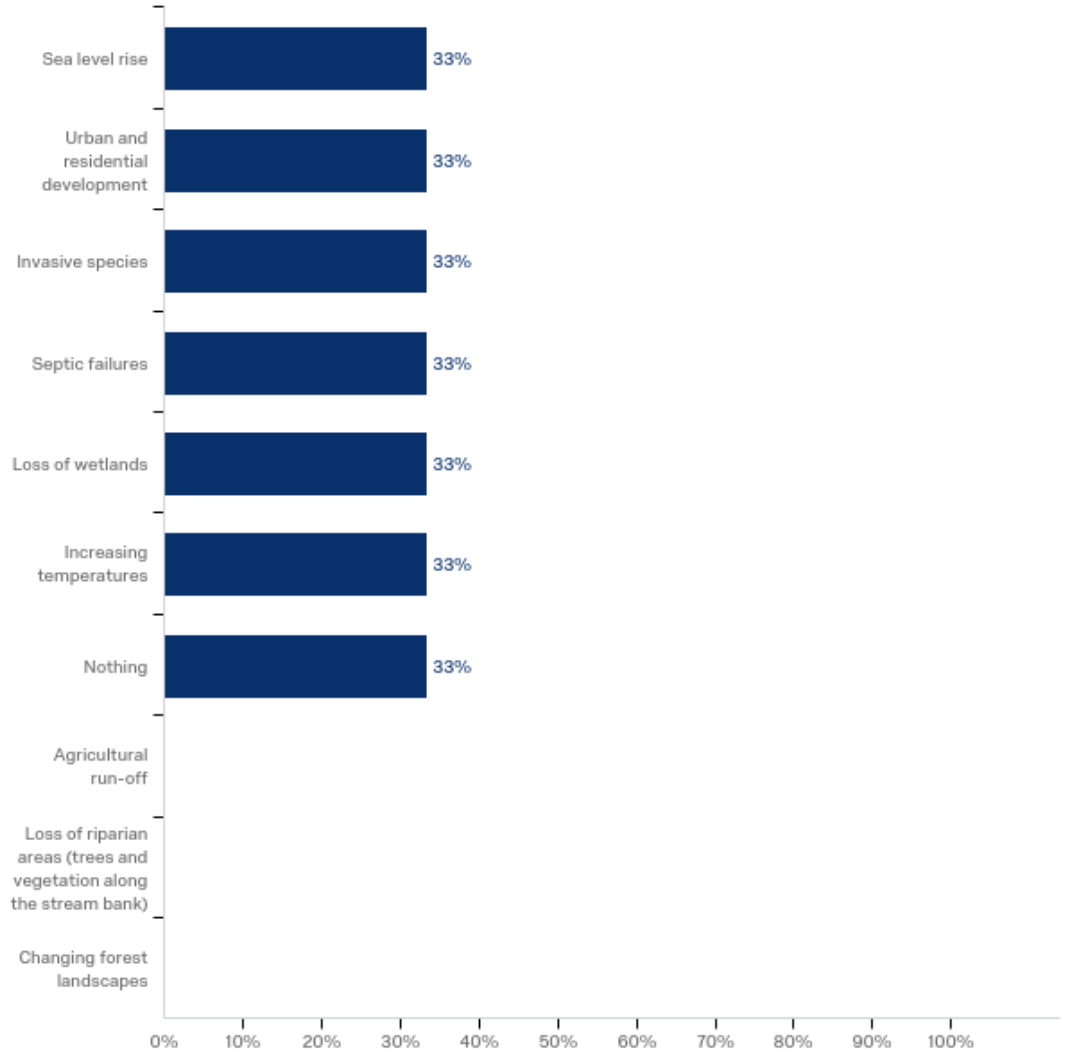
Q9. How pessimistic or optimistic are you that the overall environmental health of Sand Lake will get better in the next 10 years?

Answer	%	Count
Neither pessimistic nor optimistic	67%	2
Pessimistic	33%	1
Somewhat pessimistic	0%	0
Somewhat optimistic	0%	0
Optimistic	0%	0
Total	100%	3

Q10. How would you rate the importance of each of the following threats to the environmental health of the Sand Lake today?

Question	Important		Somewhat important		Neither important nor unimportant		Somewhat unimportant		Not important		Total
Sea level rise	67%	2	0%	0	0%	0	0%	0	33%	1	3
Septic failures	67%	2	0%	0	0%	0	33%	1	0%	0	3
Agricultural run-off	67%	2	0%	0	0%	0	0%	0	33%	1	3
Loss of wetlands	67%	2	0%	0	0%	0	0%	0	33%	1	3
Increasing temperatures	67%	2	0%	0	0%	0	0%	0	33%	1	3
Urban and residential development	33%	1	0%	0	33%	1	0%	0	33%	1	3
Invasive species	33%	1	67%	2	0%	0	0%	0	0%	0	3
Loss of riparian areas (trees and vegetation along the stream bank)	33%	1	33%	1	0%	0	0%	0	33%	1	3
Changing forest landscapes	33%	1	33%	1	0%	0	0%	0	33%	1	3

Q11. What do you think the top 3 biggest threats to the environmental health of Sand Lake will be in the next 10 years? Please choose three.



Answer	%	Count
Sea level rise	33%	1
Urban and residential development	33%	1
Invasive species	33%	1
Septic failures	33%	1
Loss of wetlands	33%	1
Increasing temperatures	33%	1
Nothing	33%	1
Agricultural run-off	0%	0
Loss of riparian areas (trees and vegetation along the stream bank)	0%	0
Changing forest landscapes	0%	0
Total	100%	7

Q12. Is there anything else you would like to tell us about the threats to the Sand Lake now or in the future? (Optional, please write your response in the space below)

See Part I of this memo for responses.

Q13. Below is a list of activities the Tillamook Estuaries Partnership (TEP) is currently pursuing to improve the health of the County's bays and watersheds. Are there any actions that you think do not apply to Sand Lake? Are there any additional actions that you think the TEP should focus on, specifically in Sand Lake?

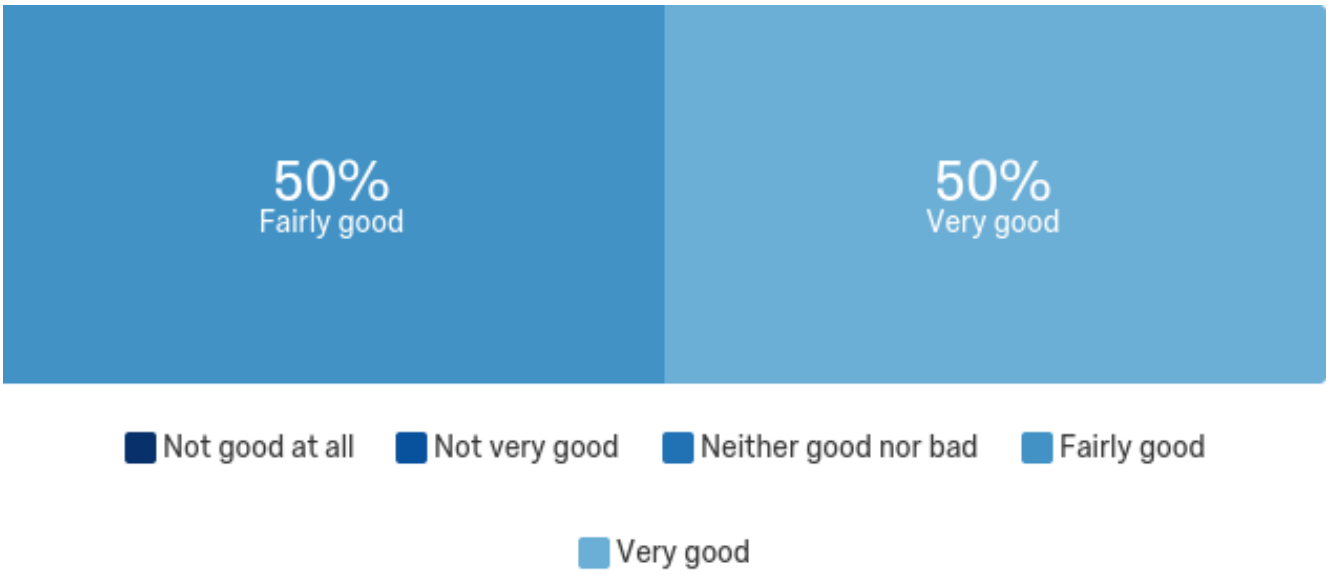
See Part I of this memo for responses.

Neskowin (2 Responses)

Q5. How would you rate the importance of each action areas listed in the CCMP (see above for descriptions) for Neskowin?

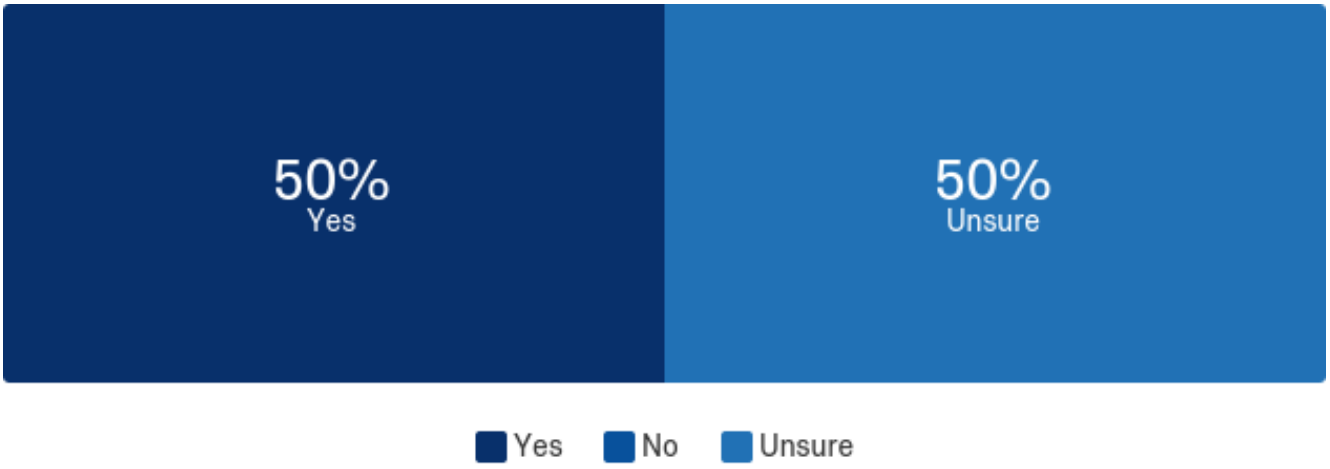
Question	Important		Somewhat important		Neither important nor unimportant		Somewhat unimportant		Not important		Total
Water Quality	50%	1	0%	0	0%	0	0%	0	50%	1	2
Habitat	0%	0	50%	1	0%	0	0%	0	50%	1	2
Natural Hazards	0%	0	50%	1	0%	0	0%	0	50%	1	2
Education and Outreach	0%	0	50%	1	0%	0	0%	0	50%	1	2

Q6. How would you rate the water quality of the Neskowin right now?



Answer	%	Count
Very good	50%	1
Fairly good	50%	1
Not very good	0%	0
Not good at all	0%	0
Neither good nor bad	0%	0
Total	100%	2

Q7. Do you think the water quality of Neskowin has improved over the last 10 years?

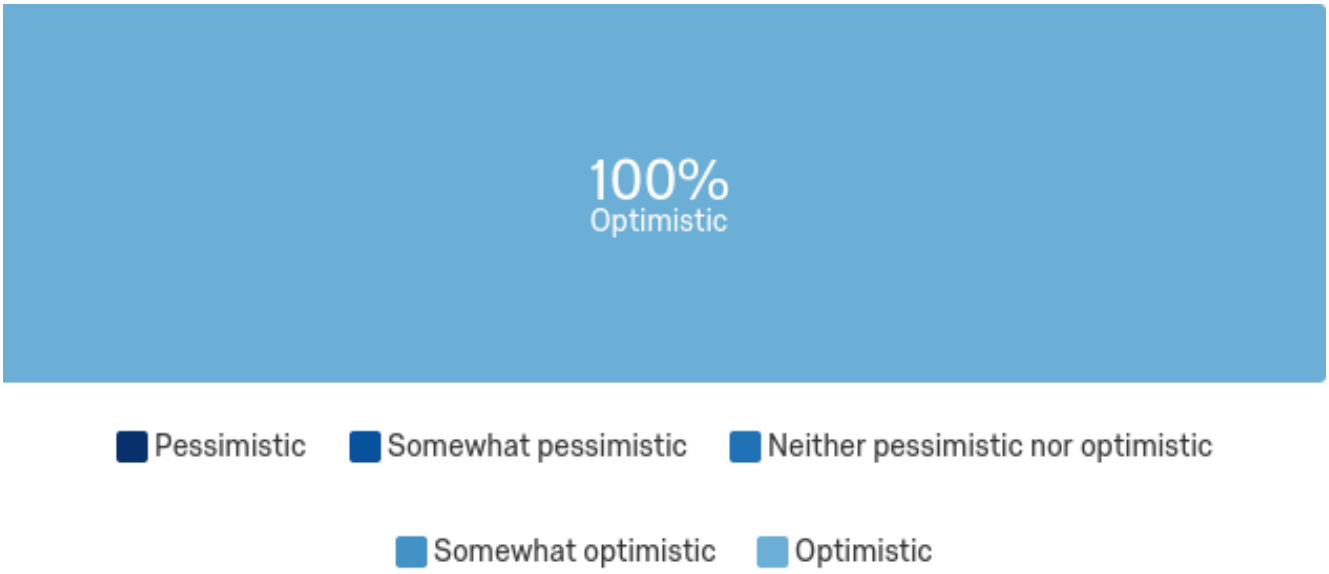


Answer	%	Count
Yes	50%	1
Unsure	50%	1
No	0%	0
Total	100%	2

Q8. Do you think that water quality in Neskowin will get better, worse, or stay the same in the next 10 years?

Answer	%	Count
Better	100%	2
Worse	0%	0
Unsure	0%	0
Stay the same	0%	0
Total	100%	2

Q9. How pessimistic or optimistic are you that the overall environmental health of Neskowin will get better in the next 10 years?

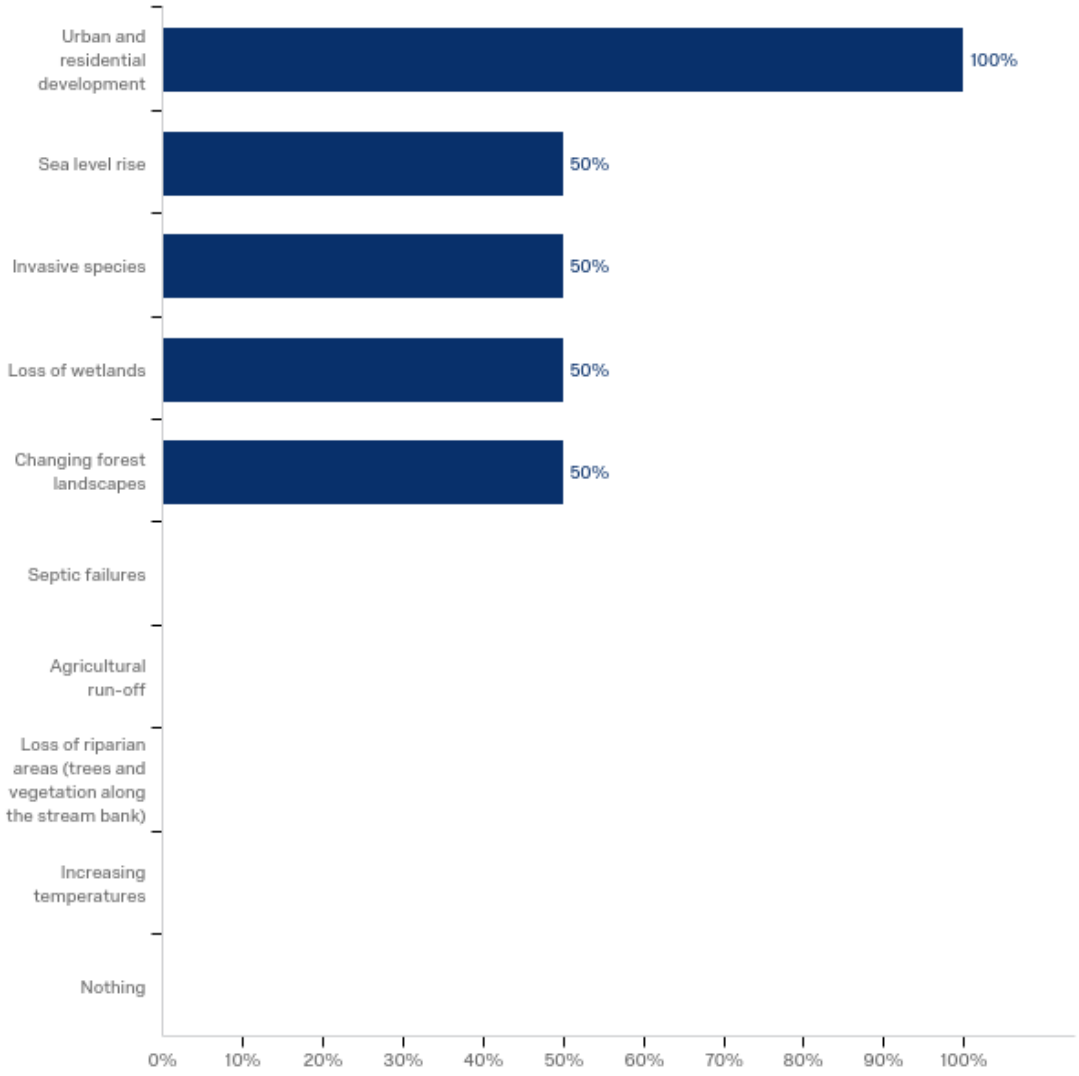


Answer	%	Count
Optimistic	100%	2
Somewhat pessimistic	0%	0
Somewhat optimistic	0%	0
Pessimistic	0%	0
Neither pessimistic nor optimistic	0%	0
Total	100%	2

Q10. How would you rate the importance of each of the following threats to the environmental health of the Neskowin today?

Question	Important		Somewhat important		Neither important nor unimportant		Somewhat unimportant		Not important		Total
Invasive species	100%	2	0%	0	0%	0	0%	0	0%	0	2
Sea level rise	50%	1	0%	0	0%	0	0%	0	50%	1	2
Urban and residential development	0%	0	100%	2	0%	0	0%	0	0%	0	2
Septic failures	0%	0	50%	1	50%	1	0%	0	0%	0	2
Agricultural run-off	0%	0	50%	1	50%	1	0%	0	0%	0	2
Loss of riparian areas (trees and vegetation along the stream bank)	0%	0	100%	2	0%	0	0%	0	0%	0	2
Loss of wetlands	0%	0	50%	1	50%	1	0%	0	0%	0	2
Increasing temperatures	0%	0	100%	2	0%	0	0%	0	0%	0	2
Changing forest landscapes	0%	0	100%	2	0%	0	0%	0	0%	0	2

Q11. What do you think the top 3 biggest threats to the environmental health of Neskowin will be in the next 10 years? Please choose three.



Answer	%	Count
Urban and residential development	100%	2
Sea level rise	50%	1
Invasive species	50%	1
Loss of wetlands	50%	1
Changing forest landscapes	50%	1
Septic failures	0%	0
Agricultural run-off	0%	0
Loss of riparian areas (trees and vegetation along the stream bank)	0%	0
Increasing temperatures	0%	0
Nothing	0%	0
Total	100%	6

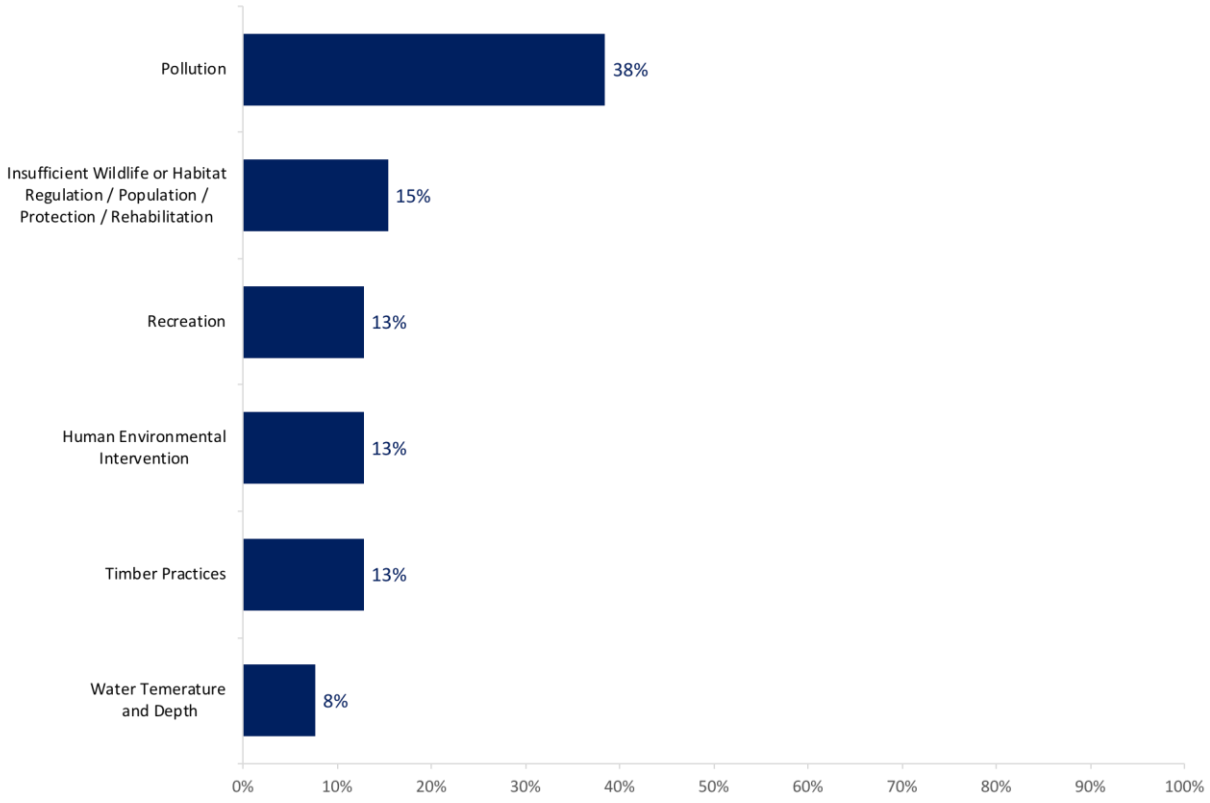
Q12. Is there anything else you would like to tell us about the threats to the Neskowin now or in the future? (Optional, please write your response in the space below)

No responses.

Q13. Below is a list of activities the Tillamook Estuaries Partnership (TEP) is currently pursuing to improve the health of the County's bays and watersheds. Are there any actions that you think do not apply to Neskowin? Are there any additional actions that you think the TEP should focus on, specifically in Neskowin?

No responses.

Q14. Is there anything else you would like to tell us about the concerns or threats to any and/or all of the County's watersheds now or in the future? (Optional, please write your response in the space below)

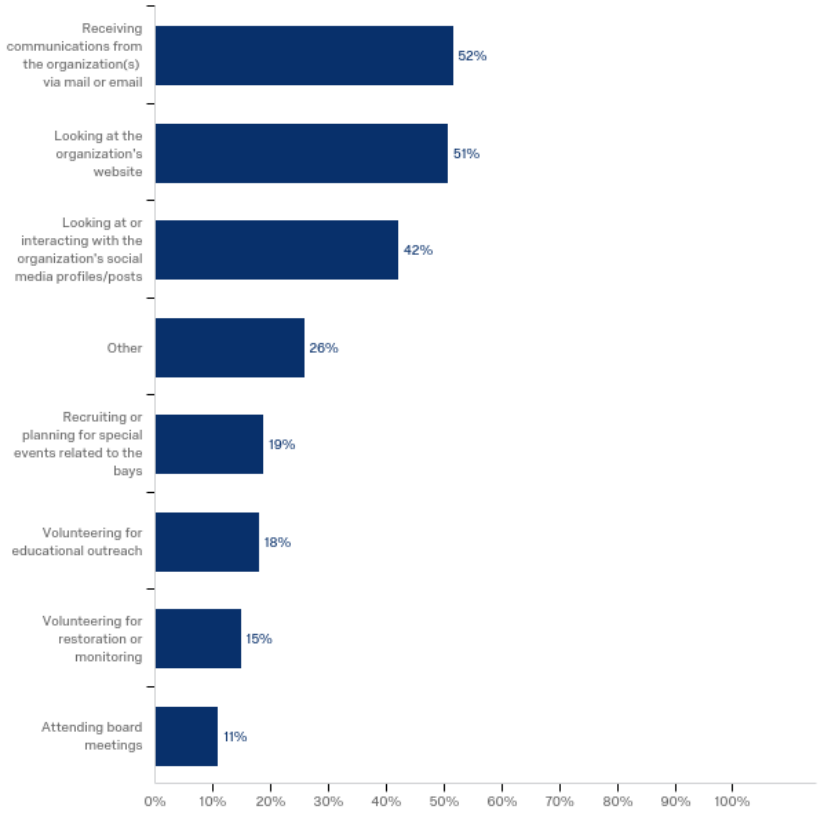


About the Tillamook Estuaries Partnership

Q15. Prior to this survey, were you aware of the Tillamook Estuaries Partnership (TEP)?

Answer	%	Count
Yes	84%	133
No	16%	26
Total	100%	159

Q15a. How do you interact with the Tillamook Estuaries Partnership (TEP), local watershed councils, land trusts, and/or other environmental nonprofits in Tillamook County? Please check all that apply.



Answer	%	Count
Receiving communications from the organization(s) via mail or email	52%	66
Looking at the organization's website	51%	65
Looking at or interacting with the organization's social media profiles/posts	42%	54
Other	26%	33
Volunteering for educational outreach	19%	23
Recruiting or planning for special events related to the bays	18%	24
Volunteering for restoration or monitoring	15%	19
Attending board meetings	11%	14
Total	100%	298
Other - Text		
Employee		
Partner with TEP staff on several programs to improve and protect water quality.		

participate in local conservation planning
Board member of WEBS
be a good ranger when i'm out of doors
Provide funding and materials for worthy projects
Help with Clean Water Festival and Bounty on the Bay
Partnering with TEP on restoration projects.
Bounty on the Bay since its inception
I have been retired for one year. My to do list is still quite long. I look forward to performing some form of volunteer work as soon as my list is shortened a bit.
bounty on the bay plus donation
Bounty on the bay
Participating with partner organizations.
Fund raisers
Inviting TEP to help me remove invasive plants and replant natives.
Volunteering at the Trask hatchery

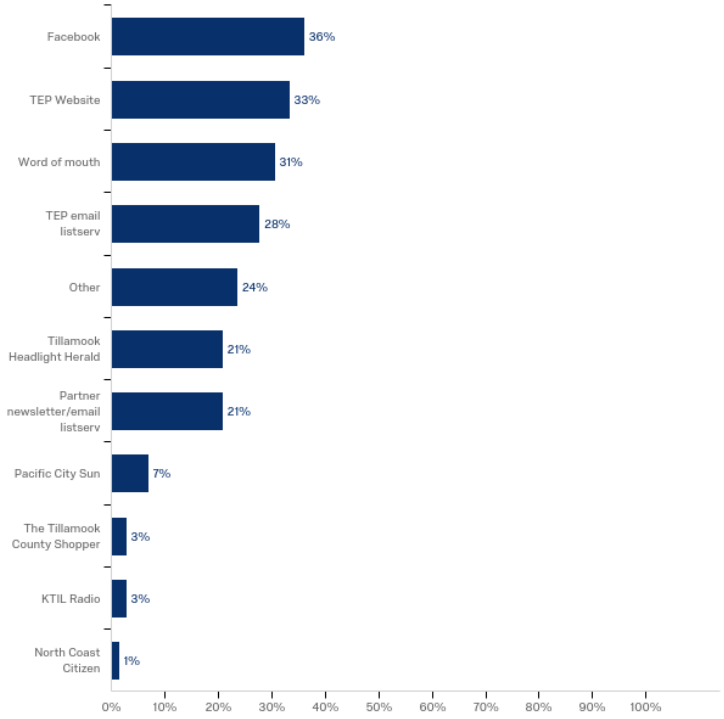
Q16. Prior to this survey, were you aware of the Tillamook Bay Comprehensive Conservation and Management Plan?

Answer	%	Count
Yes	61%	94
No	39%	61
Total	100%	155

Q17. Prior to this survey, were you aware of the efforts to update the Tillamook Bay Comprehensive Conservation and Management Plan?

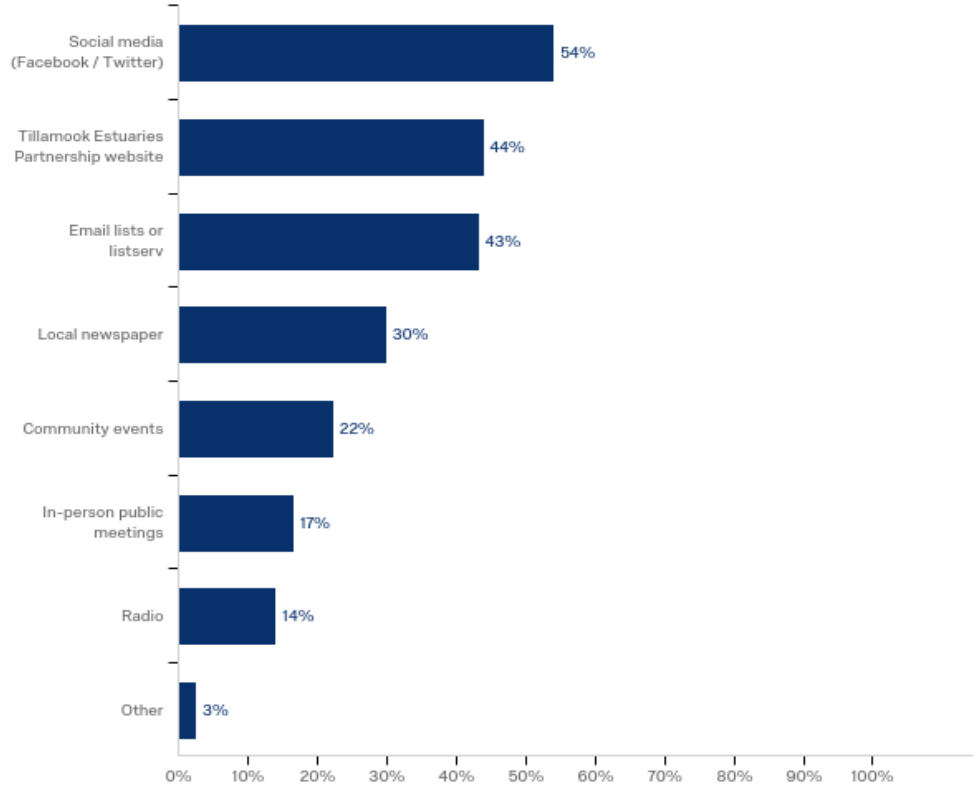
Answer	%	Count
Yes	73%	72
No	27%	26
Total	100%	98

Q17a. How did you hear about the efforts to update the Tillamook Bay Comprehensive Conservation and Management Plan? Please check all that apply.



Answer	%	Count
Facebook	36%	26
TEP Website	33%	24
Word of mouth	31%	22
TEP email listserv	28%	20
Other	24%	17
Tillamook Headlight Herald	21%	15
Partner newsletter/email listserv	21%	15
Pacific City Sun	7%	5
KTIL Radio	3%	2
The Tillamook County Shopper	3%	2
North Coast Citizen	1%	1
Total	100%	149
Other - Text		
Conversation		
Tillamook Pioneer		
Employee Staff Meetings		
TEP Board Member		
TEP staff		
Board Member David Johnson		

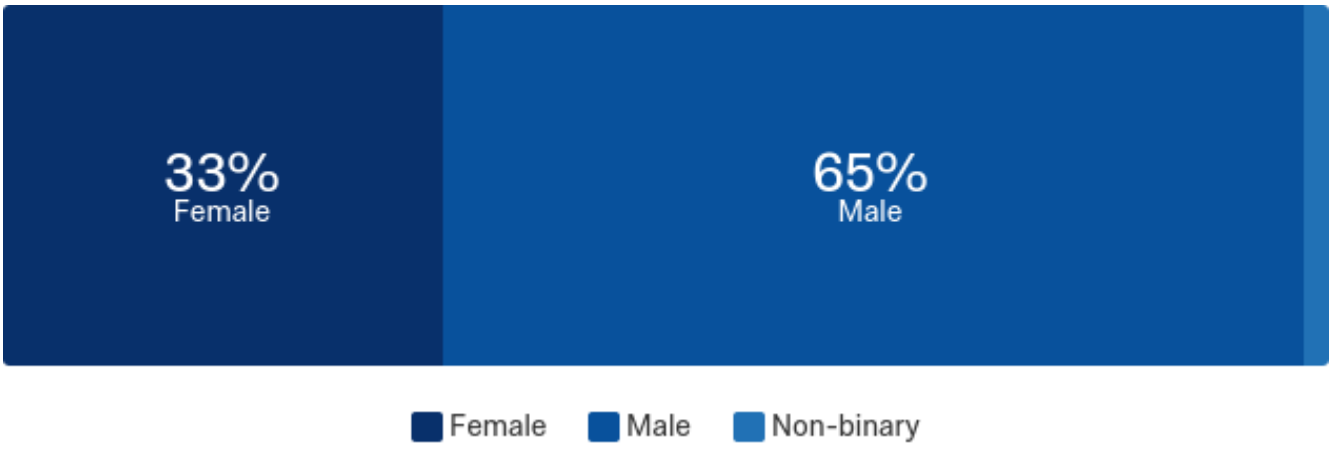
Q18. How would you like to hear about upcoming educational and outreach events in the Tillamook County watersheds? Please check all that apply.



Answer	%	Count
Social media (Facebook/Twitter)	54%	85
Tillamook Estuaries Partnership website	44%	69
Email lists or listserv	43%	68
Local newspaper	30%	47
Community events	22%	35
In-person public meetings	17%	26
Radio	14%	22
Other	3%	4
Total	100%	356

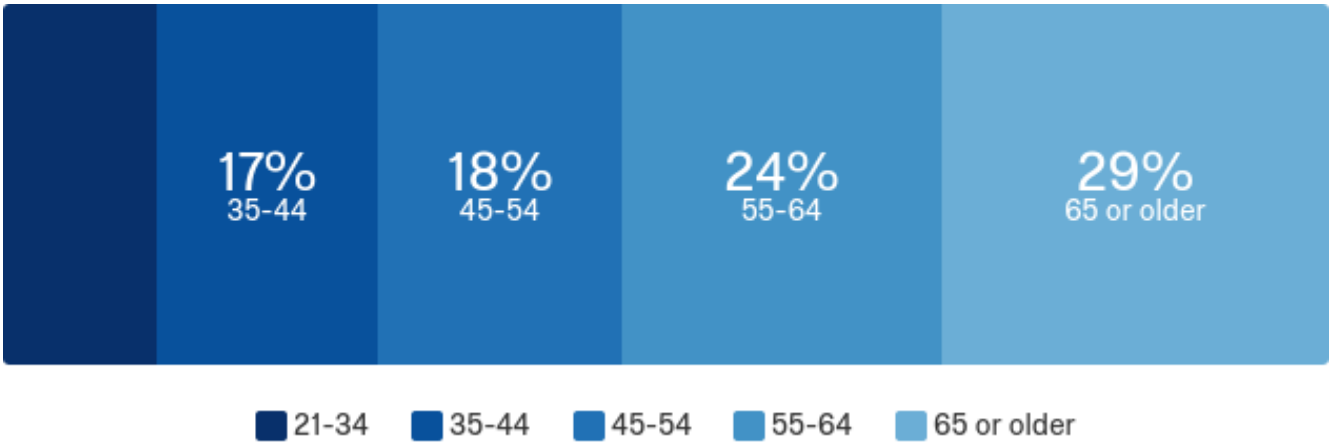
Demographics

Q19. Optional: What is your gender?



Answer	%	Count
Male	65%	102
Female	33%	52
Non-binary	2%	3
Total	100%	157

Q20. Optional: What is your age?

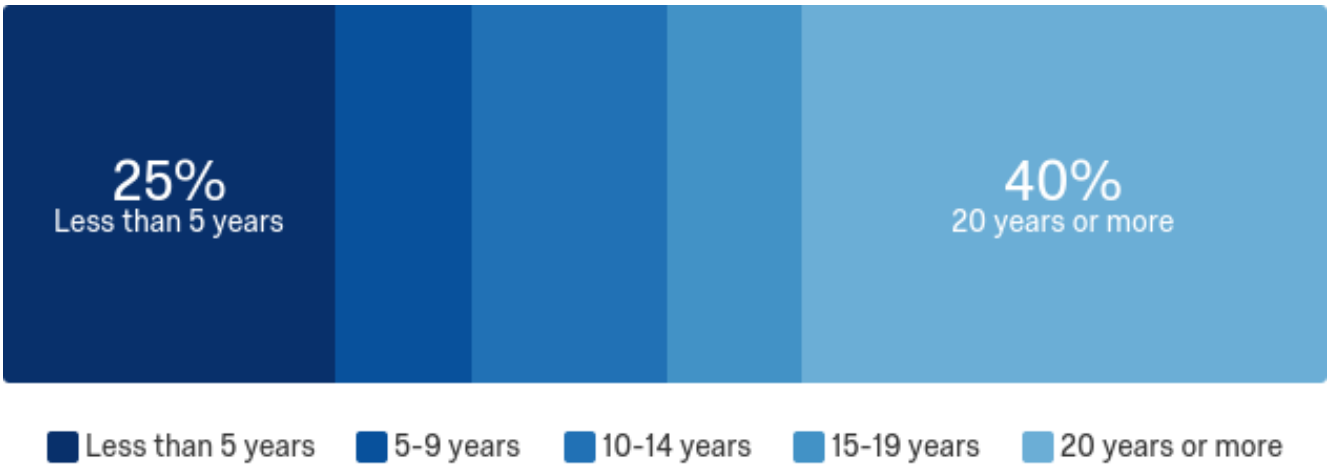


Answer	%	Count
65 or older	29%	46
55-64	24%	38
45-54	18%	29
35-44	17%	26
21-34	11%	18
Total	100%	157

Q21. Optional: Do you live in Tillamook County?

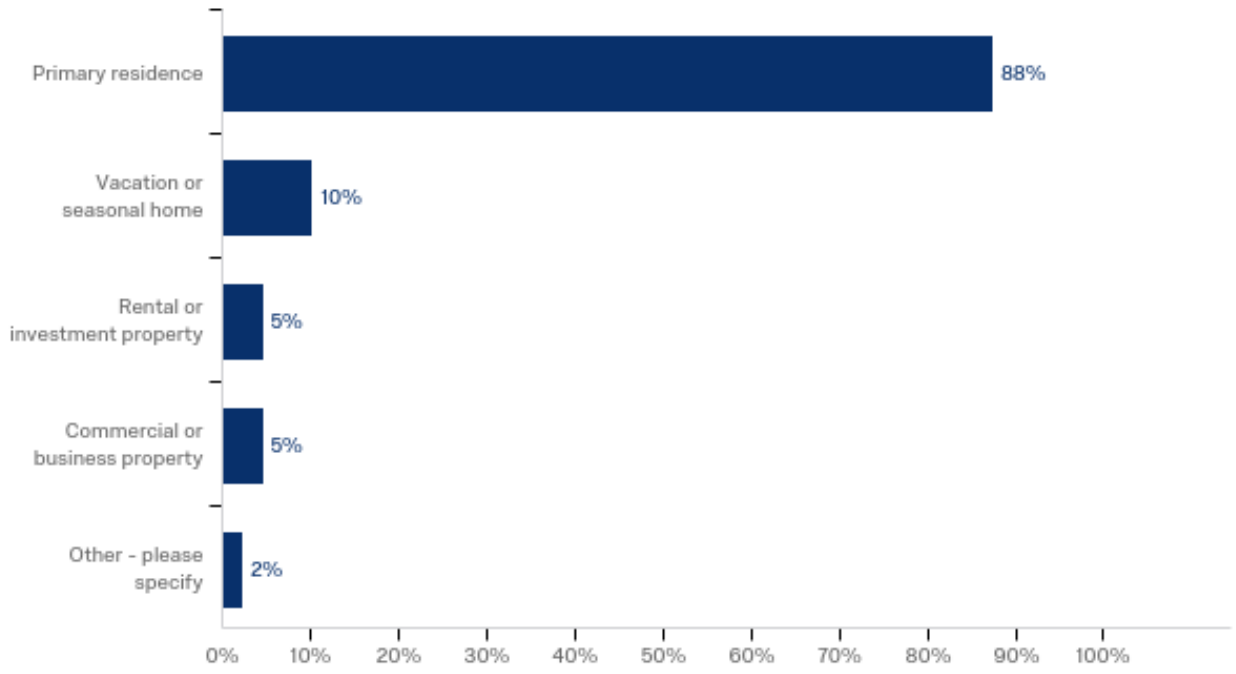
Answer	%	Count
Yes	56%	88
No	44%	68
Total	100%	156

Q21a. Optional: How long have your lived or owned property here? (If you own multiple properties, please answer for the property you have owned the longest.)



Answer	%	Count
20 years or more	40%	35
Less than 5 years	25%	22
10-14 years	15%	13
5-9 years	10%	9
15-19 years	10%	9
Total	100%	88

Q21b. Optional: Indicate the primary purpose for your residence(s) or property(s) in Tillamook County. Please check all that apply.



Answer	%	Count
Primary residence	80%	77
Vacation or seasonal home	9%	9
Rental or investment property	4%	4
Commercial or business property	4%	4
Other - please specify	2%	2
Total	100%	96

Other - please specify - Text
Work in the County live outside the county
Half time home. Not a vacation house as I stay there half the year I am working there

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