

**Luke Viscusi**

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**From:** David Mallory <david.mallory1955@gmail.com>  
**Sent:** Thursday, September 7, 2023 12:24 PM  
**To:** Luke Viscusi; ErinE@taylorshellfish.com  
**Subject:** Public Questions

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Luke, Erin,

While not 6 Pm yet I thought it best to address both of you. I also do not have access to Word, PDF format or other document applications and hope you will be able to address the questions below.

Erin

1) in your Aug 16th presentation you spoke about using Wedge Anchors to hold the floating bag structure in place. Do these types of anchors move with the current and tide, if so how much sediment will be displaced daily?

2) In your Aug 16th presentation you had a slide specific to job creation and sales tax from your proposed operation that would benefit the County. With the additional revenue and profit from the new operation wouldn't Taylor also have increased B&O taxes paid to the County? If so, can you provide an annual estimate of those taxes?

Luke

1) During the Aug 16th presentation Mr. Olbrechts made a point that asthedics would be a significant part of his decision making to approve/deny this project. He then asked the applicant (Taylor) to do the research and proved the analysis on how many properties would be impacted. Wouldn't this be considered a conflict of interest on behalf of Taylor and the analysis suspect? Is someone who has expertise and also impartial to this project going to validate the analysis?

Appreciate your consideration and look forward to your responses.

Regards,

David Mallory  
1126 E. Sunset Hill Rd  
Shelton, WA 98584

Public response to SHR2023-00003 Taylor Shellfish floating oyster bay system in Oakland Bay

Response submitted by: Joseph M. Holt, property owner, 32016-51-00053

I have previously submitted public responses in my opposition to the Taylor Shellfish floating oyster bag system in Oakland Bay. I have read through Taylor Shellfish's responses and reviewed their "parcel visual" map. The "parcel visual" map clearly indicates that this floating bay system could not be placed in a worse location for the 69 residents located on Oakland Bay. It is located right in front of their parcels.

MCC17.50.210 (J) states in part that "floating aquaculture shall not substantially detract from the aesthetic qualities of the surrounding area"

MCC17.50.210 (L) states in part "minimize visual impacts"

Taylor Shellfish claims this means "aligns with the aesthetics qualities of the surrounding area rather than the extent to which it impacts views from residential properties."

In my opinion, there is no way a huge floating oyster farm fits the aesthetics of Oakland Bay and its residents. My family has owned our property since 1947. I grew up on this bay. It is insulting that Taylor Shellfish indicates the project will not have negative impacts on the aesthetics of the area. Taylor Shellfish also discounts the residents by stating the bay is utilized very little for recreational purposes and that whale are very rarely sighted in the bay.

My parents and grandparents remember the public resistance that was voiced when the rock conveyor and loading facility was going to be constructed. That project was approved despite public opinion. Now the existence of the rock conveyor is being used to justify more commercial development of the bay.

Just because Taylor Shellfish already has farms in the area does not make another one necessary and justified.

Highway 3 is a busy highway and the residents already endure noise from the highway but that does not justify more noise and intrusion from a floating oyster farm.

Why does the Taylor Shellfish plan give more credence to the public and their views than the private, taxpaying citizens? In their words, "affords limited, passing views of the site of the proposal to motorists."

Taylor Shellfish does already have a big and known presence in Oakland Bay. They act with an entitlement attitude when trying to take even more of our bay and our enjoyment of it.

Thank you for considering my comments.

Joseph M. Holt

**Luke Viscusi**

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**From:** Bill Morisette <bmorisette@gmail.com>  
**Sent:** Friday, September 8, 2023 10:08 AM  
**To:** Luke Viscusi  
**Cc:** erine@taylorshellfish.com  
**Subject:** Public Comment Regarding Taylor Shellfish Oyster Proposal From Bill Morisette

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Hi Luke,

I would like the following comments and photos to be entered into record in the Taylor Shellfish proposal hearing. I will begin with the negative impact this proposed monstrosity would have on our view. In all of the photos Chapman Cove is just to the left, placing the proposed project directly in front of our house. There is no question that the negative visual impact would be enormous. Taylor's contention that the floating gear would not be visually obtrusive is just flat-out wrong. I would like to see an accurate mock-up of what the proposed project would look like from various locations.



Present view from our living room



View from master bedroom ... that's my skiff that my two granddaughters and I explore the bay with.

We have a living area downstairs that is just about 10 feet above the average king tide level. As far as I can assume from Taylor's woefully insufficient presentation of what the project would actually look like, our view would consist of floating oyster gear.

Now that I am through presenting the visual aesthetic impact of this proposal on our life, I would like to point out that noise pollution should also be a major consideration. For the most part, Taylor's representatives tend to present their case with generalities that are not based on objective data. When addressed about generator noise the response was that it was not louder than road noise. That is meaningless. What road? How far from the road? Taylor needs to run the largest generator they could be allowed to use and take decibel measurements from various locations around the bay. No matter how much background noise there is, they would add to it. For a proposed project of this enormity, they owe the public hard data.

Another area that I feel Taylor has not addressed in an objective manner is the nature of their lighting system. I'm talking about both navigational and work lights. Exactly how many lights will there be? Where will they be located? How many lumens will each of the various lights produce? When will they be used? This proposed project is right in our face, and yes, lighting could be a huge issue.

In closing, I would like to add a few photos of things that would be radically altered should this project go through.



Granddaughters in skiff



How well does this mesh with a mass of floating gear?

I have quite a few photos of watercraft using the area of the bay that Taylor would deem off limits to the public. They tried to make the case that industrial use of Oakland Bay is its history. That has absolutely nothing to do with its future. We deserve data from these folks, not just vague generalizations.

I believe that, for a proposal of this magnitude, things are proceeding way too fast. Public notification has been sadly insufficient and is only now starting to catch on. I hope that you have seen the recent political cartoon in our local newspaper.

Thanks for your consideration. Bill Morisette

Dear Mr. Olbrechts,

In 2022 Taylor Shellfish's revenue was 75 million dollars. They have experience and legal support moving into virgin waters here and abroad. Those of us who are against the proposed aquaculture have fewer resources but do have determination to protect Oakland Bay from this 50 -acre project.

#### Aesthetics

The proposed aquaculture SHR2023-00003 for Oakland Bay, Shelton, WA is a visual abomination in this part of Oakland Bay. It would diminish the visual **peace** we rely on for decompressing from this crazy world. The plastic undulating structure would float directly in front of the highest density of homes in the bay 24 hours a day, 7 days a week including nights (with lights) and holidays. There will be boats, engines, activity and workers directly in our site of vision. We will not see the reflections of the clouds on the water, the white caps or the patterns as the tide changes in our "front yard".

#### Size

Ms. Ewald stated in her response that the structure would be 970 ft 4 in from one shore and 1287 ft from the other but when we multiplied the rows with 30 ft between them it was closer than that. In addition, we were told it would be at least 1000 ft from the shore.

Ms. Ewald said it will be less than 3% of the bay. It is more like 40% in front of E Sunset Road to Highway 3. Ms. Ewald said there are aquacultures of this size in South Puget Sound. Where are they and are they the same kind as what is proposed for Oakland Bay? The only one mentioned by name was the one proposed for Willapa Bay. Those sites are not comparable.

Willapa Bay is the 2<sup>nd</sup> largest riverine estuary on the Pacific coast of the continental United States with a surface area of 120 sq miles. Oakland Bay is about 3 square miles. **Willapa Bay is 40 times larger Oakland Bay.** Willapa Bay connects directly with the Pacific Ocean. Oakland Bay is the dead end of Puget Sound which connects to the larger body of water via a 6 mile long .5-mile-wide channel. Willapa Bay's nearest population center is a 25 min drive to Raymond (pop 3,000). Oakland Bay is part of Shelton, a community of 10,000.

#### Noise

The noise, activity and lighting will alter this part of the bay making it a commercial, industrial area in a residential neighborhood. Ms. Ewald noted Taylor Shellfish will be in legal compliance to noise restriction ordinances. When I went to her referenced link, I learned that aquaculture is allowed more noise than is allowed by my neighbors. Besides setting us up for more noise it is what we will not hear from mid bay that is disappointing. It is the laughter across the water, the snorting of the seals, the call of the seabirds and splashing of the ducks. The action and noise of a business enterprise in front of our homes is heartbreaking.

#### Recreation

The mitigation offered by Taylor Shellfish would encourage trespassing on private property on E Sunset Road. The access across mud is not a generous trade for occupying the center of the bay. I cannot see wakeboarding or waterskiing between the bags as a safe sport. I also want to correct that the Sunset Bluff Park is not closed. Just the gate is closed to keep cars parked outside.

There are already many acres of aquacultures in Oakland Bay. Please help us stop this large project. Taylor Shellfish **is not** in the top 10 employers in Mason County but seem to control it. Thank you for your consideration to halt this project.

Sincerely, Nancy Willner RNMN and Andrew Willner MD



9/3/23  
N Willner





9/1/23  
N Willner





Betsy Norton  
Olympia, WA 98502

September 9, 2023

To: Luke Viscusi, Planner, and Mason County Hearing Examiner  
Re: Mason County Community Development, Taylor Shellfish Proposal SHR2023-0003

To the Examiner:

The applicant's final responses, while appreciated, do not address all of the information gaps or concerns identified during public comment. I do not support this project going ahead without demanding this missing information and having an agency or other disinterested 3<sup>rd</sup> party perform an Environmental Impact assessment which fully examines the plastics impact, the underwater installation's interaction with the toxic sediments and better assesses project impacts on fish, birds, and marine mammals.

If a permit is approved, I strongly urge the hearing examiner to add conditions to the permit for monitoring and transparent reporting so that risks to wildlife and the ecosystem are minimized and the public can track and verify impacts.

Reassess Environmental Impact due to flawed SEPA:

The SEPA DNS decision was made based on a flawed SEPA checklist and should be thrown out and replaced by a full EIS that's done based on full information.

Relying on the application and presentation materials alone, DNR issued a Determination of Non-Significance with key information missing or flawed on the SEPA checklist. Most of this missing information was provided only after the last public comment period (i.e., post DNS), so DNR may not have had a full and accurate understanding of the project when that decision was issued. The SEPA was missing key information on

- (a) toxic sediments (see Addendum #1)\*
- (b) navigation lighting – details still not known
- (c) anchor details & firm count
- (d) anchor installation\*
- (e) plastic gear – composition/additives are still not known (see Addendum #2)
- (f) plastic gear - loss estimates for floats, buoys, bags, line, zip ties, nav lights was never presented.
- (f) habitat loss\* this was incorrectly presented as “no net habitat loss”: 9.1 surface acres of open water will be filled with plastic bags + underwater gear will also displace existing habitat.
- (g) adjacent (via water) wetlands\*

\*These are items that typically trigger DNR to require an EIS or at least some kind of Hydraulic permit/F&W impact assessment, as I understand the process.

Conditions:

1. Monitoring:

There is a lack of consensus on the expected environmental impact between the applicant and nearly all the public commenters. If the project does go forward, the permit should be conditioned on 3<sup>rd</sup> party monitoring and publication of all information, so if something starts to go wrong, action can be taken before severe impacts are visited on the local area, and the residents of the area are fully informed. In addition, actual impact data can be used to inform

state agencies, researchers, and policy makers so they can better assess future applications for floating oyster bag aquaculture in South Puget Sound.

Taylor does not have a full stake in the environmental impact: they can just unhook their oyster bags from the mooring lines and take them elsewhere if an environmental problem arises. In contrast, the local wildlife and the human residents will suffer the full and ongoing consequences of e.g., a release of toxins from the sediment, or repeated bacterial outbreaks, or algae blooms. That's why a publicly funded (e.g., State DOH, ECY, DFW) monitor is crucial here.

Monitoring should cover:

- Species data:
  - Baseline levels/inventories of species in the upper bay, including bacteria, algae, and larger animals like salmon and crabs, harbor seals. Include existing populations/species mix of on-bottom shellfish species including clams and each oyster species (Olympia, Pacific, etc.) should be established.
  - Monitoring measurements of all the species at regular intervals.
    - Endocrine disruptors have long-term impact: monitor over the period of the lease.
    - Special monitoring should be initiated if there is evidence that the farmed oysters have spontaneously spawned in the bay.
- Water quality data:
  - Monitor levels of POP's and other organic toxins
  - Monitor levels of nutrients, DO(all strata) and minerals
  - Monitor and report pH and temperature
- Geology/Hydrology:
  - Close and regular measurement of the shoreline boundaries and water depths – noticeable slowdowns of flushing/currents, etc.
  - Regular sampling of sediments for composition changes and toxin concentrations at subtidal areas below the project and intertidal areas along the shoreline where biodeposits may be dispersed.
  - Specific sampling of turbidity/suspended sediments in the bay water before, during and after installation of the anchors, and immediately following major storms or other events where the anchors may have been moved around.
- Project events that may impact the ecosystem:
  - Dates and times of movement of the oysters from or to the lease area.
  - Dates when farmed oysters may have spontaneously spawned.
  - Dates when bags were flipped.
  - Dates when “new” oysters were added to the bags (for tracking hitchhiker invasive species, or disease)
- State actions:
  - Notification of observed/emerging trends, questions, or concerns.
  - Commercial or Recreational shellfish harvest or fishing closures
  - Oakland bay shore/beach closures
  - Oakland Bay bacteria (Vibrio/E-Coli) or toxic algae alerts
  - Oakland Bay aquaculture health advisories (salmon, shellfish consumption)

## 2. Transparency:

Due to the public impact of some of these issues, all data that's collected and reported should be published publicly online in a timely fashion, without any barriers to access like hiding it behind a public records request process. Monitoring measurements should be presented in comparison to historical values and current WA state tolerance levels, for proper perspective. All information should be managed by a state agency, and made available in searchable, discrete data formats.

Addendum 1: Contaminated Sediments

Taylor now acknowledges that there are toxics in the sediment, but **the dominant narrative in the application documentation from Taylor and Confluence remains that Shelton harbor, not Oakland Bay is the only area of concern. This is incorrect.**

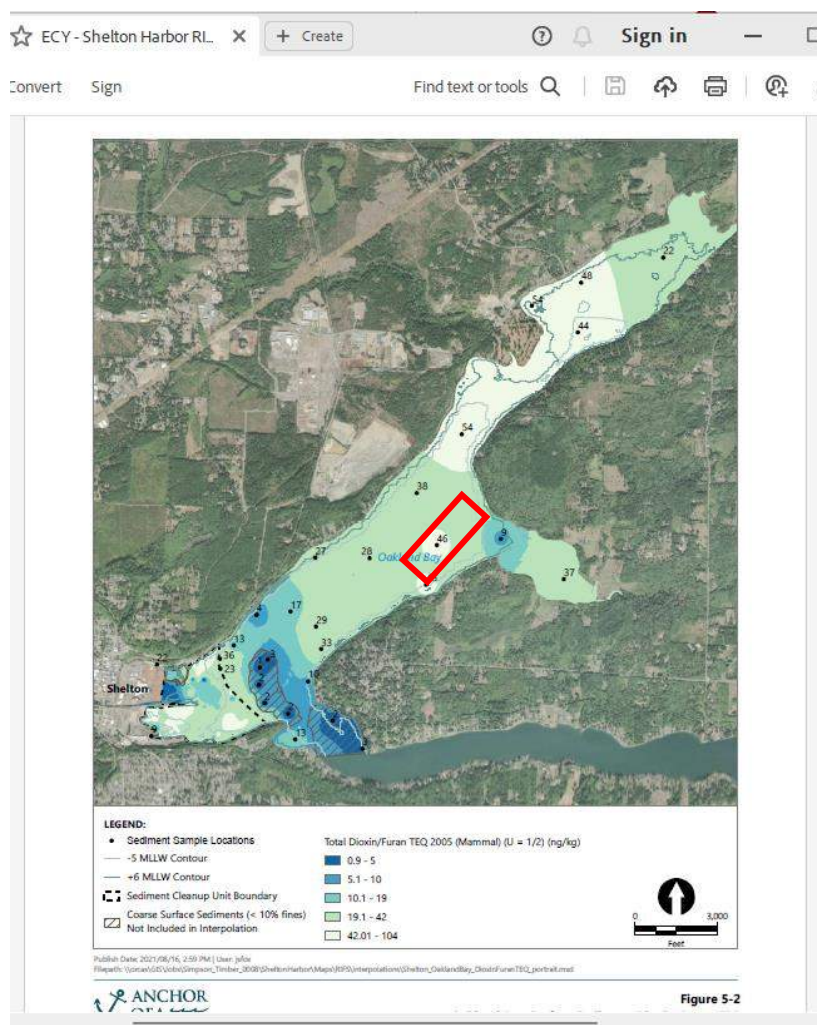
In contrast, a 2022 WA Ecology study says:

“... Relatively higher dioxin/furan concentrations (greater than 40 ng/kg TEQ) were detected in subtidal areas in the southeast, northeast, and southwest areas of the Shelton Harbor SCU.

Similarly elevated surface sediment dioxin/furan TEQ concentrations were also detected in intertidal and subtidal areas of Oakland Bay.” P. 22, Public Review Draft Remedial Investigation, August 2022, Shelton Harbor Sediment Cleanup Unit, Oakland Bay, and Shelton Harbor Sediments Site (Cleanup Site ID 13007)

<https://apps.ecology.wa.gov/cleanupsearch/document/118696>

Figure 5-2 shows subtidal TEQ of 46 in the project area.





## Addendum 2: Microplastics and Plastic Leaching

The final response Appendix B, Ramboll review – section on Plastics, acknowledges that HDPE does eventually become microplastics, it just takes longer than other forms of polyethylene. They also acknowledge that there is some [unquantified, but “small” in relation to the total marine plastic pollution] volume of plastic debris from aquaculture in the oceans – lost gear/macroplastic debris/eventually microplastic debris. Just because the plastics from this operation are not the majority source of plastic pollution that’s accumulated in the Pacific Ocean, does not mean that the state should encourage operations that knowingly contribute smaller volumes of plastic pollution to that massive volume. Operators need to carefully (more than beach-combing once a month) manage their gear loss: All sources of marine plastics pollution need to be eliminated.

Ramboll also cites research showing leaching of toxic organic chemicals from the plastic gear.

It’s important to note that leaching can occur anytime the plastic is deformed at a molecular level. It does not have to be reduced to microplastics in order to leach additive/coating chemicals, which can include phthalates and PAH’s. See: Tony Gardon, Arnaud Huvet, Ika Paul-Pont, Anne-Laure Cassone, Manaarii Sham Koua, Claude Soyez, Ronan Jezequel, Justine Receveur, Gilles Le Moullac, Toxic effects of leachates from plastic pearl-farming gear on embryo-larval development in the pearl oyster *Pinctada margaritifera*, Water Research, Volume 179, 2020, 115890, ISSN 0043-1354. <https://doi.org/10.1016/j.watres.2020.115890>

Further, I would argue that ‘fouling’ organisms, which fish and birds consume, may be in direct contact with the plastic mesh, so if there is leaching, not only the oysters, but also the wildlife are proximally near enough to ingest the chemicals.

Mark Herinckx  
860 E Sunset Rd  
Shelton, WA 98584  
September 9, 2023

Luke Viscusi, Planner and Mason County Hearing Examiner  
Mason County Community Development, Taylor Shellfish Proposal  
615 W. Alder St.  
Shelton, WA 98584

Sent Via Email to [LViscusi@MasonCountyWA.gov](mailto:LViscusi@MasonCountyWA.gov) and to [erine@taylorshellfish.com](mailto:erine@taylorshellfish.com)

Dear Mr. Olbrechts,

Please take a look at the Oakland Bay Action Plan, which I will submit in addition to these comments. This shows how small and fragile the environment is in this bay. Rainfall exceeding 1 inch in 24 hours triggers a 5-day shutdown of shellfish harvesting. Oakland Bay is only about 4 miles long and  $\frac{3}{4}$  of a mile wide (3 square miles). This is a very small and already delicate area to invade with a new massive production operation and there is already a huge quantity of shellfish being harvested in this bay, in spite of the dioxin issues. This report shows areas of the bay where production is prohibited and indicate that other areas are on the tipping point. Although this location is convenient, and probably more profitable to Taylor Inc., why not move it to the cleaner 120 square mile Willapa Bay location? If the economies of scale of this massive project are so necessary, why not put it somewhere where there will not be the issues of aesthetics and access? Seed and market-ready-product could still be addressed, if this is really an issue, and the beautiful largely residential area of Oakland Bay will not be ruined by this mess. And, there are already alternative locations suggested by Taylor that appear to be cleaner, have a higher flushing rate and are larger than Oakland Bay. It seems to me that having a product farmed in the cleanest environment possible should be a priority and good for branding. Although Taylor asserts that aquaculture is a preferred use of the water, it does not mean that a private company can dominate and overpower the balance of a waterway at the expense of all other parties that also enjoy the preferred values of aesthetics, public access and residential use.

I am requesting that Taylor drop this proposal in Oakland Bay and look at other alternatives. I am also requesting that this proposal be denied by the examiner.

Oakland Bay Action Plan will be submitted separately with my highlights.

Thank you,  
Mark Herinckx



BRICKLIN & NEWMAN LLP  
lawyers working for the environment

Reply to: Seattle Office

September 10, 2023

VIA EMAIL TO: [LViscusi@MasonCountyWA.gov](mailto:LViscusi@MasonCountyWA.gov);  
[erine@taylorshellfish.com](mailto:erine@taylorshellfish.com)

Luke Viscusi, Planner  
Mason County Community Development  
615 W. Alder St.,  
Shelton, WA 98584

**Re: Comments of Friends of Oakland Bay in Response to Applicant's Post-Hearing Comments and Additional Information on Application of Taylor Shellfish for Shoreline Substantial Development Permit (SHR2023-00003)**

Dear Mr. Viscusi:

Friends of Oakland Bay submits these post-hearing comments in opposition to the application of Taylor Shellfish for a Shoreline Substantial Development Permit (Record No. SHR2023-00003) (the "Project") pursuant to Hearing Examiner Ohlbrecht's Order dated August 23, 2023. Friends of Oakland Bay refers to and specifically incorporates by reference its comment letters dated May 4, 2023 and July 25, 2023. Copies of those comment letters are in the Examiner's Record at Exhibit 18, PDF page nos. 7–17/31 and Exhibit 19, PDF page nos. 82–97/97.

The scale of this 30,000 bag oyster project is unprecedented in Mason County, in the State of Washington, and in the United States. No other operation comes close.<sup>1</sup> The applicant's representative Erin Ewald, in an attempt to minimize the visual impact of the proposed industrial aquaculture operation, displayed a visual of an aquaculture facility in Canada that she described as a "similar system." But, in response to a question from the Examiner, Ms. Ewald admitted that the Canadian facility in the image consists of 3,000–4,000 bags—*approximately ten times smaller* that the proposed operation in Oakland Bay!<sup>2</sup>

The applicant attempts to minimize the scale of its Project and the significant, substantial impacts of the Project on public access (including aesthetic views and boating) by stating that its Project is not really 50 acres in area, but rather only 9.1 acres in area. This is a misrepresentation. The

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<sup>1</sup> See Examiner's hearing audio of August 9, 2023 hearing at timestamp 46:19–47:09. Available at: <https://www.youtube.com/watch?v=RUCNUROZ08o> (last visited Sept. 6, 2023).

<sup>2</sup> *Id.* at timestamp 39:02–39:22.



applicant is only counting the surface area of the bags. But the bags would be arranged in 30<sup>3</sup> double lines, each line more than a third of a mile long, with 30 feet of spacing between each double line, within the 50-acre lease area. This applicant's argument is like arguing that the size of a corn field should be calculated by calculating the area taken up by the stalks of corn, instead of by calculating the area of the field. The image of the lines of oyster bags within the outline of the 50-acre lease area shown in the applicant post-hearing Appendix D ("Public Access Memorandum") at Figure A shows that the Project would occupy the 50-acre lease area, like rows of corn occupy a cornfield.

The Project's impacts to public access must be viewed as whole. The applicant would have the Examiner assess public access impacts in this way: 'Here is an 1,800-foot double line of oysters, but next to it is an unimpacted 30-foot wide strip of water that could be navigated by a boat and retains all of its pre-Project scenic beauty.' Then that assessment (impact–no impact–impact–no impact . . .) would be repeated 30 times across the 50-acre Project site. That analysis is absurd. This is a 50-acre project, not a 9.1-acre project.

Ms. Ewald further admitted that boaters on Oakland Bay would need to "alter their course and detour around the system."<sup>4</sup> Easier said than done, for a sailboat.<sup>5</sup> The 1,800-foot parallel lines of oyster bags would create a navigational obstruction more than a third of a mile long in the middle of Oakland Bay. "[M]embers of Friends of Oakland Bay who enjoy recreational boating, especially sailing, currently enjoy being able to sail *across* the bay, not merely puttering around the edges of the bay."<sup>6</sup> The project's interference with boating and other uses of the bay is evidenced by, among other things, Taylor Shellfish's plan to relocate the entire operation every year in order to allow for tribal fishing in the bay.

This industrial oyster project will substantially interfere with public access to, and enjoyment of, Oakland Bay. The applicant and county staff assert that the project's interference with public access to public waters will be mitigated by Taylor's allowance of the public onto unsubmerged tidelands. But public already has access to those lands, most of which lie on the shore in front of Sunset Bluff County Park and adjacent to Sunset Bluff County Park in front of the homes of members of Friends of Oakland Bay along East Sunset Road. In 2010, Mason County, the Trust for Public Land, Capitol Land Trust, Taylor Shellfish Company, and People For Puget Sound were working together to acquire 36-acres of land to create Sunset Bluff County Park.<sup>7</sup> As part of that effort to create Sunset Bluff County Park, Taylor Shellfish promised: "If this property is acquired,

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<sup>3</sup> The applicant has stated there will be approximately 30 double lines (Exhibit 4, JARPA, at 5). In other documents, the applicant states that there will be 28 double lines.

<sup>4</sup> *Id.* at timestamp 39:55–40:00.

<sup>5</sup> See Griefen Comment Letter dated July 25, 2023, Examiner Exhibit No. 19, PDF page nos. 82–97, at 84, Figure 2, and 85–87 ("Impacts to Recreational Boating").

<sup>6</sup> *Id.* at PDF page 86.

<sup>7</sup> <https://www.tpl.org/our-work/sunset-bluff>;

<https://secure.rco.wa.gov/prism/search/projectsnapshot.aspx?ProjectNumber=10-1061> (this webpage contains links to a large number of documents related to the planning, acquisition, and creation of Sunset Bluff County Park).

we will: . . . 2) allow the public to walk on our tidelands adjacent to the proposed park site.”<sup>8</sup> That property has been acquired and made into Sunset Bluff County Park. Taylor Shellfish should be held to its 2010 promise. Taylor Shellfish should not now, thirteen years later, be allowed to “regift” access to its tidelands adjacent to Sunset Bluff County Park to the public as mitigation for impeding boaters who wish to sail or paddle across the bay.

Moreover, allowing the public onto beaches and tidelands, now or in 2010, does nothing to cure the Project’s significant conflict with recreational boating on and across Oakland Bay. Nor does allowing the public to walk nonsubmerged tidelands do anything to cure the significant impacts on aesthetic views of and across the bay. *See* WAC 173-26-241(3)(b)(i)(C) (“Aquaculture should not be permitted in areas where it would . . . significantly conflict with navigation and other water-dependent uses. Aquacultural facilities should be designed and located so as not to . . . significantly impact the aesthetic qualities of the shoreline.”).

The applicant, in its post-hearing submission Appendix C (“Aesthetics Analysis”), denies any adverse aesthetic impacts, stating: “The Proposal will complement, and not substantially detract from, the aesthetic qualities of the surrounding area.”<sup>9</sup> That assertion is patently false. Here are two photographs showing the existing views across the bay:



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<sup>8</sup> July 8, 2010 Letter from Diane Copper, Taylor Shellfish, to Joh Keats, Mason County, available at: <https://secure.rco.wa.gov/prism/search/ProjectSnapshotAttachmentData.aspx?id=100419> and attached hereto for convenience as Attachment A.

<sup>9</sup> Applicant’s post-hearing Appendix C (“Aesthetics Analysis”), at 8.



Note the beautiful blue water and reflected natural scenery. The proposed 50-acre Project would not “complement” these beautiful views, it would degrade and destroy them. The applicant’s computer-generated renderings in its post-hearing Appendix C (“Aesthetics Analysis”), at Attachment 8 show the water of the bay as black in order to minimize the impact of the 30,000 black bags. The impact of those bags in the 50-acre Project suite would have a much greater adverse aesthetic impact than the applicant suggests.

Taylor Shellfish cites two cases in its post-hearing Appendix C (“Aesthetics Analysis”), at 4: *Taylor Shellfish Company, Inc., Et Al., Petitioners v. Pierce County and Ecology (aquaculture II), Respondents*, 2019 WL 4934741 (“*Taylor Shellfish v. Pierce County*”); and *John Marnin and Juynne Cook, Petitioners and Pacific Coast Shellfish Growers Association, Intervenor v. Mason County, State of Washington, Department of Ecology, Respondents and Paul Matsenbaugh, Ken Nelson and Rich Hultz*, 2008 WL 361040 (“*Marin v. Mason County*”).

*Taylor Shellfish v. Pierce County* was a facial challenge to an adopted county shoreline master program. Here, though, no one is challenging Mason County’s SMP. The question is whether Taylor’s Project is consistent with Mason County’s duly adopted SMP. In *Taylor Shellfish v.*



*Pierce County*, Taylor had argued that Pierce County’s SMP was unlawful because it required that “aquaculture activities shall not *substantially and materially conflict* with established water-dependent uses[.]” while WAC 173-26-241(3)(b)(i)(C) states: “Aquaculture facilities [should not] *significantly conflict* with navigation and other water-dependent uses.” Taylor argued that “substantially and materially conflict” is inconsistent with RCW 90.58.020 and WAC 173-26-241, in that it potentially creates a lower standard that does not give preference to aquaculture. Ecology and the GMHB disagreed: “The Board finds that Petitioners have not met their burden to provide clear and convincing evidence that 18S.40.040.C.9 fails to comply with of RCW 90.58.020 and the applicable guidelines. Issue 16 is dismissed.” *Taylor Shellfish v. Pierce County*, 2019 WL 4934741, at \*28–29.

*Marin v. Mason County*, as this Examiner is well-aware, involved a small aquaculture operation of “as many as 200 bags of oysters[.]” *Marin v. Mason County*, 2008 WL 361040, at \*3. Two hundred bags is approximately 0.67% of 30,000 bags. The difference in scale is immense. Mr. Marin’s shoreline oyster racks “would be visible at the water surface for not more than 5-10 percent of any given year.” *Id.* at \*4. Here, by contrast, Taylor’s 30,000 bags would be prominently visible year-round. While the GMHB struck down some of the Examiner’s conditions, the Examiner’s restriction on nighttime lighting was affirmed. *Id.* at 14.

Neither of the cases cited by Taylor demonstrates that Taylor has met its burden to demonstrate that its proposed Project is consistent with the policies and regulations of the Mason County Shoreline Master Program as required by MCC 17.50.400(c)(3)(A)(ii)(a).

**The Examiner Should Deny Taylor Shellfish’s Application for a Shoreline Substantial Development Permit.**

This is the first time that Mason County has considered permitting an industrial floating oyster aquaculture project of any size. The Project would be the largest floating oyster bag project in the United States. It is important that the county follow its code, because this application may be the first of many similar applications in the county. The applicant bears the burden of demonstrating that its project meets the requirements of the county code.

As detailed below, the information provided by the applicant in the application; during the two hearings held on August 9 and August 16, 2023; and in the applicant’s post-hearing document submissions does not show that the project meets the criteria for the county to grant a shoreline substantial development permit or a shoreline conditional use permit for the Project. The applicant has failed to carry its burden and the Shoreline Substantial Development Permit application should be denied.

The application does not meet the review criteria for shoreline substantial development permits set out in MCC 17.50.400(c)(3). “A [shoreline substantial development] permit shall be granted only when the proposed development is consistent with: a. Policies and regulations of the Mason County Shoreline Master Program[.]” MCC 17.50.400(c)(3)(A)(ii)(a). Taylor Shellfish’s proposed

industrial floating oyster aquaculture project is not consistent with the policies and regulations of the county's SMP. The Project must be denied.

**A. The Project is Not Consistent with the Policies and Regulations of the SMP Regarding Public Access.**

The Project is inconsistent with the public access policies and regulations set out at MCC 17.50.140. "Public access" means "the ability of the general public or, in some cases, a specific community, to reach, touch, and enjoy the water's edge, **to travel on the waters of the state, and to view the water and the shoreline from adjacent locations.**" MCC 17.50.020 (emphasis supplied). The impacts to views and recreational boating described by members of the public, including but not limited to the impacts described in Friends of Oakland Bay's comment letters in the Examiner's Record at Exhibit 18, PDF page nos. 7–17/31 and Exhibit 19, PDF page nos. 82–97/97, are impacts to public access that cannot be mitigated for the project as it is currently proposed.

**1. The Project is inconsistent with the public access policies set out at MCC 17.50.140(a).**

The public access policies set out at MCC 17.50.140 are intended to "**preserve and enhance** the public's opportunity to enjoy the physical and aesthetic qualities of county shorelines." MCC 17.50.140(a)(1) (emphasis supplied).<sup>10</sup> "**Increasing** all types of public access is a priority for the county." MCC 17.50.140(a)(2) (emphasis supplied). "Private entities should provide public access when the development would . . . impair existing legal access opportunities or rights." MCC 17.50.140(a)(4).

Here, the public's ability and opportunity "to enjoy the physical and aesthetic qualities" of Oakland Bay—including the public's ability to traverse Oakland Bay via kayak or sailboat and enjoy the scenic views of Oakland Bay and its shorelines from the water and adjacent locations—must be preserved, enhanced, or increased by the proposed Project. If the Project does not preserve, enhance, or increase those abilities and opportunities enjoyed by the public, then it is not consistent with the policies of the county's SMP. The Project does not preserve, enhance, or increase these opportunities. Instead, as demonstrated in Exhibit 19, PDF page nos. 82–86/97, it degrades and destroys them. The Project is inconsistent with public access policies set out at MCC 17.50.140(a) and should therefore be denied.

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<sup>10</sup> County shorelines, of course, are not limited to the bank or beach of waterbodies. The term "Shorelines" means "all of the water areas of the state, including reservoirs, and their associated shorelands, together with the lands underlying them[.]" MCC 17.50.020. While this definition of "shorelines" is followed by three exceptions, none of them apply to Oakland Bay. Oakland Bay is not a shoreline of statewide significance, a stream, or a lake. The entirety of Oakland Bay is a shoreline as defined in the code.

**2. The Project is inconsistent with the public access regulations set out at MCC 17.50.140(b).**

“Public access shall be required to the extent allowed by law in the review of shoreline substantial development or conditional use permits” under MCC 17.50.140(b)(1), for two reasons. One, the Project is a private water-dependent or water-related use or development that “impacts or interferes with existing access by blocking access or discouraging use of existing access[.]” MCC 17.50.140(b)(1)(C)(ii). Two, the Project is a private water-dependent or water-related use or development that “impacts or interferes with public use of waters subject to the public trust doctrine.” MCC 17.50.140(b)(1)(C)(iii).

**“Existing, formal public access shall not be eliminated unless the applicant shows there is no feasible alternative and replaces the public access with access of comparable functions and value at another location.”** MCC 17.50.140(b)(16) (emphasis supplied). The applicant has not complied and cannot comply with this regulation. Existing, formal public access (which, again, includes travel over Oakland Bay and aesthetic views of, from, and across Oakland Bay), is currently provided at Sunset Bluff County Park and Oakland Bay County Park, among other locations.

Sunset Bluff County Park is a 36-acre public park with 1500 feet of waterfront on Oakland Bay that was acquired in 2012 and opened in 2013. The park includes beach and water access, with plans for trails, a picnic area, a small parking area and vault toilet. Mason County Comp Plan at PDF 170/319. The Trust for Public Land used public funding in the amount of \$1,300,000 to acquire the parcels that became Sunset Bluff County Park.<sup>11</sup> Views like the one below (looking north and west from the waterfront of Sunset Bluff County Park)<sup>12</sup> would be degraded by the Project. The currently open expanse of water for recreational boating and aesthetic views visible in the photograph would have 30,000 oyster bags in 30 double rows, each row more than a third of a mile long and affixed with lights, in the middle of it if the Project is approved.

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<sup>11</sup> Available at: <https://srp.rco.wa.gov/project/160/17044>.

<sup>12</sup> *Id.* This beach and its unsubmerged tidelands is one of the areas that Taylor now says it will open up to the public as mitigation for public access impacts, even though Taylor already promised to allow public use of this area. See note 7, *supra*, and associated text. The applicant’s Figure A in its post-hearing Appendix D shows two areas (Labeled “1” and “2”) adjacent to Sunset Bluff County Park. Taylor Shellfish promised to provide public access to these two areas in 2010—long before this application was submitted.



Mason County; Sunset Bluff Shoreline Acquisition (#11-1522)  
Attachment #4, 11-1522 Sunset Bluff beach looking northwest-sm2

**B. The Project is Not Consistent with the Policies of the SMP Regarding Views and Aesthetics.**

The Project is inconsistent with the views and aesthetics policies set out at MCC 17.50.145. The first views and aesthetics policy is “to minimize obstructions of the public’s visual access to the water and shoreline from new shoreline developments while recognizing private property rights.” MCC 17.50.145(1). As described in Friends of Oakland Bay’s comment letter in the Examiner’s Record at Exhibit 19, PDF page nos. 82–85/97, the adverse visual impacts of the Project would be immense. While the Project may not “obstruct” visual access to Oakland Bay in the same way that a building or a wall would, it would degrade and destroy the beauty of the view from many locations around the bay, including from private property, Sunset Bluff County Park, and Oakland Bay County Park. It makes no sense to limit obstructions to views of natural beauty while allowing an industrial-scale floating aquaculture facility to degrade and destroy the natural beauty itself. The Project is not consistent with MCC 17.50.145(1).

The second views and aesthetics policy states: “Shoreline use and development should not significantly detract from shoreline scenic and aesthetic qualities (as seen from land or from water) that are derived from natural or cultural features, such as estuaries, bluffs, beaches, vegetative cover and historic sites/structures.” MCC 17.50.145(2). Oakland Bay is a natural feature. The Project would significantly detract from the shoreline scenic and aesthetic qualities of the bay as seen from land. The Project would significantly detract from the shoreline scenic and aesthetic



qualities of the bay and bluffs (including Sunset Bluff County Park), beaches, and mountains as seen from the water. The Project is not consistent with MCC 17.50.145(2).

The sixth views and aesthetics policy states: “Where there is an irreconcilable conflict between water-dependent shoreline uses or physical public access and maintenance of views from adjacent properties, the water-dependent uses and physical public access shall have priority, unless there is a compelling reason to the contrary.” MCC 17.50.145(6). While at first glance this policy might seem to support prioritizing the water-dependent floating aquaculture use above scenic views, two factors demonstrate otherwise.

One, there is a compelling reason why this particular water-dependent shoreline use should not be prioritized over maintenance of views from adjacent properties. In most cases, a water-dependent shoreline use would be in conflict with maintaining the views from—at most—a handful of adjacent properties. Here, though, the Project irreconcilably conflicts with views from *every property that looks across the Bay*, including public properties like Sunset Bluff County Park and Oakland Bay County Park. The Project, in the middle of Oakland Bay, is in that sense adjacent to every shoreline property on the Bay. The sixth views and aesthetics policy does not authorize prioritizing water-dependent shoreline uses over views from every property with view of and across the bay.

A key difference between the proposed project and the industrial aquaculture installations referenced by the applicant in Chesapeake Bay and Humboldt County is that almost all of those installations are located on very large water bodies or in rural river deltas with minimal if no opposing shoreline available for development. In many instances there is more than 10 miles of distance to the next shoreline or oyster farm, thereby existing in a very substantially different environment. The impact of these other industrial aquaculture operations on view corridors, recreation and navigation is simply not comparable due to the much larger bodies of water in which these facilities are located.

Two, MCC 17.50.145(6) puts water-dependent shoreline uses and physical public access on equal footing. Nothing in that section supports prioritizing water-dependent shoreline uses over physical public access. As described in Friends of Oakland Bay’s comment letter in the Examiner’s Record at Exhibit 19, PDF page nos. 85–86/97, the Project would substantially interfere with physical public access to the Bay. Kayakers would be forced to circumnavigate the 50-acre Project to get from one side of the bay to the other, instead of simply paddling across as they can now. Access for recreational sailing would be destroyed by placing a 50-acre navigational obstacle in the middle of the Bay, preventing sailboats from tacking upwind back and forth across the Bay.

For the two reasons described above, the Project is not consistent with MCC 17.50.145(6).

**C. The Project is Not Consistent with the Policies and Regulations of the SMP Regarding Aquaculture.**

The Project is inconsistent with the aquaculture policies and regulations set out at MCC 17.50.210.

**1. The Project is inconsistent with the aquaculture policies set out at MCC 17.50.210(a).**

The ninth aquaculture policy states:

The county should consider local ecological conditions and provide limits and conditions to assure appropriate compatible types of aquaculture for the local conditions as necessary to assure no net loss of ecological functions. Aquaculture should not be permitted in areas where it would result in a net loss of ecological functions or adversely impact eelgrass and macro-algae. Aquacultural facilities should be designed and located so as not to spread disease to native aquatic life, or establish new nonnative species which cause significant ecological impacts. Unavoidable impacts to ecological functions shall be mitigated.

MCC 17.50.210(a)(9). As described in Friends of Oakland Bay’s comment letter in the Examiner’s Record at Exhibit 19, PDF page nos. 87–88/97, the county lacks information that is required to consider local ecological conditions and provide limits and conditions to assure appropriate compatible types of aquaculture for the local conditions as necessary to assure no net loss of ecological functions. Local ecological conditions in Oakland Bay are very different from the ecological conditions in Chesapeake Bay (which the applicant uses as an example of impacts to ecological conditions).

The Project is not an appropriate, compatible type of aquaculture for the local conditions, no matter what limits, conditions, or mitigation requirements are placed on it. Moreover, without information from the applicant regarding the ecological impacts of moving acres of gear to some alternate location, storing it there for a few weeks, and moving it back every year, the county is unable to assess the potential for the Project to spread disease to native aquatic life.

The tenth aquaculture policy directs the county to recognize “the possible impacts that aquacultural activities might have on the aesthetic quality of the shoreline area.” MCC 17.50.210(a)(10). As described above, the Project would degrade and destroy the aesthetic quality of the shoreline area. The county should recognize this and deny the SSDP permit.

The twelfth aquaculture policy states: “Aquacultural activities should be operated in a manner that allows navigational access to shoreline owners and commercial traffic.” MCC 17.50.210(a)(12). As described above, the Project would have huge adverse impacts to navigational access to the Bay. Shoreline owners currently enjoy unimpeded navigational access on and across the bay for kayaking and sailing. Placing 30 parallel lines of floating oyster bags, each line more than a third of a mile long, stretched across 50 acres in the middle of Oakland Bay would degrade and destroy that access.

Members of Friends of Oakland Bay and the general public, including users of the nearby public parks, enjoy boating on the bay. They are currently able to sail or kayak across the bay from one side to the other. The proposed project would put a stop to that by placing a 50-acre navigational obstacle in the middle of the bay.<sup>13</sup> This is especially true for sailing. The path a sailboat takes is often dictated by the wind and moving a sailboat upwind requires tacking back and forth across the Bay. The applicant's project would exclude boaters from the middle of the bay and would require recreational sailboats to navigate around a large obstruction in the middle of the bay. Similarly, recreational kayakers would no longer be able to paddle across the bay. Instead, kayakers would be forced to paddle a circuitous route around a large navigational obstruction to reach the other side of the bay.

The Project's interference with navigation is demonstrated by the applicant's plan to move the whole multi-acre facility to some other location for a "few weeks" out of every year, so that tribal fishing boats can operate in the bay. During the rest of the year, the Project will be a navigational obstacle to both recreational and commercial navigation.

The thirteenth aquaculture policy directs the county to review the Project "for conflicts with other water dependent uses in areas that are utilized for moorage, recreational boating, sport fishing, commercial fishing or commercial navigation. Such surface installation shall incorporate features to reduce use conflicts." MCC 17.50.210(a)(13). Oakland Bay is utilized for moorage, recreational boating, sport fishing, commercial fishing and commercial navigation. The Project would conflict with those long-existing uses, as described above.

**2. The Project is inconsistent with the aquaculture regulations set out at MCC 17.50.210(b).**

MCC 17.50.210(b)(1)(E) states that "aquacultural uses and developments may be required to provide mitigation where necessary to offset significant adverse impacts to normal public use of surface waters." The Project would have significant adverse impacts to normal public use of Oakland Bay, including but not limited to public access, aesthetic views, and recreational boating. It is not possible to mitigate those significant adverse impacts for this Project, so this regulation cannot be met.

MCC 17.50.210(b)(1)(J) requires: "To the maximum extent practicable, floating aquaculture structures shall not substantially detract from the aesthetic qualities of the surrounding area, provided methods are allowed by federal and state regulations and follow best management practices." The Project as proposed substantially detracts from the aesthetic qualities of the surrounding area, as described above. The applicant proposes to place 30,000 floating oyster

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<sup>13</sup> As discussed above, the applicant's argument that the navigational obstruction is only 9.1 acres in area is absurd. The applicant is only counting the footprint of the bags, not the space between each line of bags. The project would occupy 50 acres in the middle of the bay. See the image of the lines of oyster bags within the outline of the 50-acre lease area shown in the applicant post-hearing Appendix D ("Public Access Memorandum") at Figure A.

culture bags in the middle of Oakland Bay. The floating bags would be arranged in 30 parallel lines of bags, each line 1,800 feet long with large floats at each end. The lines of bags would be lit with navigation hazard lights, visible in the evening and at night. The total surface area of the 30,000 floating bags (considering only the footprint of the bags) would be 9.1 acres, more than twice the area of a Nimitz class aircraft carrier. The total project site area is 50 acres. During installation and maintenance, boats or floating work platforms equipped with cranes and hoists would be highly visible within the project site area. The county should deny the SSDP permit because the Project would degrade and destroy the aesthetic qualities of the surrounding area.

MCC 17.50.210(b)(1)(K) requires: “Aquacultural structures shall be placed in such a manner, and be suitably sized and marked, so as to minimize interference with navigation.” As described above, excluding recreational boaters from a 50-acre area in the middle of Oakland Bay maximizes, rather than minimizes, the Project’s interference with navigation. The Project is not consistent with this regulation.

MCC 17.50.210(b)(1)(L) requires that aquaculture development “shall be designed and constructed with best management practices to minimize visual impacts[.]” This Project is not designed to minimize visual impact. It would be the single most prominent feature in the bay, as viewed from the waters of the bay and from surrounding properties, including public properties like Sunset Bluff County Park and Oakland Bay County Park. It would be lit up at night. The county should not allow Oakland Bay, a natural feature of great beauty, to be marred by a huge floating industrial aquaculture operation.

As explained above, the Project does not meet the review criteria for shoreline substantial development permits set out in MCC 17.50.400(c)(3). The Project is not consistent with the policies and regulations of the Mason County Shoreline Master Program. Therefore, pursuant to MCC 17.50.400(c)(3)(A)(ii)(a), the county must deny the application for a shoreline substantial development permit.

Very truly yours,

BRICKLIN & NEWMAN, LLP



David A. Bricklin  
Zachary K. Griefen  
*Counsel for Friends of Oakland Bay*

cc: Client



## **ATTACHMENT A**

**July 8, 2010 Letter from Diane Copper, Taylor Shellfish,  
to John Keats, Mason County**

*Available at:*

**[https://secure.rco.wa.gov/prism/search/projectsnapshot.aspx  
?ProjectNumber=10-1061](https://secure.rco.wa.gov/prism/search/projectsnapshot.aspx?ProjectNumber=10-1061)**



July 8, 2010

Mr. John Keates  
Parks and Trails Director  
Mason County Parks and Trails  
411 North 5<sup>th</sup> Street  
Shelton, WA 98584

Dear Mr. Keates:

Taylor Shellfish is pleased to be working with Mason County, The Trust for Public Land, and People for Puget Sound to acquire the 36-acre Oakland Bay-Tri Vo shoreline property to protect its high-quality habitat and to provide the public a much needed low-impact passive recreation site. As a neighbor to this property, we much prefer seeing this property turned into a park versus being developed into seven home sites.

If this property is acquired, we will: 1) donate the use of our barge to help remove the concrete debris from the site, and 2) allow the public to walk on our tidelands adjacent to the proposed park site. We agree to this with the understanding that Mason County will educate the public and provide signage identifying the location of the boundary line between the public tidelands and our tidelands and where shellfish harvesting is permitted (on the public tidelands), and where it is not permitted (our tidelands).

We are glad to be working in partnership with Mason County on this project. We strongly urge state and federal programs to fund your grant proposals.

Sincerely,

Diane Cooper  
Taylor Shellfish Company, Inc.

**David B. Douglas, SIOR, CCIM**

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Tacoma, WA 98406*

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Tacoma, WA 98401-0765*

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Shelton, WA 98584*

*Home: 253-759-2565 / Office: 253-203-1326 / Cellular: 253-208-2277)*

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*e-mail: [ddouglas@nai-pp.com](mailto:ddouglas@nai-pp.com) / [d.b.douglas@comcast.net](mailto:d.b.douglas@comcast.net)*

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**Date: September 10, 2023**

**To: Mason County Hearings Examiner  
c/o Luke Viscusi, Mason County Planning Department**  
**From: David Douglas**  
**Re: Appendix A: Taylor Shellfish Response to Public Comments**

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Following review of the applicant's response to public comments, I am attaching a file showing my response to this most recent filing by the applicant and providing commentary below for consideration by the Hearing Examiner and the applicant:

**On-going Industrial Uses in Oakland Bay**

The applicant has correctly stated Oakland Bay has a long history of industrial uses, focused primarily at the south end of the bay and dominated by the lumber mill, now owned by Sierra Pacific Industries. Additionally, the Manke Family Resources gravel chute and barge areas are located on the northerly side of the bay adjacent Highway 3, immediately north of the Shelton city limits and approximately one mile from the proposed site. Aquaculture operations are located in several points around Oakland Bay, but none of these sites are floating production areas except for two mussel rafts and Taylor's own FLUPSY in the entry to Chapman Cove, which total just 4.67 acres (the rafts are 0.10 and 0.19 acres, while the FLUPSY is covering roughly 4.37 acres).

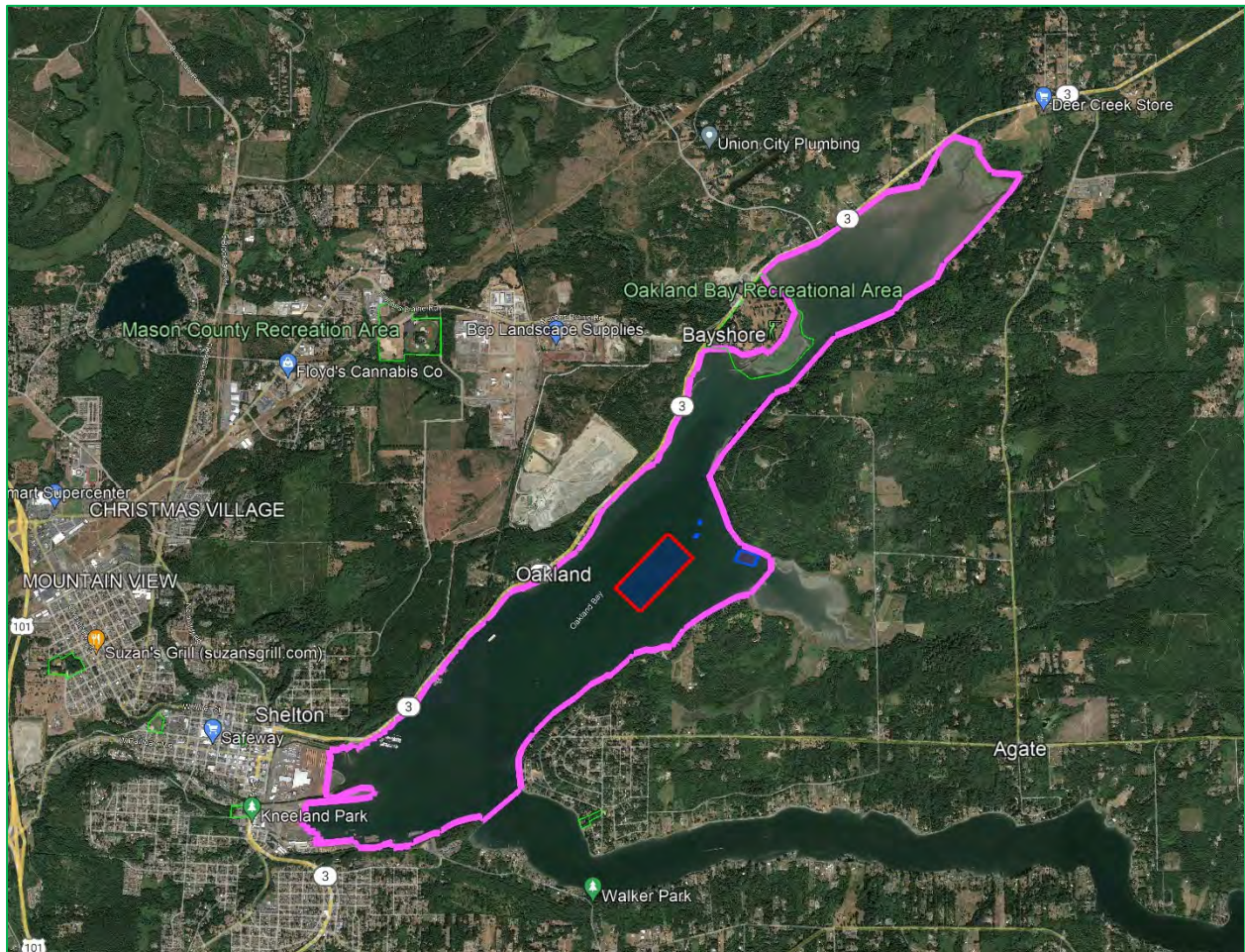
The point of Ms Ewald's emphasis upon Oakland Bay's historical use for log storage in the proposed location is clearly intended to justify approval of their proposed industrial aquaculture project. Her comment that there is "ongoing log storage" in the bay is accurate, but that log storage is *over 1.8 miles distant from the proposed aquaculture site*. Most importantly, according to information provided by Mason County Planning, this area ceased being used for log storage in the late 1980s. In short, it has been well over thirty years since the proposed site was used for log storage.

It is disingenuous to characterize the entirety of Oakland Bay as "historically industrial" so to support Taylor's proposed project. This is as misleading or wrong headed as stating that the saw mills and skid row which used to occupy downtown Seattle are justification for installation of another heavy industrial use in an are which has clearly evolved from the original uses and economic base. Shelton and Oakland Bay are no different. The economic base of the County has evolved since that time and has seen substantial growth in retail and professional services throughout the County, and less reliance upon logging and lumber manufacturing. Regardless of changes in Mason County's economic base, there is absolutely no justification to approve a major industrial project in the middle of residentially

zoned areas and in the middle of a publicly owned water. It is inconceivable that an Amazon or Wal-Mart distribution Center would fly through to approval in the middle of Rural Residential 5 zoned lands; the same decision should be accorded Taylor's request.

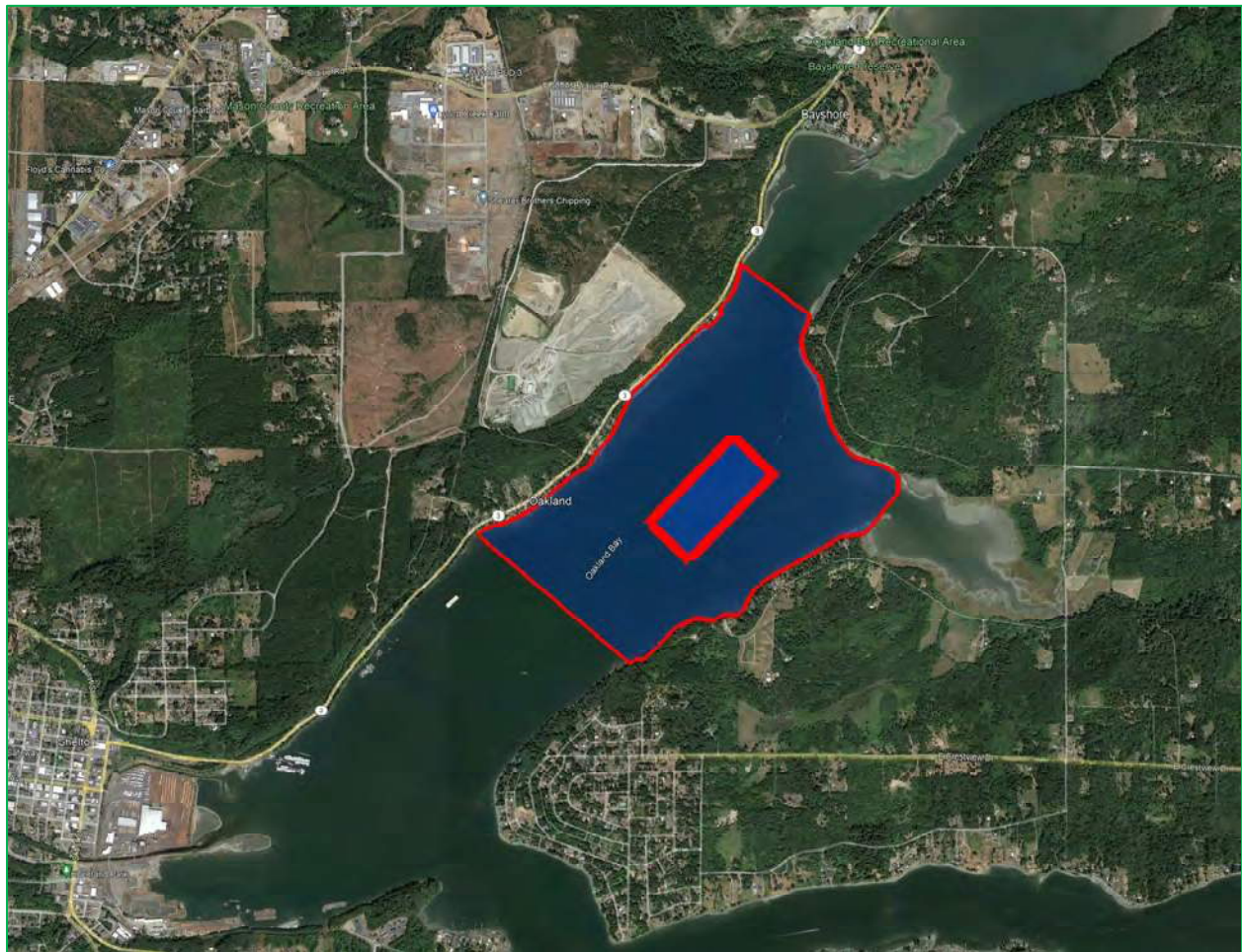
### **Oakland Bay Size Calculations and Proposed Taylor Shellfish Aquaculture Impact**

Prior to moving on to other key issues which must be considered, please consider the applicant has consistently referred to the Washington State Department of Public Health statement Oakland Bay is comprised of 2,127.6 acres and repeatedly emphasized the 50 acre tract is just 2.35% of the Bay area. There is no map provided to confirm this information, and in searching the Public Health website, I could not locate a map to confirm this calculation. Therefore we have relied upon Google Earth to calculate the area of the Bay at just 1,841 acres if Chapman Cove and Hammersley Inlet are not included in the calculation. Using this figure, the Taylor project occupies 2.72% of the Bay. The pink line in the photo below outlines the area used for this calculation; the red box with blue shading is the fifty acre site proposed for installation of the FLUPSY. The Google Earth map used for measurement is attached as an exhibit.





Considering the immediate neighborhood surrounding the proposed site, the Friends of Oakland Bay believe the immediate area is no larger than 580 acres, stretching from the northerly edge of residential area of Oakland across the bay to Sunset Bluff County Park and East Sunset Road, north to the Swindler’s Cove neighborhood. This is the area within which the three neighborhoods recreate. The proposed project occupies 8.6% of this area, but most importantly, substantially impedes navigation in the area of the proposed site; the width of the project exceeds 52% of the bay width at the southerly end of the site.



## Aesthetics

The scale of the proposed project will very significantly impact the aesthetics and view corridors of properties within the Middle Oakland Bay neighborhoods, with each shoreline property in the area experiencing significantly more exposure to the FLUPSY than the State DOE recommended “10% cone of



vision". For the East Sunset Road properties, where home elevations range from roughly 20' to 80' above bay, even picnic or seating areas located near the edge of the bank (which ranges from to 6' near Chapman Cove to roughly 45' at the entry to Sunset Bluff County Park) will be significantly impacted by the project, with many of these homes having more than 80% of the "cone of vision" in their view corridor significantly impacted by the proposed project. This will lead to reduced property values and ultimately, reduced property tax receipts to Mason County.

### **Oakland Bay Real Estate Purchases**

Prior to rendering any conclusion based upon the "historical use" of the Bay, it is critical to note that a vast majority of ownerships on both sides of the Bay purchased their homes and investment properties since 1990, in other words, well after log storage existed at the proposed site. We now have between 33 and 35 years which have passed, and as additional homes and real estate developments have been established at Oakland Bay, each of the new homeowners purchased without any anticipation of an industrial use being a possibility for Oakland Bay. The area studied is shown below:





### Land Use Zoning

As stated in my submissions to the Hearing Examiner on August 9 and August 16, the area on both sides of Oakland Bay is zoned Rural Residential 5. The use restrictions specified under the Mason County Zoning Ordinance clearly limit non residential uses to “cottage industries” or “hobby” farms. Further, Mason County Code Section 17.02.06, “Uncertainty of Boundaries” specifies that bodies of water, roads, highways or railroads shall be considered the same zoning as the surrounding areas. To quote the code:

When uncertainty exists as to the boundaries of areas as indicated on the development areas map, the following rules shall apply:

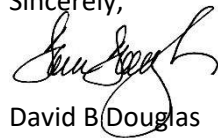
- (1) All water areas, waterways, alleys, roads, streets, highways, railroads, and other rights-of-way, if not otherwise specifically designated, shall be deemed to be in the same development area district as the property immediately abutting upon same;

Considering the code section referenced above, there is no manner under which Mason County can justify approving the Taylor Shellfish aquaculture site as proposed. Ms Ewald’s assertion the Shorelines Management section Mason County code should prevail is simply a desperate statement to justify her employer’s position and requested permit. At best, there is a conflict between these two code sections.

In closing, there is no justification to issue the Shorelines Substantial Development Permit nor the Conditional Use Permit requested by Taylor Shellfish.

Thank you for your consideration.

Sincerely,



David B Douglas



**Appendix A:**

**Taylor Shellfish Response to Public Comments, David Douglas Notations**

# **Appendix A**

**Substantial Development– SHR2023-00003: Applicant Taylor Shellfish Farms’ Response to Public Comments Submitted After July 26, 2023**

Comment	Commenter(s)	Response
<p>The Proposal may adversely impact fish, birds, marine mammals and other wildlife, along with supporting habitat, and reduce food for other organisms.</p>	<p>Lisa Walker [07/31/2023]; Thomas Terry [07/31/2023]; Francesca Ritson [08/04/2023]; Kim Robison [08/04/2023]; Mary Liston [08/04/2023]; Lorrie Peterson [08/06/2023]; Kathryn and George Cox [08/07/2023]; Tom and Melanie Nevares [08/07/2023]; Black Hills Audubon [08/08/2023]; Michael Forbes [08/08/2023]; Kim and Trevor Robison [08/11/2023]; Patrick Pattillo [08/09/2023]; Bonnie Blessing [08/09/2023]; Brian Renecker [09/09/2023]; Judith Brumley-Bidwell [08/13/2023]; Stuart Horn [08/13/2023]; Joseph Holt [08/14/2023]; David Douglas [08/15/2023]; Devitt and Deborah Barnett [08/15/2023]; Francesca Ritson [08/15/2023]; Kathy Kent-Lanning [08/15/2023]; Mark Wilhelm [08/15/2023]; Rachelle Harris [08/15/2023]; Patrick Pattillo [08/16/2023]; Kathy Kent-Lanning [08/09/2023]; Kevin</p>	<p>As set forth in previously-submitted application materials, including the Habitat Management Plan [Hearing Exhibit 8], responses to comments [Hearing Exhibits 20-22], and presentations [Hearing Exhibits 33, 47], the Proposal is located and designed to effectively avoid and minimize potential adverse impacts to aquatic fish, birds, and other wildlife, along with their supporting habitat.</p> <p>Additionally, Taylor Shellfish will operate this Proposal compliance with the programmatic Endangered Species Act and Essential Fish Habitat consultation for shellfish farming activities in Washington State inland marine waters (“Programmatic Consultation”). The Programmatic Consultation includes over 30 conditions to ensure projects do not have unacceptable impacts to ESA-listed species, designated critical habitat, and essential fish habitat. Hearing Exhibit 14.</p> <p>Responses to comments regarding the Proposal’s potential impacts to species and habitat is further addressed in Appendix B to Taylor’s Shellfish’s August 30, 2023 response.</p> <p>As proposed and conditioned, the Proposal will not have unacceptable adverse impacts to fish, birds, marine mammals and other wildlife, or their supporting habitats. Nor will it reduce food to the detriment of other organisms. Additionally, the Proposal will have environmental benefits including protection and improvement of water quality and provision of structured habitat.</p> <div data-bbox="1373 1101 2252 1451" style="border: 1px solid red; padding: 5px;"> <p>Taylor has not yet provided clear illustrations or pictures of how the three FLUPSY systems will be installed on the lines within the 50 acre leasehold area. To provide some idea of what the proposed installation will be, Taylor should provide a photograph of a completed set up for at least two sets of the 3 bag system, floating in the water. They have emphasized the bag system will be on the water surface but may drop, and require additional flotation aids and anchors. No reason is provided for why the FLUPSY may drop lower in the water, but a reasonable conclusion is the drop may occur due to growth of the oysters placed in the bags. As this occurs, it is also reasonable to conclude this lowered bag level will interfere with fish and marine mammal navigation. No remediation for this risk has been presented.</p> </div>

	Renso [08/09/2023]; Nancy Willner [undated]; Alice Faye Duncan [08/09/2023]; Kim and Trevor Robison [undated]; Christin Herinckx [08/09/2023]	
Increased traffic from watercraft will disrupt natural habitat and increase erosion of the bay's shoreline, and it will increase gas and oil pollution within Oakland Bay.	Lisa Walker [07/31/2023]; Brian Renecker [09/09/2023]	Taylor Shellfish will use the same types of vessels for operating this Proposal as it currently uses within Oakland Bay for its existing shellfish farming activities. These vessels produce minimal wakes that are within the natural disturbance regime (e.g., waves and currents). These wakes have not caused erosion of shorelines within the Bay and they will not cause such impacts in the future under operation of the Proposal. With respect to oil and gas use, Taylor Shellfish will comply with all conditions from the Programmatic Consultation relating to use and maintenance of vehicles and vessels in and near the shoreline environment, including those addressing fueling and clean-up of any spills. Hearing Exhibit 14.
<p>The Proposal will cause noise, odor, and lighting impacts.</p> <p>No other shellfish operations are located in the middle of the bay; existing locations such as Chapman Cove do not allow sound to carry across the bay due to configuration of the Cove and heavy tree / vegetation on the shorelines of the Cove.</p> <p>Residents on either side of Oakland Bay easily hear construction noise carrying across the bay or the hum of traffic on Hwy 3. Placing construction described in the JARPA as "on going" will significantly impact quality of life for Oakland Bay residents.</p>	Lisa Walker [07/31/2023]; Lorrie Peterson [08/06/2023]; Kim and Trevor Robison [08/08/2023]; Devitt and Deborah Barnett [08/12/2023]; Bonnie Blessing [08/09/2023]; Ginny Douglas [08/10/2023]; Nancy Willner [08/12/2023]; Joseph Holt [08/14/2023]; Nancy and James Hancharik [08/14/2023]; David Douglas [08/15/2023]; Francesca Ritson [08/15/2023]; Kim and Trevor Robison [08/15/2023]; Rachelle Harris [08/15/2023]; Nancy Willner [undated]	<p>Taylor Shellfish will avoid unacceptable noise impacts by operating this Proposal in compliance with the County's noise ordinance, Chapter 9.36 MCC, and it will regularly monitor the health of cultivated species to prevent die-offs and odor issues. Taylor Shellfish has multiple farms in Mason County, including within Oakland Bay, and has extensive experience successfully meeting the noise ordinance standards. <i>See also</i> Appendix B to Taylor Shellfish's August 30, 2023, response to comments. The vessels and equipment used for the Proposal would not cause more noise than generated by current operations.</p> <p>Unlike intertidal shellfish farms, which require significant operations at night depending on the time of year, this Proposal's work hours will be focused during daylight hours. Taylor Shellfish has only requested the ability to perform work one hour before sunrise and after sunset during the portion of the year when there are relatively few daylight hours, along with response activities at night when there is a need. Taylor Shellfish would direct all lights during work operations in a downward direction. Navigational lighting would be installed per Coast Guard requirements, with each light limited to approximately 6 lumens.</p>

<p>The Proposal will adversely impact property values.</p>	<p>Lisa Walker [07/31/2023]; Barbara Ericks [08/04/2023]; Devitt and Deborah Barnett [08/12/2023]; Rachele Harris [08/15/2023]; William Lanning [undated]; Roger Wilson [undated]; Kathy Ken-Lanning [08/09/2023]; Kevin Renson [08/09/2023]; Nancy Willner [undated]; David Douglas [08/9/2023]; Christin Herinckx [08/09/2023]</p>	<p>Property values are not a decision criterion for shoreline permit approval. Regardless, no evidence has been provided demonstrating the Proposal would adversely impact property values. Taylor Shellfish farms shellfish in many areas of Washington State that have residential use and development nearby and has never been provided with information demonstrating the presence of shellfish farms adversely impacts property values. Additionally, this claim has been rejected in at least one Shoreline Hearings Board appeal. <i>Coalition to Protect Puget Sound Habitat v. Pierce County</i>, SHB No. 14-024 (May 15, 2015) (FF 48-49, 51 and COL 13, 21). Commercial shellfish farmers in Oakland Bay work hard to ensure water quality remains high in farming areas, benefitting residential and other users.</p> <p>Please see a copy of the University of Maine 2017 research publication "A Hedonic Analysis of the Impact of Marine Aquaculture on Coastal Housing Prices in Maine", which was referenced in David Douglas submission dated August 9, 2023; a copy of this study is attached.</p>
<p>The Proposal will pose a risk to boaters and recreational users, and it will adversely impact public access and use of Oakland Bay.</p> <p>The fact the rows may be 30' apart does not mean recreational boaters will be traveling the lanes through the aquaculture site.</p> <p>The WSDH calculations must include Hammersley Inlet and Chapman Cove. Using Google Earth calculations, the entirety of Oakland Bay from the mouth of Hammersley Inlet to the northernmost point at Deer Creek, excluding Chapman Cove, is 1,841 acres.</p> <p>Considering the neighborhood in which the Taylor project is proposed, the "middle" of Oakland Bay extends from the mouth of Hammersley Inlet north to the southern extent of the E Swindler's Cove neighborhood. This area is 894 acres in the heart of what most people consider the best navigable water of Oakland Bay. The proposed project requires almost 6% of this area and more than 40% of the north-south distance across the bay; a very significant negative impact to the best navigation waters in the Bay!</p>	<p>Thomas Terry [July 31, 2023]; Bill Morisette [08/04/2023]; Francesca Ritson [08/04/2023]; Kim Robison [08/04/2023]; Mark Herinckx [08/04/2023]; Lorrie Peterson [08/06/2023]; Tom and Melanie Nevares [08/07/2023]; Devitt and Deborah Barnett [08/12/2023]; Patrick Pattillo [08/09/2023]; Bonnie Blessing [08/09/2023]; Erin Pattillo [08/09/2023]; Ginny Douglas [08/09/2023]; Ginny Douglas [08/10/2023]; Nancy Willner [08/12/2023]; Bill Morisette [08/15/2023]; Francesca Ritson [08/15/2023]; Kathy Kent-Lanning [08/15/2023]; Mark Herinckx</p>	<p>The Proposal's relationship to boaters, recreational users, and public access in Oakland Bay is addressed in prior application materials, including the Public Access Memorandum [Hearing Exhibit 23], responses to public comments [Hearing Exhibits 20, 22], and presentations [Hearing Exhibits 32, 45]. The Proposal's impacts to public access are further addressed in Appendix D to Taylor's Shellfish's August 30, 2023 response, which provides additional information in response to questions raised during the hearing.</p> <p>The Proposal is located at least 1,000 feet from all shorelines, allowing for recreational use throughout Oakland Bay. In response to questions raised during public comment, Taylor is clarifying that the Proposal's oyster bag rows will be placed on 30-foot centers. While the distance between the lines may fluctuate a few feet during operation, a significant distance will continue to be provided between the lines allowing for travel between the lines. The Proposal will be marked with navigational lighting per Coast Guard requirements, ensuring responsible boaters and recreational users will be able to safely navigate and recreate in Oakland Bay upon Proposal installation and operation.</p> <p>Oakland Bay is a relatively low-use area for recreation compared to other locations within Mason County. According to the Washington State Department of Health, Oakland Bay is 2,127.6 acres. The Proposal's gear (9.1 acres) occupies 0.43% of Oakland Bay, the total area of the gear plus the water between the rows (36 acres)</p>



<p>The suggestion the FLUPSY system will become a point of interest is disingenuous at best. Beyond an initial visit to see what the obstruction to navigation may be, there will be minimal interest, if any, in traveling to see the project by any resident or tourist.</p> <p>I believe the term used for this approach by any sales or marketing trainer is "puffery" to describe an unethical presentation. The customer typically prefers terms such as "misled", boon-swoggled, or "BS'd".</p>	<p>[08/15/2023]; Patrick Pattillo [08/16/2023]; Roger Wilson [undated]; Ginny Douglas [08/09/2023]; Mark Herinckx [undated]; Nancy Willner [undated]; Christin Herinckx [08/09/2023]</p>	<p>occupies 1.69% of the Bay, and the entire 50-acre lease area occupies 2.35% of the Bay. While installation of the Proposal would cause some recreational users traveling in the Proposal location to navigate around the gear, recreational uses can continue throughout Oakland Bay after Proposal installation. Presence of the farm can benefit public use and recreation by providing a point of interest for recreational users and helping ensure the quality of the water remains, thereby helping facilitate recreation activities, including shellfish harvesting in Oakland Bay. Further, Taylor Shellfish is providing mitigation that more than offsets the minor impacts the Proposal will cause to public access, including granting the public the right to access 16.6 acres of company-owned tidelands in Oakland Bay and supporting improvements to the Oakland Bay Marina. Taylor Shellfish is committed to working with the Washington Water Trails Association to extend the "water trail" in south Puget Sound to Oakland Bay and provide the public with information about these public access opportunities and education about shellfish farming. This mitigation will provide the broader public with enhanced recreational rights and opportunities throughout Oakland Bay.</p>
<p>The Proposal should be engineered and constructed so that it maintains its integrity.</p>	<p>Thomas Terry [July 31, 2023]</p>	<p>The Proposal will be secured with helical and wedge anchors following the requirements of the Department of Natural Resources. As with the company's existing oyster bag farms in Washington State and British Columbia, the Proposal's lines and gear will be composed of marine-grade material designed to withstand environmental conditions. The anchors, lines, and bags will be maintained and routinely monitored to ensure they remain their integrity.</p>
<p>The Proposal should be monitored, and changes should be made if there are negative findings from monitoring. The Proposal has inadequate oversight.</p>	<p>Thomas Terry [July 31, 2023]; Ginny Douglas [08/09/2023]; Ginny Douglas [08/10/2023]; Nancy Willner [08/12/2023]; David Douglas [08/15/2023]; Audubon [08/08/2023]; Patrick Pattillo [08/16/2023]</p>	<p>Taylor Shellfish will conduct numerous monitoring actions, including those associated with the Programmatic Consultation, the anticipated DNR lease, and from the company's Environmental Codes of Practice. Hearing Exhibit 46. The County is authorized to enforce shoreline permits to ensure monitoring occurs and that the Proposal otherwise complies with all terms of the shoreline permit. MCC 17.50.500. The Proposal's interactions with species and habitat are well understood, and there is no basis for concluding that there would be unacceptable or adverse environmental impacts warranting changes provided that monitoring occurs and Taylor Shellfish complies with all permit terms.</p>

		The Proposal is subject to numerous regulatory and proprietary programs at the federal, state, and local levels. All levels of government will retain oversight of the Proposal.
Do not approve the Proposal.	Carl Boucher [08/04/23]; Ray Ericks [08/04/2023]; Susan Petty [08/04/2023]	Comment noted.
Oakland Bay belongs to the public and should not be used for private development.	Francesca Ritson [08/04/2023]; Ginny Douglas [08/10/2023]; Judith Brumley-Bidwell [08/13/2023]; Stuart Horn [08/13/2023]; Joseph Holt [08/14/2023]; Kim and Trevor Robison [08/09/2023]; Brian Lagerberg [undated]	The Proposal area is owned by Washington State and managed by DNR under its aquatic leasing program to ensure it will appropriately balance numerous objectives according to legislatively-adopted standards. Shellfish aquaculture is a preferred, water-dependent use that is in the statewide interest and has significant environmental and economic benefits. RCW 90.58.020; WAC 173-26-241(3)(b); MCC 17.50.210. Floating shellfish projects such as this are expressly allowed in Oakland Bay pursuant to a shoreline substantial development permit. MCC 17.50.090.
<p>This use still conflicts with the RR-5 zoning classification for both sides of Oakland Bay and is in direct conflict with Mason County Code Section 17.02.062 (referenced in my "Mason County Hearing Examiner 08-15-2023 submission), which states:</p> <p>When uncertainty exists as to the boundaries of areas as indicated on the development areas map, the following rules shall apply:  (1) <i>All water areas, waterways, alleys, roads, streets, highways, railroads, and other rights-of-way, if not otherwise specifically designated, shall be deemed to be in the same development area district as the property immediately abutting upon same;</i></p> <p>The Proposal will have unacceptable aesthetic impacts and does not include all recommendations from the Dep't of Ecology 1986 siting study.</p> <p>From both sides of the Bay the proposed project will encumber a significantly larger portion of the "cone of vision" than the ideal "10%" identified under the 1986 State of Washington DOE study. At minimum, the homes located in the middle of the installation will experience closer to 80% of their cone of vision being occupied by the installation.</p> <p>In August 9 testimony the elevation of the homes on E Sunset Road were described as being 50' to 90' above the bay, which leads the project to have significant impacts on the view corridor from each residence. Additionally, views from the banks (where many residents have placed sitting areas), which range from 5 to 10' up to 35' or 40' at the entry to the park, are also significantly impacted by the project. In sum, any viewing location from adjoining upland properties will experience negative impacts if the proposed project is approved.</p> <p>Black is not a neutral color according to the 1986 study.</p>	<p>Mark Herinckx [08/04/2023]; Marnie Laatz [08/04/2023]; Barbara Ericks [08/04/2023]; Ray Ericks [08/04/2023]; Susan Petty [08/04/2023]; Faye Duncan [08/06/2023]; Tom and Melanie Nevares [08/07/2023]; Mark Herinckx [08/08/2023]; Michael Forbes [08/08/2023]; Patrick Pattillo [08/09/2023]; Brian Renecker [09/09/2023]; Erin Pattillo [08/09/2023]; Ginny Douglas [08/09/2023]; Ginny Douglas [08/10/2023]; Stuart Horn [08/13/2023]; Joseph Holt [08/14/2023]; Nancy and James Hancharik [08/14/2023]; David</p>	<p>The Proposal's aesthetic impacts are addressed in numerous hearing exhibits, including the aquaculture visual assessment, response to comments, and hearing presentations. Hearing Exhibits 20, 22, 25, 32, and 45. They are further addressed in Appendix C to Taylor's August 30, 2023 response.</p> <p>As discussed in the above documents, the SMP (along with the SMA and its implementing guidelines) give preference to shellfish aquaculture as a preferred, water-dependent use. The SMP prioritizes shellfish aquaculture over residential views in the event of conflict. The SMP does not prohibit aesthetic impacts but rather requires operators to utilize best management practices to reduce impacts and, to the maximum extent practicable, avoid substantially detracting from the aesthetic qualities of the surrounding area. The Proposal is utilizing BMPs including neutral colored gear that will blend into the marine environment and neat and orderly alignment of structures. The Proposal will fit into and complement the aesthetic qualities of the surrounding area, which is characterized by a wide variety of uses and developments including shellfish aquaculture, mining, port facilities, forestry, commercial activities, residential development, and a state highway.</p>

<p>The 1986 Study may not be incorporated in Mason County's Shoreline Code, but this study still provides standards for what are now called "Best Management Practices". Taylor should make every effort to comply or exceed the standards described in the DOE study.</p>	<p>Douglas [08/15/2023]; Mark Herinckx [08/15/2023]; Rachele Harris [08/15/2023]; Patrick Pattillo [08/16/2023]; William Lanning [undated]; Roger Wilson [undated]; Bill and Florence Fierst [undated]; Kathy Ken-Lanning [08/09/2023]; Mark Hernickx [undated]; Nancy Willner [undated]; Christin Herinckx [08/09/2023]; Richard Christopherson [undated]</p>	<p>The recommendations in the 1986 siting study have not been adopted by Mason County or otherwise incorporated into the SMP. Additionally, the recommendations are presented as alternative measures that may be incorporated into projects to minimize aesthetic impacts. Thus, even if the siting study was incorporated or adopted into the SMP, not all recommendations would be required to be met. The Proposal is incorporating most recommendations and will not have unacceptable adverse aesthetic impacts under the SMP.</p>
<p>The Proposal will impair efforts to scoop water out of Oakland Bay for fighting fires.</p>	<p>Faye Duncan [08/06/2023]; Devitt and Deborah Barnett [08/12/2023]; Joseph Holt [08/14/2023]; Nancy Willner [undated]</p>	<p>The proposed system will occupy less than 3% of the total surface area of Oakland Bay and has not been identified by the County or State as a risk to their crew's abilities to suppress fires in the region. Additionally, DNR has advised that dipping/scooping out of the salt water is an uncommon activity, it would be highly unlikely that DNR would need to do that in this specific area in the future, and this concern should not hold up the County's project planning for Oakland Bay.</p>
<p>The proposal will harm the interests of the Squaxin Island Tribe.</p>	<p>Faye Duncan [08/06/2023]; Ginny Douglas [08/10/2023]</p>	<p>Taylor has coordinated directly with the Squaxin Island Tribe with respect to this project and will follow measures to ensure it does not adversely affect the Tribe's fishing rights.</p>
<p>The Proposal will cause significant adverse environmental impacts under the State Environmental Policy Act, and an Environmental Impact Statement should be prepared for the Proposal.</p>	<p>Lorrie Peterson [08/06/2023]; Black Hills Audubon [08/08/2023]; Patrick Pattillo [08/16/2023]</p>	<p>The County issued a determination of nonsignificance ("DNS") for the Proposal under SEPA. The DNS was not appealed and is therefore final and determinative.</p>
<p>The Proposal will result in gear loss and plastic pollution.</p>	<p>Lorrie Peterson [08/06/2023]; Black Hills Audubon [08/08/2023]; Nancy Willner [08/12/2023]; Kathy Kent-</p>	<p>Taylor Shellfish will follow all conservation measures from the Programmatic Consultation to ensure all gear will be appropriate for use in the marine environment, properly secured, and responsibly maintained and monitored. Additionally, Taylor Shellfish will conduct more frequent patrols of the farm than required under the</p>

	Lanning [08/15/2023]; Nancy Willner [undated]	Programmatic Consultation to further respond to concerns regarding potential gear loss, as set forth in Hearing Exhibit 46. This farm will have a dedicated crew assigned to its maintenance, monitoring and harvest operations. These crews will monitor the system several times each week to watch for gear wear in order to prevent debris from occurring. Debris patrols surrounding the floating farm as well as Taylor's other operations will occur every tide cycle (approximately 2 weeks) to look for displaced gear and other debris. Gear monitoring will include evaluation of lines, bags and floats. Taylor will also evaluate the site and moorings either with divers or underwater drone. If debris is found on the subtidal area, it will be removed. Debris patrols shall include expedient response to community concerns.
The Proposal will occupy a relatively minor portion of Oakland Bay, will have little impact on recreational use within the bay, and impacts will be offset by Taylor's mitigation.	Stephen Whitehouse [08/06/2023]; Arcadia Point Seafood [08/08/2023]	Agreed.
The Proposal will improve water quality At what point does the Oakland Bay water quality diminish due to the extreme concentration of oysters within the installation? The applicant has not addressed this with anything but speculative commentary from Taylor employees and their consultants.	Stephen Whitehouse [08/06/2023]; Arcadia Point Seafood [08/08/2023]; Mason County Chamber of Commerce [08/08/2023]	Agreed.
Shellfish production and quality is highly regulated by the state, and unhealthy shellfish will not reach the market.	Stephen Whitehouse [08/06/2023]	Agreed.
Shellfish aquaculture is part of the existing aesthetic character. Personal aesthetics is not a basis for rejecting the Proposal, and if it was, then many projects including waterfront homes in Oakland Bay would not have been approved.	Stephen Whitehouse [08/06/2023]	Agreed. There is a significant difference between aquaculture projects located on the bottom of the bay and essentially hidden from view and an installation at water level which is visible 100% of the time, and at night highlighted by navigation beacons.

Shellfish aquaculture is an important component of the Washington State and/or Mason County economy.	Stephen Whitehouse [08/06/2023]; Arcadia Point Seafood [08/08/2023]; Perkins Family Farms [08/07/2023]	Agreed.
Taylor Shellfish is an important member of the community.	Stephen Whitehouse [08/06/2023]; Bill Dewey [08/16/2023]	Agreed.
The Public Trust Doctrine does not grant the public the right to access private shellfish tidelands during low tide.	Stephen Whitehouse [08/06/2023]	Agreed. <i>See also</i> 2007 AGO No. 1 and Court of Appeals (Div. 1) decision denying discretionary review in Case No. 839021.
The Proposal will cause neighboring tidelands to be overtaken with oysters, harming existing populations of clams.	Tom and Melanie Nevares [08/07/2023]	The Proposal will cultivate oysters in floating bags. Cultivated oysters will remain in the bags. No explanation or mechanism for cultivated oysters overtaking neighboring tidelands is provided by the commenter. Oysters are already cultivated using both bag and on-bottom methods in Oakland Bay. See also Appendix B to Taylor Shellfish's August 30, 2023, response to comments.
The Proposal will increase much-needed capacity in seed supply and management that will benefit Washington's shellfish farming sector.	Pacific Coast Shellfish Growers Association [08/08/2023]; Arcadia Point Seafood [08/08/2023]; Perkins Family Farms [08/07/2023]	Agreed.
Washington shellfish farmers are champions and often leaders in catalyzing important research and conservation of Washington's marine water quality, ecosystems, and watersheds. Shellfish aquaculture also provides many secondary benefits.	Pacific Coast Shellfish Growers Association [08/08/2023]	Agreed.
There is no such thing as zero-impact food	Pacific Coast Shellfish Growers	Agreed.



<p>production, but shellfish farming comes close as one of the most benign methods of food production on the planet.</p>	<p>Association [08/08/2023]</p>	
<p>In addition to being regulated by some of the strongest environmental regulatory frameworks in the world, PCSGA and its members, including Taylor Shellfish, have worked with researchers to develop the Environmental Codes of Practice (ECOP). Growers use the science-based ECOP as a guide to develop best practices to maximize the many benefits shellfish aquaculture can provide to society and the environment while minimizing risks.</p>	<p>Pacific Coast Shellfish Growers Association [08/08/2023]</p>	<p>Agreed.</p>
<p>Washington's shellfish growers provide important economic and job benefits for local communities, as well as nutritious food with less impact on the environment. They are also actively engaged in ongoing efforts to support healthy water quality and ecosystems that benefit not just their livelihoods, but also the communities in which they operate.</p>	<p>Pacific Coast Shellfish Growers Association [08/08/2023]</p>	<p>Agreed.</p>
<p>Attached is a bibliography highlighting a snapshot of the portfolio of research that has been conducted to understand impacts (positive and negative) and develop solutions to maximize the many benefits shellfish farming provides to society and the environment.</p>	<p>Pacific Coast Shellfish Growers Association [08/08/2023]</p>	<p>Noted.</p>

<p>The Proposal will be both environmentally and economically beneficial to Mason County.</p>	<p>Stacey Wickett [08/08/2023]; Arcadia Point Seafood [08/08/2023]; Pacific Coast Shellfish Growers Association [08/08/2023]; Stephen Whitehouse [08/06/2023]; Mason County Chamber of Commerce [08/08/2023]</p>	<p>Agreed.</p> <div data-bbox="1387 302 2072 500" style="border: 1px solid red; padding: 5px;"> <p>The only economic benefit Mason County will realize is the potential of two to three additional jobs, which may or may not be at a level deemed to be "family wage" jobs.</p> </div>
<p>The Proposal's plastic gear will degrade, resulting in harmful microplastics.</p>	<p>Black Hills Audubon [08/08/2023]</p>	<p>The Proposal will utilize marine-grade gear that is specifically designed to withstand environmental conditions without degrading, and it will be routinely monitored to ensure it remains properly deployed and is not experiencing unexpected wear. Concerns regarding use of plastics in shellfish aquaculture have been exhaustively analyzed in multiple prior permit appeals before the Shorelines Hearings Board. The SHB has appropriately determined that the use of marine-grade gear following best management practices does not cause significant adverse impacts. <i>E.g.</i> SHB No. 11-019 (FF 10, 11, and COL 6, 14); SHB No. 13-006c (FF 36-42 and COL 16); SHB No. 14-024 (FF 39-43, 47 and COL 13, 20) [marine debris]; SHB No. 11-019 (FF 9); SHB No. 13-006c (FF 41-42 and COL 16); SHB No. 14-024 (FF 44-47 and COL 13, 20) [microplastics and leaching concerns].</p> <p>The use of aquaculture gear is also exhaustively analyzed in the Programmatic Consultation, which includes several measures to ensure that appropriate gear is deployed and properly managed.</p> <p>Concerns regarding gear degradation are further addressed in Appendix B to Taylor Shellfish's August 30, 2023 response.</p>
<p>The Proposal's application documents must be updated to correct inconsistencies and provide additional information. References and comparisons to studies in other locations should be removed, and it is inappropriate to rely on the Programmatic Consultation because NWP 48 was</p>	<p>Black Hills Audubon [08/08/2023]; Patrick Pattillo [08/09/2023]; Ginny Douglas [08/10/2023]; Joseph Holt [08/14/2023]; David Douglas [08/15/2023]; Francesca Ritson</p>	<p>Project applicants routinely provide additional and clarifying information during the permit review process, and Taylor Shellfish has done so here, including through the public hearing and in Taylor's August 30, 2023 response to comments. All information requested by the Hearing Examiner has been provided. The contention that studies conducted in other locations cannot be referenced or utilized to understand the likely environmental impacts of this Proposal is incorrect and inconsistent with current</p>

<p>struck down. This will be the largest farm of its type, and hence existing literature is insufficient to evaluate anticipated impacts.</p> <p>Approval of installation of what has been described as the largest FLUPSY in a much smaller water body is still not a responsible or reasonable decision based upon the limited studies provided by the applicant. There is a significant difference in scale of the other water bodies referenced as comparable locations, and most importantly, in the volume of water exchanged during tides in these locations.</p>	<p>[08/15/2023]; Patrick Pattillo [08/16/2023]; David Douglas [08/09/2023]</p>	<p>practices. Professionally-prepared materials for this Proposal, including the Programmatic Consultation (prepared by the Corps and expert resource agencies) and the Habitat Management Plan (prepared by technical consultants with extensive education and experience analyzing shellfish aquaculture projects in Washington State), appropriately utilize studies from Washington State and other locations as appropriate.</p> <p>Commenters suggestion that the Programmatic Consultation should not be relied upon because a prior version of a Corps general permit (2017 version of NWP 48) was found deficient are completely unfounded. The general permit and the Programmatic Consultation are different decisions with separate administrative records. The Programmatic Consultation has never been found deficient by a court and is in full effect in Washington State.</p> <p><i>See also</i> Appendix B to Taylor Shellfish’s August 30, 2023, response.</p>
<p>The Proposal risks environmental harm due to the presence of legacy and ongoing pollution in Oakland Bay.</p>	<p>Black Hills Audubon [08/08/2023]; Patrick Pattillo [08/09/2023]; Bonnie Blessing [08/09/2023]; Erin Pattillo [08/09/2023]; Francesca Ritson [08/15/2023]; Kathy Ken-Lanning [08/09/2023]; Christin Herinckx [08/09/2023]</p>	<p>Legacy pollutants are located south of the site of the Proposal. Further, even if they were present at the site, the Proposal will not significantly disturb sediments and hence will not present a mechanism for releasing such materials into the environment. <i>See</i> Appendix B to Taylor Shellfish’s August 30, 2023 response.</p>
<p>The Proposal should be denied because another entity has submitted an application to lease the project site from DNR.</p>	<p>Coalition to Protect Puget Sound Habitat [08/09/2023]; Ginny Douglas [08/10/2023]</p>	<p>The commenter submitted its application to DNR a significant amount of time after Taylor Shellfish submitted its application. Hearing Exhibit 5. Taylor’s application has priority. Regardless, resolving the priority of DNR lease applications falls outside the purview of Mason County.</p>
<p>The Proposal should be rejected or limited to 2 years to collect data.</p>	<p>Susan Gonzales [08/08/2023]</p>	<p>Taylor Shellfish will conduct extensive maintenance and monitoring actions associated with the Project. Hearing Exhibit 46. No sound basis for limiting the Proposal to 2 years was provided by the commenter.</p>
<p>The establishment of a floating container shellfish</p>	<p>Mason County Chamber of</p>	<p>Agreed.</p>

<p>farm in Oakland Bay would provide employment for local residents, both directly through the operation and maintenance of the farm and indirectly through the associated supply chains, transportation, and support services. The increased revenues this farm may generate indirectly contribute to tourism by supporting infrastructure development, accommodations, restaurants, and other tourist-oriented businesses.</p>	<p>Commerce [08/08/2023]</p>	<div style="border: 1px solid red; padding: 5px;"> <p>Opinion only; nothing contained in the application supports additional revenues accruing to Mason County or the City of Shelton from sales tax or B&amp;O taxes which may be paid by vendors supporting Taylor Shellfish operations.</p> <p>Typical, vague assertions by the Chamber of Commerce which are not supported by any documentation.</p> </div>
<p>The Proposal is inconsistent with the policy of the SMA at RCW 90.58.020.</p>	<p>Thomas and Marilyn Burgess [08/08/2023]</p>	<p>The commenter’s claim that the Proposal is inconsistent with the policy of the policy of the SMA is premised on the contentions that the Proposal would have impermissible aesthetic, recreational, and environmental impacts. As discussed elsewhere in Taylor Shellfish’s August 30, 2023 response, these contentions are incorrect.</p> <p>RCW 90.58.020 provides: “It is the policy of the state to provide for the management of the shorelines of the state by planning for and fostering all reasonable and appropriate uses.” Shellfish aquaculture is not only a reasonable and appropriate use under the SMA—it is a preferred, water-dependent use. RCW 90.58.020. Multiple decisions have confirmed that shellfish farming is a preferred use of the shoreline and that use restrictions must be based on scientific and technical grounds rather than to appease opposition. <i>See</i> Appendix C to Taylor Shellfish’s August 30, 2023 response. The SMA guidelines and Mason County SMP also confirm that shellfish aquaculture is a preferred use that is in the statewide interests and can have important environmental and economic benefits. WAC 173-26-241(3)(b); MCC 17.50.210.</p>
<p>The Public Trust Doctrine grants the public the right to access private tidelands at low tide and prohibits the Proposal from occupying public waters.</p>	<p>Thomas and Marilyn Burgess [08/08/2023]; Ginny Douglas [08/10/2023]</p>	<p>See above discussion regarding the Public Trust Doctrine not providing the public the right to access private shellfish beds at low tide.</p> <p>The Supreme Court of Washington has held “the requirements of the ‘public trust doctrine’ are fully met by the legislatively drawn controls imposed by the Shoreline Management Act of 1971.” <i>Caminiti v. Boyle</i>, 107 Wash. 2d 662, 670, 732 P.2d 989 (1987). As discussed above, the SMA identifies aquaculture as a preferred, water-dependent use. And the Mason County SMP, which was developed by the County and</p>



		approved by Ecology under the SMA, expressly allows floating aquaculture in Oakland Bay. MCC 17.50.090. Accordingly, the Proposal is consistent with the Public Trust Doctrine.
The Proposal will result in the taking of private property.	Patrick Pattillo [08/09/2023]	A taking of private property may occur through the physical occupation of private property or by imposing certain severe restrictions on the use of private property. See e.g., <i>Lingle v. Chevron U.S.A. Inc.</i> , 544 U.S. 528 (2005); <i>Yim v. City of Seattle</i> , 194 Wash. 2d 682, 451 P.3d 694 (2019), <i>as amended</i> (Jan. 9, 2020). The Proposal will do neither. It is located on state-owned property and will be leased from DNR in accordance with state law.
The Proposal may cause adverse impacts to water circulation, currents, water flow, or erosion.	Patrick Pattillo [08/09/2023]; Black Hills Audubon [08/08/2023]; Nancy Willner [08/12/2023]	The Proposal will not adversely impact water circulation, currents, or water flow, and it will not result in shoreline erosion. <i>See</i> Appendix B to Taylor Shellfish’s August 30, 2023 response.
The Proposal may promote harmful algal blooms or disease and parasites.	Bonnie Blessing [08/09/2023]; Rachelle Harris [08/15/2023]	The Proposal will not promote harmful algal blooms or spread disease and parasites. <i>See</i> Appendix B to Taylor Shellfish’s August 30, 2023 response.
The Proposal will not help support jobs or result in economic benefits. The cultivated shellfish will be sold in foreign markets.	Brian Lagerberg [08/09/2023]; Patrick Pattillo [08/09/2023]; Joseph Holt [08/14/2023]; Nancy and James Hancharik [08/14/2023]; Patrick Pattillo [08/16/2023]; Kim Robison [08/09/2023]	As discussed above and at hearing, the Proposal will support numerous positions within Taylor Shellfish and benefit the broader shellfish community, as well as Mason County, by supplying much-needed oyster seed for shellfish farming in south Puget Sound. Taylor Shellfish representative provided testimony to this effect, and their testimony is supported by numerous additional commenters with direct experience in shellfish aquaculture. The SMP and supporting documents further confirm that shellfish farming provides critical economic benefits to Mason County.  Most cultivated shellfish from the Proposal will be sold in domestic markets. Foreign sales will help combat our nation’s \$17 billion seafood trade deficit.
The Proposal does not comply with MCC 17.02.062, 17.50.250, and 17.50.400.	David Douglas [08/15/2023]	MCC 17.02.062 is not an applicable review standard, and MCC 17.50.250 applies to recreational development projects, not aquaculture. Taylor has provided extensive information, including the initial application materials, supplemental memoranda, responses to comments, and hearing exhibits, demonstrating the project satisfies

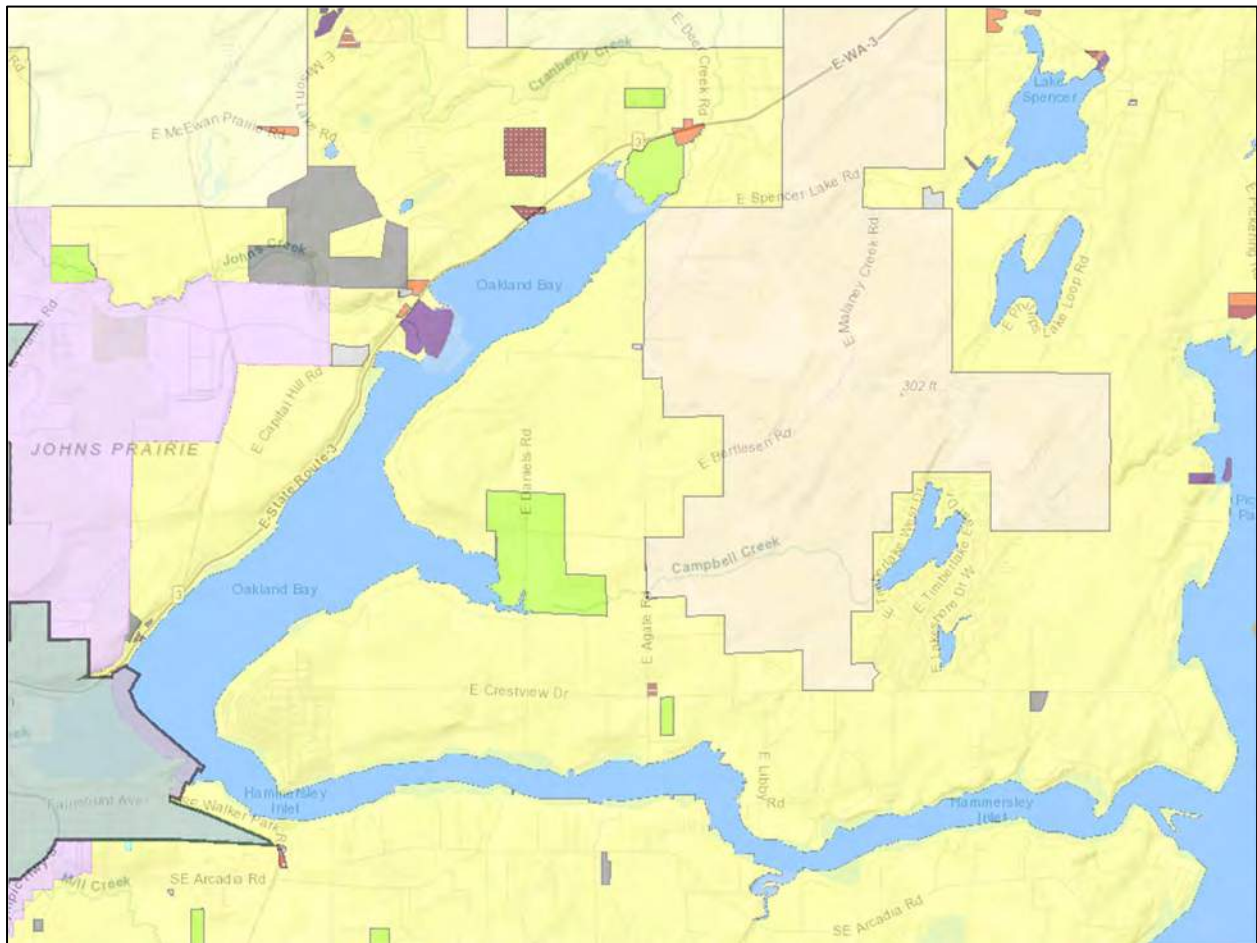
I fervently disagree with the statement 17.02.062 is not applicable. The SMP section of the code does not automatically trump another code section which may conflict with the SMP.

		applicable review criteria per MCC 17.50.400.
The Proposal raises concerns about market saturation and reduced profitability for smaller oyster farms.	Mark Wilhelm [08/15/2023].	Oyster seed from the Proposal will be used by Taylor Shellfish and available for purchase by oyster farmers of all sizes, including both commercial and recreational interests. As numerous witnesses have testified, there is a significant lack of available oyster seed, which this farm will help combat.
The SMP directs locales to adopt provisions to minimize impacts to existing views from public property or substantial numbers of residents. However, it also states that where there is an irreconcilable conflict between water-dependent uses and maintenance of views from adjacent properties, the water-dependent uses have priority (unless there is a compelling reason to the contrary). (WAC 173-26-221 (4)(d)(iv). Mason County’s Shoreline Master Program incorporates this priority principle as well (17.50.145).	Arcadia Point Seafood [08/15/2023]	Noted.
A larger project should not be approved.	Bill and Florence Fierst.	Noted. There is no application for a larger project.
The Washington State Department of Agriculture (WSDA) supports both sustaining existing shellfish farms and expanding aquaculture production in WA. The legislature has declared (RCW 15.85.01) that, “aquatic farming provides a consistent source of quality food, offers opportunities of new jobs, increased farm income stability, and improves balance of trade.” Further, the legislature declared, “It is therefore the policy of this state to encourage the development and expansion of aquaculture within the state.”	Washington State Department of Agriculture [08/16/2023]	Noted.

<p>Aquaculture plays a substantial role in food security and nutrition. Our state is the leading producer of farmed shellfish in the nation and is sought by consumers around the world. WA’s shellfish industry has been a cornerstone of rural coastal economies, providing year-round jobs. Washington shellfish farms are supported with exceptional research and shellfish farming helps keep our waterways clean by filtering excess nutrients and providing valuable habitat.</p>	<p>Washington State Department of Agriculture [08/16/2023]</p>	<p>Agreed.</p>
<p>The Proposal is located in an area with high water quality and smaller oysters may not improve water quality as much as larger oysters.</p>	<p>Patrick Pattillo [08/16/2023].</p>	<p>The Proposal is appropriately located in an area that is approved for shellfish harvest. Shellfish farmers, including Taylor Shellfish, have fought hard to improve and protect the water quality to ensure it is of high enough quality to support shellfish harvest. The presence of this Proposal, along with other shellfish farms in Oakland Bay, will provide a strong incentive for Taylor Shellfish to continue working to protect water quality in the Bay. Further, while the commenter questions the amount of additional water quality improvement that will be provided by the filtering activity of the Proposal’s cultivated shellfish, the Proposal will result in a benefit that will help offset water quality reductions caused by other sources including nearby residences.</p>
<p>The Proposal conflicts with Rural Residential 5 zoning.</p>	<p>David Douglas [08/09/2023]</p>	<p>No explanation is provided by the commenter as to how the Proposal conflicts with Rural Residential 5 zoning. Regardless, the relevant approval criteria are provided in MCC</p>
<p>The conflict with RR-5 zoning, which exists on both sides of Oakland Bay, was clearly stated in the August 9 testimony by quoting the code language, as follows:</p> <p>“Single-family residential, hobby farm (small scale commercial agriculture, including aquaculture and wood lots), church, local community and recreation centers, group homes, cell towers, fire station, fish hatchery, public utilities” as the permitted uses. The proposed 50 acre industrial aquaculture site in no understandable way would be classified as a “hobby farm”. The only industrial uses allowed within the zoning are “Cottage Industry (home occupation”, which the code defines as “small scale commercial or industrial activities on residential properties performed in the residence or building accessory thereto. The principle practitioner must reside on the property. Cottage industries are considered as residential uses, provided they do not significantly alter the character of the site as a residential property and wholesale and retail trade is minimal. Cottage industries require a conditional use permit except in commercial and residential SED’s. (See also “home occupations.”)”.   Further, <a href="#">Mason County Code Section 17.02.062</a> provides When uncertainty exists as to the boundaries of areas as indicated on the development areas map, the following rules shall apply:  (1) <i>All water areas, waterways, alleys, roads, streets, highways, railroads, and other rights-of-way, if not otherwise specifically designated, shall be deemed to be in the same development area district as the property immediately abutting upon same;</i></p>		

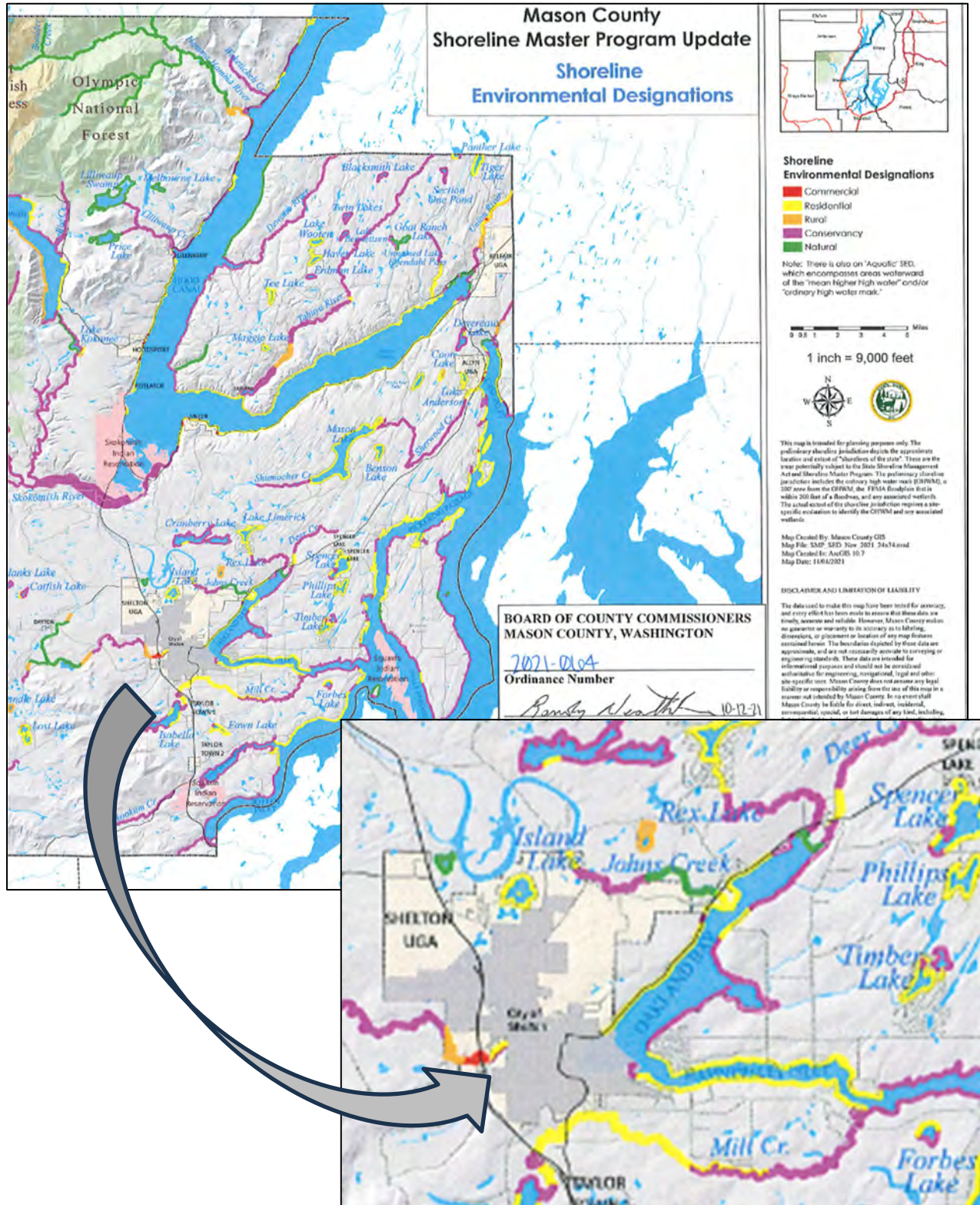
**Mason County Zoning Map**

- Yellow: Rural Residential 5 Acres
- Tan: Rural Residential 10 Acres
- Dark Purple: Rural Tourist
- Pink: Urban Growth Area
- Light Green: Agricultural Resource Lands





**Shoreline Environmental Designations**





**Exhibits**

**A Hedonic Analysis of the Impact of Marine Aquaculture  
on Coastal Housing Prices in Maine**

# A Hedonic Analysis of the Impact of Marine Aquaculture on Coastal Housing Prices in Maine

Keith S. Evans, Xuan Chen, and Christina A. Robichaud

Converting coastal waters to farmed production of seafood may generate conflicts with other resource users. This study explores the impact of marine aquaculture development on coastal homeowners. Using single-family home sales from 2012–2014 and spatial data on coastal aquaculture activity, we employ hedonics to assess the impacts of mariculture development in three study areas of Maine, USA. Our results suggest modest impacts on residential property values with significant spatial variation across study areas. This spatial variation represents a challenge for managers and highlights the potential benefits from coordinating the development of aquaculture to balance resource users' objectives with industry growth.

**Key Words:** coastal waters, hedonic pricing model, marine aquaculture, mariculture, property values

Aquaculture is an important source of fish protein. While wild-capture production has flat-lined since the mid-1980s, due to excessive fishing pressure and changing ocean conditions, world production from aquaculture has grown exponentially to meet market demand (World Bank 2013, Food and Agriculture Organization of the United Nations (FAO) 2016). Although China has represented the majority of this growth, generating more than 60 percent of production by volume (FAO 2016), early research suggests that a wide-range of marine production opportunities exist for the United States (Knapp 2008, Valderrama and Anderson 2008, Kite-Powell, Rubino, and

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The authors thank Maine Multiple Listings Service for providing access to the sales transactions data. We would also like to thank the participants at the 2016 NAREA workshop and two anonymous reviewers for helpful suggestions. This project was supported by the National Science Foundation under EPSCoR award #IIA-1355457 and the USDA National Institute of Food and Agriculture under Hatch projects #ME021603 and #ME021704.

The views expressed are the authors' and do not necessarily represent the policies or views of any sponsoring agencies.

*Agricultural and Resource Economics Review* 46/2 (August 2017) 242–267

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Morehead 2013). Recent work by Kapetsky, Aguilar-Manjarrez, and Jenness (2013) ranks the United States as one of the top countries with potential for profitable expansion of marine aquaculture, known as mariculture. Beyond profit opportunities, increasing aquaculture production in the United States can help reduce the U.S. seafood trade deficit, which has grown to over \$14.5 billion annually (National Oceanic and Atmospheric Administration (NOAA) 2015), and create healthier oceans by reducing fishing pressure on wild-stocks, providing habitat, and species restoration (Knapp and Rubino 2016, NOAA 2016a).<sup>1</sup> These opportunities have not been lost on U.S. policy makers. In 2016, NOAA released its strategic plan for offshore aquaculture, calling for a 50 percent increase in production by volume in the United States by 2020 (NOAA 2016b). Even at state and local levels, there has been interest in increasing aquaculture production and coastal development: promoting working waterfronts, providing alternate local marine employment opportunities, and diversifying against uncertainty for struggling wild-capture fisheries and resource-dependent coastal communities (Governor's Task Force on the Planning and Development of Marine Aquaculture in Maine 2004, Lapointe 2013, Knapp and Rubino 2016, Sustainable Ecological Aquaculture Network 2016). Together, this suggests a broad interest among policy makers for the large-scale, nonmarginal development of marine aquaculture in the United States.

Despite interest in expanding coastal aquaculture among U.S. policy makers, Knapp and Rubino (2016) and Knapp (2012) highlight challenges facing its development. Marine aquaculture generates interactions with other coastal and marine resource users. Converting public waters to the farmed production of seafood alters the mixture of goods and services that coastal ecosystems provide, thereby generating a new distribution of winners and losers among resource users. The dual nature of externalities related to mariculture further complicates coastal development and siting decisions (Bhat and Bhatta 2004, Primavera 2006, Whitmarsh and Palmieri 2008); externalities are generated by coastal activity and users (on aquaculture) and from the production of aquaculture itself (on coastal activity and users). Knapp and Rubino (2016) note that some users in this system, e.g., riparian homeowners, recreationists, and commercial fishermen, may fear that the potential negative impacts of marine aquaculture may not be offset by private benefits. Bricknell and Langston (2013) suggest that researchers and the aquaculture industry have failed to effectively communicate the positive benefits of aquaculture. These tensions or perceptions of risk may emerge at public lease hearings and through interactions in coastal real-estate markets; property values may be influenced by proximity to aquaculture as it alters viewscape and/or generates smell and noise.

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<sup>1</sup> Of course, some of these benefits may be mitigated by substitution of fishing pressure onto prey species for carnivorous farmed-fish (e.g., salmon).

Addressing these challenges is a priority for policy makers and researchers. Goal 4 of NOAA's strategic plan aims to increase/improve public understanding of marine aquaculture production to reduce barriers to its development (Knapp and Rubino 2016, NOAA 2016b). Stakeholders, especially those interested in the resiliency of coastal communities, are interested in the potential risks and benefits of mariculture, evaluated through the lenses of multiple disciplines (NOAA 2016b). A better understanding of the impact of developing coastal mariculture on riparian homeowners and other resource users is important for managers interested in promoting the long-run health of this emerging industry.

Work to date has focused on describing coastal residents' perceptions of marine aquaculture (Mazur and Curtis 2008, Schlag 2010, McGinnis and Collins 2013, D'Anna and Murray 2015). Shafer, Inglis, and Martin (2010) explore these perceptions surrounding proposed marine farms on the Banks Peninsula, New Zealand. Their results suggest that proximity of marine development to residents is an important factor influencing acceptance. Residents living closer to the proposed marine farms were more sensitive to marine development and less accepting of them, despite acknowledging the potential economic benefits to the local community. This is consistent with the idea that marine aquaculture may be considered a *locally undesirable marine use*. Efforts to quantify the impacts of mariculture and marine development are limited (Jodice et al. 2015). Two examples related to aquaculture are worth noting: first, an unpublished dissertation by Sudhakaran (2015), which finds minimal impacts of shellfish aquaculture on coastal property values in Rhode Island, USA; second, a technical memorandum from Northern Economics (2010), which outlines a method for a hedonic analysis of the impact of commercial shellfish operations in Puget Sound, Washington, USA. However, as far as the authors can tell, the empirical analysis was never published; nor has any other hedonic analysis of mariculture.<sup>2</sup>

In this paper, we use a semiflexible form hedonic pricing model to quantify the impacts of coastal mariculture development on residential property values in Maine; we use three coastal regions along Maine's coastline as our study setting. We incorporate spatial information surrounding marine aquaculture to explore two main research questions: (i) does marine

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<sup>2</sup> In the related industry of agriculture, economists have used the hedonic pricing model to explore the impacts of agriculture production on nearby residential properties (Abeles-Allison and Connor 1990, Palmquist, Roka, and Vukina 1997, Herriges, Secchi, and Babcock 2005, Kim and Goldsmith 2009). This body of work suggests that the impact of agriculture on residential properties may be complex, depending on more than proximity. For example, Ready and Abdalla (2005) find potentially offsetting positive/negative impacts of farming activity near residential property values; living near livestock farms may reduce residential property values, while the open spaces associated with these farms may have the opposite effect. Le Goffe (2000) and others find similar results.



aquaculture capitalize into residential property values, and, if so, (ii) how does this vary based on the spatial arrangement of leases (e.g., density of leases, acreage of leases, proximity to residential properties). To this end we collect transactions data (i.e., structural and neighborhood characteristics) for single-family homes sold in Maine from 2012–2014. These data are combined with historical, spatial information on aquaculture production and leases issued in Maine between 1981 and 2014, and localized information on attitudes toward coastal development of aquaculture contained in transcripts from public aquaculture lease hearings.

Our results suggest wide variation in how marine development of aquaculture impacts property values, and therefore implicitly reveals insights into local residents' perceptions of marine aquaculture – as a coastal amenity or disamenity. This spatial variation presents interesting challenges for coastal resource managers, especially those at state and federal levels. It also highlights the potential benefits from coordinating aquaculture site choices designed to balance the competing objectives of diverse groups of coastal resource users. This information is especially relevant when considering future development of aquaculture in these shared waters. Resource planners must evaluate whether smaller farms or large-scale industrial farms are more appropriate for the cultural and ecological capacity of the coastal waters. To answer such questions, the information on preferences from multiple groups of users is critically important. Results of our hedonic pricing model help fill knowledge gaps for these managers, providing information on preferences of one group of users (coastal residents) surrounding aquaculture development in coastal waters.

## **Background**

Maine is one of the top marine producers of aquaculture in the United States, with a farm-gate value in excess of \$100 million (Maine Aquaculture Association (MAA) 2015). With more than 5,000 miles of coastline, marine farms in Maine produce an impressive variety of species, such as salmon, cod, oysters, scallops, and sea vegetables (e.g., dulse and sugar kelp), using leases on only 0.03 percent of the state's public waters (MAA 2015, Maine Department of Marine Resources (DMR) 2016). Management of aquaculture in these coastal waters is divided between two state agencies: the Maine DMR and the Maine Department of Environmental Protection (DEP). While the Maine DEP is charged with ensuring that marine farms satisfy the discharge standards specified under the Clean Water Act, the Maine DMR is responsible for issuing aquaculture leases (East Coast Environmental Law 2014), and indirectly monitoring the development of marine aquaculture in the state.

Much of the coastal development in Maine has occurred over the last 30 years, as regulations streamlined the licensing process and lessened challenges involved with monitoring water quality. Prior to 1973, marine farmers in

Maine were not guaranteed legal protection for their product (Maine DMR 2012). In 1983, Maine implemented Maine Revised Statutes Annotated (MRSA) 12, Chapter 2, which defined the aquaculture lease regulations that are in effect today, specifying the rights and legal protections of lease holders (MRSA 2013). Under the current aquaculture leasing system, there are two types of aquaculture leases and one type of license that provide an aquaculturist with rights to grow in the state's public waters: a standard lease, an experimental lease, and a limited-purpose aquaculture (LPA) license. Each type of lease/license specifies slightly different rights to its holder. These rights specify which marine species can be grown, the duration and renewability of the lease/license, etc. The major difference between lease/license types in our analysis centers around the maximum acreage of coastal waters that can be allocated to an individual for farming marine species. Table 1 outlines some of the differences between lease and license types.

The siting of marine farms in Maine is largely decentralized – affecting the spatial pattern of coastal development. Unlike some U.S. states that use marine aquaculture zones for siting leases in predefined growing areas (for example, Aquaculture Enterprise Zones in Chesapeake Bay, Maryland, USA (Maryland Natural Resource Code §4-11A-05 (2015))), in Maine, the initial siting choice is made by the applicant. The final decision regarding issuing this lease or license rests with the Maine DMR Commissioner. As part of the application process, riparian landowners are notified if a proposed lease is within 1,000 feet of their property (300 feet for LPAs), while the general public is informed through public notices issued in the local newspaper and the Maine DMR website. Proposed sites may draw considerable attention in an area depending on its history with aquaculture (see Graves (2016) and

**Table 1. Maine Aquaculture Lease and License Characteristics.** Information from Maine DMR (2012) and Maine Revised Statutes Annotated 12, Chapter 2 (2013).

Lease/ license type	Notice distance	Scoping session	Public hearing	Size limit	Duration	Renewal
Standard lease	1,000 feet	Yes	Yes	≤100 acres	10 years	Yes
Experimental lease	1,000 feet	Maybe <sup>†</sup>	Maybe <sup>††</sup>	≤10 acres	1–3 years	No <sup>†††</sup>
Limited purpose license	300 feet	No	No	≤400 sq ft	Calendar year	Yes

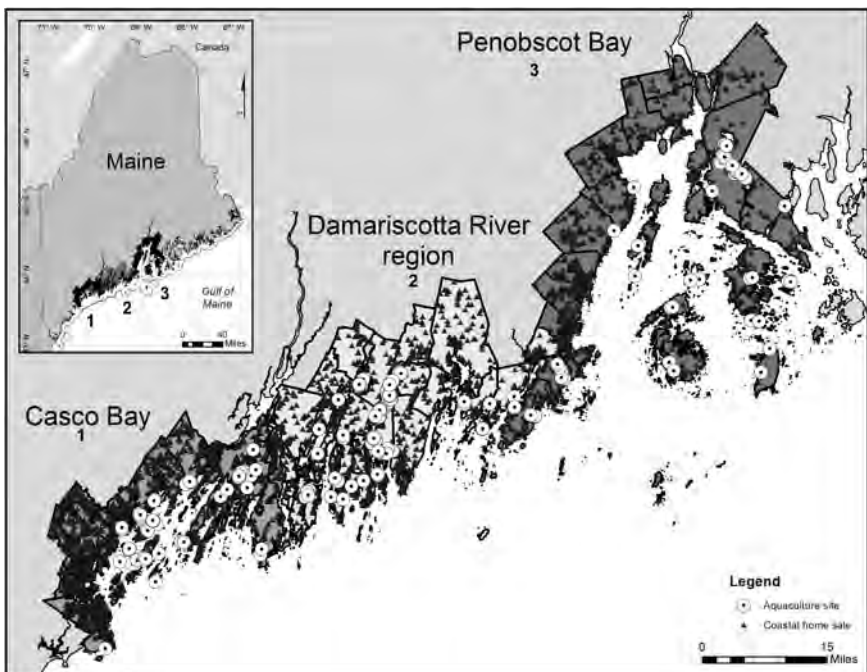
<sup>†</sup>Scoping sessions are at the discretion of the Maine DMR.

<sup>††</sup>Yes, if five or more comments are raised during the public comment period, or the Maine DMR requests a hearing.

<sup>†††</sup>Renewable if experimental lease is designated for research purposes.

Mitterhoff (2016) for examples). Public comment periods and lease hearings (town hall meetings) provide opportunities for other coastal users to give testimony and raise concerns about the effects of siting aquaculture in their community. Testimony at these meetings is restricted to the objective criteria that the Maine DMR uses to evaluate a lease application; subjective issues related to the lease (e.g., change in viewscape and effects on property values) are beyond the scope of these criteria and generally do not effect the final lease approval decision. Under the Maine DMR criteria, a lease may not “unreasonably interfere” with riparian owners’ land access, navigation, fishing or other uses, support of ecologically significant flora and fauna, or public use or enjoyment within 1,000 feet of government managed or conserved beaches, parks, docks, and land, and cannot have an “unreasonable impact” due to noise or light (Maine DMR [n.d.](#)).

Our analysis focuses on the effects of marine aquaculture on the value of single-family homes in three study areas along Maine’s coastline: Casco Bay, the Damariscotta River region, and Penobscot Bay (Figure 1). Each study area



**Figure 1. Casco Bay, Damariscotta River Region and Penobscot Bay.** Inset panel: Location of study areas along the Maine coastline. Greater panel: Housing transactions of single-family homes sold between January 2012 and December 2014 (black triangles) and corresponding aquaculture leases (circled dots) in the three study areas.

contains the municipalities designated as coastal by the Maine Coastal Program (Maine Coastal Program 2013). These study areas provide useful focal points and comparisons for our analysis. Their coastal waters vary in how they provide important employment opportunities in wild-capture fisheries (e.g., lobster and soft-shell clams), whether or not they are popular areas for recreation and tourism, and in the opportunities they provide for coastal development of marine aquaculture.

There is considerable variation across these study areas with their connection to their coastal waters. Penobscot Bay, located northeast of the other study areas, is dominated by ecotourism and generates its wealth from the “natural” environment. Alternatively, Casco Bay represents a heavily urban region of Maine, containing two of the largest cities in the state, whose waterfronts support shipping, recreation, and commercial fishing. Finally, the Damariscotta River region, sandwiched between Casco Bay and Penobscot Bay, has a long history of promoting development of marine aquaculture. It contains almost 200 acres of coastal water designated for marine aquaculture and produces more than 80 percent of the oysters grown in Maine (Damariscotta River Association 2016). In addition to highlighting the competing uses in these shared coastal waters, these study areas are data rich, containing almost 200 lease sites (producing shellfish and sea vegetables) and 8,500 transactions of single-family homes during 2012–2014.

## Methods

### *Statistical Model*

The hedonic pricing model, formalized by Griliches (1971) and Rosen (1974), is a well-established method for eliciting nonmarket values for environmental attributes connected with residential properties. This model posits that the sales price for a home represents the equilibrium value for its bundle of attributes. These attributes extend beyond the structural characteristics of the property  $S$  (e.g., living space, bathrooms, and lot size), to also include characteristics of the neighborhood in which the house is located  $N$  (e.g., local school quality and crime rate) and localized environmental conditions  $Q$  (e.g., viewscape and air quality). Buyers and sellers compete across these attributes generating the sales price for a home. The hedonic pricing function describes this equilibrium relationship, mapping the attributes of home  $i$  in neighborhood  $j$  at date  $t$  to its transaction price  $P_{ijt}$ ,

$$P_{ijt} = f(S_i, N_{ij}, Q_i) + \varepsilon_{ijt}$$

where  $\varepsilon_{ijt}$  is a random error term. Variation in housing attributes and prices, contained in observed transactions, can be used to recover information about this unknown function.

The implicit marginal price for an attribute, or marginal willingness-to-pay (MWTP), can be recovered as the slope of  $f(\cdot)$ . A positive (negative) value suggests that homeowners perceive this attribute as an amenity (disamenity), on the margin. This approach has been used in a variety of empirical settings to recover the MWTP for environmental attributes, such as water quality (Michael, Boyle, and Bouchard 2000, Gibbs et al. 2002, Poor, Pessagno, and Paul 2007), dam removal (Lewis, Bohlen, and Wilson 2008, Bohlen and Lewis, 2009), and proximity to hydraulic fracturing well sites (Gopalakrishnan and Klaiber 2014, Muehlenbachs, Spiller, and Timmins 2015). In this paper, we will use this method to explore the effects of mariculture in coastal waters.

Because  $f(\cdot)$  has an unknown form, we employ a Box-Cox transformation on sales price to incorporate flexibility in our selection of functional form (Box and Cox 1964). Standard specifications, such as linear ( $\lambda = 1$ ), log-linear ( $\lambda = 0$ ), and reciprocal ( $\lambda = -1$ ), are special cases of the Box-Cox specification and are tested during the estimation process. Let  $P^{(\lambda)}$  denote the Box-Cox transformed sales price where

$$P^{(\lambda)} = \begin{cases} \frac{P^\lambda - 1}{\lambda} & \text{if } \lambda \neq 0 \\ \log P & \text{if } \lambda = 0. \end{cases}$$

We model the transformed sales price of home  $i$  in municipality  $j$  in year  $t$  as a linear function of local conditions and an additive error term  $\epsilon_{ijt}$ ,

$$(1) \quad P_{ijt}^{(\lambda)} = \beta_0 + \beta_1 S_i + \beta_2 N_{ij} + \beta_3 Q_i + \delta_i + \delta_j + \epsilon_{ijt}$$

where  $\delta_j$  and  $\delta_t$  are location (municipality) and sales-year fixed effects, and  $\beta_m$  captures the marginal influence of housing attribute  $m$  on the transformed transaction price.

## Data

### *Housing Transactions*

Housing transaction data were obtained from Maine Multiple Listings Service (MLS), a private company maintaining a near-complete database of real estate information for realtors. These data span January 2012 through December 2014 and contain a complete set of structural characteristics, sale and location information for all single-family detached homes sold in Maine. After removing transactions with missing information (i.e., sale or structural characteristics), our sample consists of 5,698, 1,238 and 1,644 housing transactions for the Casco Bay, Damariscotta River and Penobscot Bay regions. Table 2 provides summary statistics for these attributes by study area.



**Table 2. Sample Summary Statistics.** Housing transactions data spans January 2012 through December 2014 and contains all single-family detached homes sold in Maine. Coastal aquaculture activity data includes all active leases issued by the Maine DMR over the same study period.

	Casco Bay		Damariscotta		Penobscot Bay	
	(N = 5,698)		(N = 1,238)		(N = 1,644)	
Home characteristics	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Sales price (\$1,000s)	327.84	288.32	292.13	283.92	273.19	318.04
Lot size (acres)	1.11	4.90	3.80	9.40	3.10	7.20
Living area (100s square feet)	2.04	1.01	1.89	0.97	1.91	1.11
Bathrooms	1.73	0.84	1.70	0.91	1.70	0.94
Age (years)	63.22	89.34	76.36	132.38	79.51	127.51
Cabin (0/1)	0.01	0.08	0.02	0.13	0.02	0.14
Distance to water (miles)	0.99	1.28	0.67	1.10	0.86	1.24
Homes with aquaculture (2-mile)	13.97%		46.04%		14.77%	
<b>Coastal aquaculture activity</b>	Count	Acres <sup>†</sup>	Count	Acres <sup>†</sup>	Count	Acres <sup>†</sup>
Standard lease	9	46.08	41	196.71	20	95.90
Experimental lease	8	24.86	6	2.18	7	8.03
Limited purpose aquaculture	57	0.52	77	0.71	59	0.54
<b>Public lease hearings</b>	Count	Mean	Count	Mean	Count	Mean
Lease hearings	6	–	22	–	10	–
Concerns (all) <sup>††</sup>	25	4.17	62	2.82	75	7.50
Concerns (to riparian users) <sup>†††</sup>	15	2.50	54	2.45	63	6.30
<b>Transactions by sale year (counts)</b>						
2012	1,641		359		492	
2013	1,963		436		575	
2014	2,094		443		577	

<sup>†</sup>Total number of acres in region.

<sup>††</sup>Any recorded concern raised at the public lease hearing (e.g., access to broodstock or smell).

<sup>†††</sup>Concerns raised at public lease hearings specific to the impacts on riparian homeowners and coastal users (e.g., property values and change in viewscape).

Transactions were geocoded using ArcGIS 10.3.1. Addresses were imported into ArcMap and matched to road files obtained from the Maine Office of GIS using the automatic match function. Unmatched addresses were manually assigned using the best approximate location and cross-referenced using Google maps.

Geocoded addresses were used to calculate spatial information related to home sales and connect these transactions to coastal aquaculture activity. Of particular importance was the location of a home in relation to coastal waters. For example, living close to water is generally viewed as an amenity, enhancing the value of the property. However, coastal aquaculture, necessarily, takes place in coastal waters as well. Omitting this spatial information will likely generate a positive bias on our estimate of the impact of mariculture on residential property values. To this end, we calculated the minimum distance from the home to the coastline and the percentage of water within a buffer zone centered on the home. The percentage of water acts as a proxy representing the view of the water for the home: a larger percentage is suggestive of increased view of the water or waterfront property. In addition, we also generated a dummy variable capturing whether or not a home was within 1,000 feet of a government managed or conserved beach, dock, park or land. Given the regulations on siting, being close to these structures limits marine development near the home and may provide access to additional amenities.<sup>3</sup> Finally, we also included the elevation of the home to proxy for other possible view effects.

Additional spatial information was collected to control for neighborhood characteristics. While output-based measures are preferred (e.g., performance of students on standardized tests), small populations throughout portions of Maine limited data availability. Instead, expenditures per student for the 2014–2015 academic year was collected for each school district from the Maine Department of Education to proxy for school quality. School quality data were augmented with spatial information on the proportion of seasonal housing units and median household income by census tract obtained from the 2012, 2013 and 2014 estimates of the American Community Survey.

### *Coastal Aquaculture Activity*

Historical spatial information on aquaculture leases in Maine, spanning 1981 through 2014, was obtained from the Maine Office of GIS. This data set contains information on aquaculture leases, including data on location (i.e., shape of the lease, latitude, and longitude), scale of production (acreage),

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<sup>3</sup> The authors recognize that if there are omitted housing attributes that increase/decrease the likelihood of aquaculture being sited near a home then this will introduce an endogeneity bias. Repeat sales data, capturing sales prices before and after the siting of aquaculture, could be used to explore this issue further.

target species (i.e., shellfish and sea vegetables), and lease type (i.e., standard, experimental or LPA).<sup>4</sup> These spatial data were linked to housing transactions to capture information on coastal aquaculture production in relation to residential homeowners.

To quantify the effects of coastal mariculture, we needed to incorporate this information into the econometric model. One complication is that homes face unique spatial arrangements of leases, such as different numbers of leases at different distances with different scales of production. To capture the various configurations, we generated an *Aquaculture index* variable  $Q_i$ , which combines this information to create a house-specific measure of aquaculture. The form of this index was based on past research and intuition. Previous literature suggests that homeowners prefer that aquaculture is sited further from their home (Shafer, Inglis, and Martin 2010), but that these effects may diminish nonlinearly with distance. Similarly, larger (and more) leases may correspond with a larger visual impact (obscured and/or splintered viewscape), potentially exacerbating issues of smell and noise, among other types of concerns.

We explore two alternate forms for this index, to capture the *density* (number of leases,  $K_i$ ), *scale* (acreage,  $a_{ik}$ ), and *proximity* (distance,  $d_{ik}$ ) of aquaculture sited near home  $i$ : a *base case* where  $Q_i$  is defined as

$$(2) \quad \text{Base: } Q_i = K_i \sum_{k \in A_i} \frac{a_{ik}}{d_{ik}}$$

where  $A_i$  denotes the set of active leases associated with home  $i$  at the time of sale, and an *alternate index* that scales  $Q_i$  by the portion of water contained within a buffer zone  $w_i$ .

$$\text{Alternate: } Q_i = w_i \times K_i \sum_{k \in A_i} \frac{a_{ik}}{d_{ik}}$$

We hypothesize that the percentage of water within the buffer zone is linked to the potential visibility of aquaculture production activity. Our indices are similar in form to those used to explore the impact of hydraulic fracturing wells (McCluskey and Rausser 2001, Gopalakrishnan and Klaiber 2014), but allow more variation in spatial arrangements of leases.<sup>5</sup>

<sup>4</sup> Data on finfish leases in Maine are also available. However, aquaculture production in our study areas is exclusively shellfish and sea vegetables.

<sup>5</sup> Alternative constructions of the index, e.g., separating by lease type, did not qualitatively change the results.

We use buffer zones, centered around each home, to define the spatial extent of impacts from coastal aquaculture and thereby the set of leases associated with each home,  $A_i$ . This approach is commonly used in the literature (Lewis, Bohlen, and Wilson 2008, Gopalakrishnan and Klaiber 2014, Muehlenbachs, Spiller, and Timmins 2015). Any lease/license outside this set is assumed to have a negligible impact on the sales price of a home. We use an AIC statistic to explore four potential radius distances for these buffer zones: 0.5, 1, 1.5, and 2 miles. Our upper bound of 2 miles was selected through a mixture of stakeholder feedback (aquaculturists, residents, and marine managers), previous research in other settings, and the physical constraints of seeing these marine structures (which for shellfish and sea vegetables are approximately one foot above the surface of the water).<sup>6</sup> Across all study areas and models, a 2-mile radius distance was preferred (smallest AIC value).

Spatial data on leases were supplemented with qualitative information surrounding public lease hearings. The leasing process in Maine falls under the Administrative Procedures Act (APA) and requires public comments; all standard leases (and some experimental leases) require public hearings (Gericke and Sullivan 1994, MRSA 2013). Public aquaculture hearings offer the public (e.g., riparian landowners, municipalities, interested government agencies, and other interested parties) an opportunity to raise concerns about the impacts of aquaculture in local waters. These hearings are advertised 30 days prior in local newspapers and on the Maine DMR website, and serve as an opportunity for resource users to raise concerns about changes in the use of coastal waters surrounding the lease. Information from these lease hearings often are released in local newspapers, with more contentious hearings receiving additional print space (for example: Graves (2016) and Mitterhoff (2016)).

Concerns raised at these hearings tend to be specific to the lease and focus on localized changes in aesthetics and property values, and impacts on riparian access, navigation, and fishing. This is in sharp contrast with the broad concerns raised by the U.S. public toward aquaculture in general, which focus on the effects on human health and the environment, the welfare of fish, and a lack of regulatory structure and oversight (Schlag 2010, Claret et al. 2014). Lease hearing information on localized attitudes (i.e., the subjective information outside the criteria issued by the Maine DMR in the siting decision) generally does not affect the leasing outcome and is therefore treated as exogenous to siting decisions.

Hearing transcripts obtained from the Maine DMR were coded for the frequency and type of concerns raised about each lease. These concerns were

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<sup>6</sup> These distances are within the range of those used in previous literature such as Lewis, Bohlen, and Wilson (2008), Gopalakrishnan and Klaiber (2014), and Muehlenbachs, Spiller, and Timmins (2015) to identify localized environmental effects. Supplemental material contains a table of distances and approaches used in other hedonic studies.

coded into five categories: public use and enjoyment (e.g., smell, noise, visual impact, and property values), environmental impacts (e.g., water quality, flora and fauna), conflicts with commercial fisheries, legal concerns with the lease process, and practical concerns surrounding the lessee's competency. Separating comments from the public lease hearings into categories allowed us to focus on the concerns most tightly connected with riparian homeowners and housing prices. We focused on the information contained in two categories: concerns about public use and enjoyment, explicitly including property values and environmental impacts, for which a long literature in environmental economics suggests should affect property values. We combined this information to generate house-specific localized attitudes toward aquaculture located in their coastal waters, labeled *Neighborhood attitudes* ( $NA_i$ ) in our model. We interpret this combined set of concerns as capturing the perceived effects of aquaculture on riparian homeowners and coastal users. *Neighborhood attitudes* are calculated as the time-weighted average number of concerns about the effects of aquaculture on riparian and coastal users (e.g., public use and enjoyment and environmental impacts) raised at public aquaculture lease hearings. Let

$$NA_i = \frac{1}{K_i} \sum_{k \in A_i} \frac{C_k}{1 + t_k}$$

where  $C_k$  denotes the number of concerns raised about lease  $k$  and  $t_k$  denote the number of years between lease hearing and the sale year of the home. We constrain the set of leases  $A_i$  used in the calculation of *Neighborhood attitudes* to those that were active (in the water) when home  $i$  was sold. We utilize a hyperbolic time-weighting function to place more weight on recent information about local attitudes and significantly less weight on past information. Alternate time-weighting functions were evaluated (i.e., equal and linear time weighting) but had no qualitative effect on the results.

### *Decomposition of Marginal Effects*

Our first research objective is to evaluate whether or not marine aquaculture capitalizes into residential property values. Given the Box-Cox specification for our hedonic model (equation (1)), our estimate of the MWTP for aquaculture takes the form,

$$\text{MWTP}(Q_i) = \hat{\beta}_3 P_i^{1-\hat{\lambda}}$$

which is a function of two parameters of the model. The sign and significance of  $\hat{\beta}_3$  is sufficient to address our first research question. However, we are also interested in exploring how these marginal impacts vary based on the spatial



characteristics of mariculture, such as density of leases, acreage of lease, and proximity to residential properties. That is, we are also interested in the MWTP for each component of  $Q_i$ . To this end, we follow the decomposition outlined by Gopalakrishnan and Klaiber (2014), which makes use the total differential of  $Q_i$  and the chain rule to isolate these margins.<sup>7</sup> In the following, we will use the *base case* version of the *Aquaculture index* to demonstrate.

Based on equation (2), the total differential for  $Q_i$  takes the form,

$$(3) \quad dQ_i = \sum_{k \in A_i} \frac{a_{ik}}{d_{ik}} dK_i + K_i \sum_{k \in A_i} \frac{1}{d_{ik}} da_{ik} - K_i \sum_{k \in A_i} \frac{a_{ik}}{d_{ik}^2} dd_{ik}.$$

Equation (3) suggests that the effect of a change in the house-specific *Aquaculture index* can be decomposed into three pieces: the *density effect* (holding acreage and proximity constant), the *acreage effect* (holding the number of aquaculture sites and proximity constant), and the *proximity effect* (holding the number of aquaculture sites and acreage constant). We use the information from this decomposition to parse out the three margins of interest.

Let  $q_{ik}$  denote an attribute of lease  $k$  associated with home  $i$  (e.g., acreage or distance): one component of  $Q_i$ . The MWTP for attribute  $q_{ik}$  is simply

$$MWTP(q_{ik}) = \frac{dP_{ijt}}{dq_{ik}} = \frac{\partial P_{ijt}}{\partial Q_i} \frac{\partial Q_i}{\partial q_{ik}}$$

where  $\partial Q_i / \partial q_{ik}$  can be calculated using equation (3). However, we are not interested in the effect of lease  $k$ , per se. We are more interested in the “average” marginal effect on house  $i$  for a change in attribute  $q$  over all the leases that fall within the buffer zone of a home. To this end, we calculate the average marginal effect of a change in  $q_i$  on house  $i$  as,

$$MWTP(q_i) = \frac{1}{K_i} \sum_{k \in A_i} MWTP(q_{ik}).$$

<sup>7</sup> An anonymous referee suggested an alternate, two-stage approach, to ensure that the *ceteris paribus* assumption holds: In the first stage, use the parameter estimates to predict nonmarginal changes in sales prices (before and after the siting of leases); in the second stage, regress these predicted price changes on the change in the number of leases, lease acreage, and the average distance. Slope estimates from this second stage can be interpreted as a MWTP estimate for the spatial arrangement of leases. Bootstrapping can be performed to ensure that the second-stage standard errors capture the noise from first-stage estimates.

For simplicity, we will refer to this “average” marginal effect as the *marginal effect*.

Due to the form of  $Q_i$ , we restrict our calculations of  $MWTP(Q_i)$  to the subset of homes that contained aquaculture at the time of sale. For a house that did not originally contain aquaculture, the  $MWTP$  is forced to zero by construction of the *Aquaculture index*.

## Results

The statistical models fit the data well (Table 3). The adjusted  $R^2$  values are fairly high, ranging from 0.590 to 0.733. This, coupled with large model  $F$ -statistics (35.260 to 307.754), suggests that the variables included in the statistical models are jointly relevant and capture most of the variation in housing prices. Finally, all models reject the linear, log-linear, and reciprocal specifications in favor of the Box-Cox transformed models (all  $p$ -values are less than 0.015).

All parameter estimates for the structural characteristics, except for the variable *Cabin*, are statistically significant and have the expected signs. We fail to find evidence that *Cabin* is significant in Casco Bay. This is unsurprising, as these sales make up less than 0.5 percent of the observed transactions in the Casco Bay housing market. As expected, distance from water negatively impacts housing prices, with this effect dropping off between 2–5 miles from shore. Joint tests suggest this variable is significant across all models. *Waterfront* properties and those with larger views of water also receive price premiums across all three markets. This supports our expectation that water is perceived as an amenity. In addition, being close to a government-managed or conserved beach, dock, park, or land has a positive impact on prices in all regions except Damariscotta. Finally, our controls for neighborhood characteristics provide mixed results.

### *Impact of Coastal Aquaculture Production*

We incorporated home-specific information on localized attitudes to separate the effect of neighborhood concerns toward aquaculture, which may depress local property values, from the actual spatial arrangement of leases experienced. Interestingly, we fail to find evidence that *Neighborhood attitudes* affect property values. This does not mean that these localized attitudes do not matter in coastal real-estate markets; rather, our proxy for this fails to find evidence. This is potentially a limitation of using transcripts from public lease hearings. These hearings only occur for standard leases and some experimental leases (if sufficient comments are made during the public comment period). This bounds the information that we can observe about attitudes, which is compounded by the fact that LPAs, which are more common in these study areas (Table 2), are implicitly assigned zero concerns.

**Table 3. Parameter Estimates from the Box-Cox Hedonic Pricing Model.** Sales prices are transformed using the Box-Cox transformation parameter  $\lambda$ . Robust standard errors are reported in parentheses. Parameter estimates for municipality and year fixed effects are available upon request.

Control variables	Casco Bay		Damariscotta		Penobscot Bay	
Bathrooms	0.324*** (0.036)	0.323*** (0.036)	0.583*** (0.131)	0.584*** (0.132)	1.080*** (0.167)	1.110*** (0.171)
Living Space (1,000s square feet)	1.092*** (0.033)	1.091*** (0.033)	1.247*** (0.139)	1.249*** (0.140)	1.338*** (0.221)	1.371*** (0.226)
Lot size (100s acres)	3.137*** (0.580)	3.133*** (0.579)	5.604*** (0.686)	5.609*** (0.687)	11.074*** (1.563)	11.376*** (1.602)
Age (50 years)	-0.218*** (0.023)	-0.218*** (0.023)	-0.270*** (0.051)	-0.269*** (0.051)	-0.589*** (0.076)	-0.601*** (0.078)
Age squared	0.005*** (0.001)	0.005*** (0.001)	0.004*** (0.001)	0.004*** (0.001)	0.012*** (0.002)	0.012*** (0.002)
Cabin (0/1)	-0.317 (0.250)	-0.311 (0.249)	0.717* (0.368)	0.714* (0.369)	1.685** (0.783)	1.744** (0.810)
Distance to water (miles)	-0.171*** (0.041)	-0.171*** (0.041)	-0.237 (0.172)	-0.244 (0.173)	-0.396 (0.252)	-0.301 (0.259)
Distance sq to water (miles)	0.018*** (0.006)	0.018*** (0.006)	0.067** (0.031)	0.068** (0.031)	0.112*** (0.043)	0.101** (0.044)
View of water (% 2-mile buffer)	2.282*** (0.141)	2.289*** (0.142)	3.396*** (0.473)	3.397*** (0.474)	5.458*** (0.751)	6.140*** (0.789)
Waterfront (0/1)	1.333*** (0.101)	1.333*** (0.101)	1.545*** (0.172)	1.549*** (0.172)	2.848*** (0.297)	2.941*** (0.304)
Govt. Beach/Dock (0/1)	0.221* (0.121)	0.219* (0.121)	0.118 (0.269)	0.115 (0.270)	0.865*** (0.309)	0.886*** (0.316)

Continued

**Table 3. Continued**

Control variables	Casco Bay		Damariscotta		Penobscot Bay	
Elevation (100s feet)	-0.101*** (0.027)	-0.101*** (0.027)	-0.328*** (0.122)	-0.329*** (0.122)	0.029 (0.081)	0.038 (0.083)
Seasonal homes (% census tract)	-0.007** (0.003)	-0.007** (0.003)	-0.024 (0.057)	-0.025 (0.057)	-0.068 (0.063)	-0.087 (0.067)
Median income <sup>†</sup> (\$10,000s)	0.004 (0.015)	0.005 (0.015)	-1.245*** (0.450)	-1.241*** (0.451)	0.613* (0.343)	0.639* (0.352)
Spending per student (\$1,000s)	0.048 (0.032)	0.049 (0.032)	0.043 (0.049)	0.042 (0.049)	0.141* (0.073)	0.136* (0.074)
Sale in winter (0/1)	-0.144*** (0.041)	-0.144*** (0.041)	-0.065 (0.149)	-0.067 (0.149)	-0.054 (0.195)	-0.060 (0.201)
Constant	19.804*** (0.203)	19.778*** (0.203)	29.587*** (2.639)	29.613*** (2.643)	25.349*** (1.852)	25.787*** (1.916)
<b>Aquaculture Variables and Transformation Parameter</b>						
Neighborhood attitudes	-0.005 (0.058)	0.012 (0.055)	-0.778 (0.512)	-0.770 (0.512)	0.000 (0.335)	-0.061 (0.336)
Aquaculture index (base)	-0.885 (2.922)		0.694*** (0.215)		-23.392** (10.882)	
Aquaculture index (alternate)		-7.894 (9.837)		4.342*** (1.367)		-57.609** (24.721)
Transformation parameter ( $\lambda$ )	0.100*** (0.010)	0.099*** (0.010)	0.110** (0.022)	0.111** (0.022)	0.141*** (0.017)	0.143*** (0.017)
Number of observations	5698	5698	1238	1238	1644	1644
Adjusted R <sup>2</sup>	0.733	0.733	0.598	0.598	0.590	0.590
F-statistics (Wald)	307.754	307.968	39.255	39.200	35.260	35.568

<sup>†</sup> Median household income (\$10,000s) in the home's census tract.

Significance levels: \*\*\* p < 0.01, \*\* p < 0.05, and \* p < 0.10

We find more interesting patterns related to the *Aquaculture index*, which captures the spatial arrangement of leases in relation to a home. Our results suggest variation in the impact on housing prices across the three regions. We fail to find evidence of any impact in Casco Bay, while we find statistically significant evidence for the other study areas. This pattern is robust to our specification of the *Aquaculture index* (base and alternate form). It is difficult to directly compare the magnitude of coefficients across models, as each is transformed using a different value for the Box-Cox transformation parameter. Instead, the following focuses on differences in sign and significance across regions.

For example, *Aquaculture index* is significant and positive for the Damariscotta River region. That is, after controlling for structural and neighborhood characteristics, and attitudes surrounding aquaculture, houses with “more” coastal aquaculture command a higher price on average, suggesting that aquaculture may be viewed as an amenity in the region. In Penobscot Bay, we find the opposite result, with coastal aquaculture lowering sales prices – coastal aquaculture may be viewed as a disamenity in this housing market. This pattern is consistent with the information on concerns raised at public lease hearings (Table 2). Note that, on average, there are more than twice as many concerns raised about the development of mariculture and how it affects riparian homeowners and coastal users in Penobscot Bay.

Given the evidence that aquaculture capitalizes into residential property values in two study areas, we explore the relative magnitude of these marginal impacts – are they large or small in these study areas? That is, while statistically significant, are these results economically significant? A comparison of the marginal effects for the components of the *Aquaculture index* will provide insight into this, and answer our second research question. Based on the design of this index, there are three margins of interest: the *density effect*, the *acreage effect*, and the *proximity effect* (equation 3). The *density effect* measures the marginal impact of an additional lease sited near a home, holding the number of acres of aquaculture production and proximity constant.<sup>8</sup> The *acreage effect* and *proximity effect* have similar interpretations. Given the Box-Cox transformation and the form of the *Aquaculture index*, these margins are nonlinear and depend on a combination of parameter estimates, the Box-Cox transformation parameter, and, importantly, the sales price of a home; this generates heterogeneity in the marginal impacts across the sample. We calculate margins at the house-level using sample values. Further, we restrict attention to houses with aquaculture sited within a 2-mile buffer zone of the home. Given skewness in prices (evident from the estimates of the Box-Cox transformation parameter),

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<sup>8</sup> This is similar in theme to the expected contribution of an additional bedroom, *ceteris paribus*, to the sales price of home, which holds square footage of the home constant.



the margins will also be skewed, creating larger marginal effects on more expensive homes. To address skewness, we focus on measures of the median marginal impact. See Section 3.3 for more details on calculation of these margins.

Table 4 depicts the median MWTP for our sample by study area and model: including the *density effect*, *acreage effect* and *proximity effect*. In all cases, the median MWTP is smaller (in absolute value) than the average MWTP (not shown), suggesting a long tail to the house-level distribution of marginal impacts – as expected, given the skew in prices. There are significant differences in the scale of marginal effects across regions. For example, the median MWTP for an increase in the density of aquaculture leases (its implicit marginal price) in the Damariscotta River region range from \$2 to \$4 (across models) but are much larger and negative in Penobscot Bay (–\$1,006 to –\$1,589). Similar patterns exist for increasing the acreage of aquaculture and moving leases closer to homes, with the median marginal impacts being larger and negative in Penobscot Bay: between –\$638 and –\$705 per acre and –\$0.44 and –\$0.78 per meter, respectively. Given the different units of measure for these components, it is difficult to make comparison across effects (e.g., proximity versus acreage). The smaller marginal impact on proximity should not be inferred as smaller effect.

While statistically significant, the magnitude of the sample MWTPs for the Damariscotta River region suggest they are not economically significant. That is, relative to the sales price of a home, the MWTPs in this study area are inconsequentially small: the median MWTP was less than 0.01 percent of the sales price of a home across all margins and models. As such, the following focuses on the larger MWTP estimates from Penobscot Bay. In the base model, 95 percent of the sample estimates of the *density effect*, i.e., the MWTP for an additional lease near a home, correspond with a reduction in sales price of a home between less than 0.01 percent (very small) and 4.71 percent (much larger). Within this sizable range of impacts, the median loss is only 1.06 percent of the sales price. Similar patterns exist for increasing *acreage* and reducing *proximity*. In the alternate model, adjusting the *Aquaculture index* to control for the portion of water in the buffer zone, our median loss is smaller (0.51 percent), though the 95-percent interval is largely unchanged (between less than 0.01 percent to 4.39 percent).

## Discussion

Marine aquaculture could grow to be an important component of the “blue economy” for the United States. It has the potential to help satisfy growing demand for fish protein, reduce the U.S. seafood trade deficit, create healthier oceans, and provide localized benefits to coastal communities. Despite the potential economic and ecological benefits from expanding coastal aquaculture, its expansion will alter the mixture of winners and losers, potentially creating tensions among coastal resource users, regulators,

**Table 4. Median Marginal Willingness-to-Pay (MWTP) (\$) for coastal aquaculture by study area and model.** Estimates calculated from the subset of observations that contained aquaculture within a 2-mile buffer zone. *Density* depicts the margin for an additional lease holding the number of acres and distance of leases to houses constant – increasing the density of leases contained in the existing acreage. *Acreage* depicts the margin for an additional acre of aquaculture, holding the number of leases and distance from housing constant. *Proximity* depicts the margin for moving 1 meter closer to aquaculture holding the number of leases and acres constant. One-tailed p-values simulated using 100,000 draws from the parameters estimates (Table 3).

Study area	Model	Density	Acreage	Proximity
Casco Bay	Base	-39.64	-54.71	-0.01
	Alternate	-122.62	-228.04	-0.05
Damariscotta	Base	1.69***	93.77***	0.01***
	Alternate	3.59***	156.05***	0.01***
Penobscot Bay	Base	-1,588.79**	-704.57**	-0.78***
	Alternate	-1,006.27***	-637.75***	-0.44***

Significance levels: \*\*\* p < 0.01, \*\* p < 0.05, and \* p < 0.10

government agencies and other invested stakeholders (e.g., NGOs) (Knapp 2012, Knapp and Rubino 2016). Researchers argue that we could reduce these tensions through improved availability of interdisciplinary research and communication of the positive benefits of aquaculture to these groups of users (Bricknell and Langston 2013, NOAA 2016b). These challenges highlight the importance of acceptance by coastal resource users for the successful expansion of mariculture. Resource managers and regulators with a deeper understanding of the impacts of marine development (e.g., mariculture) could design spatial plans that balance concerns across a suite of users and promote this emerging industry. To this end, quantifying the impacts of mariculture development on coastal residential property values provides resource managers with valuable information for integrative marine spatial planning.

This paper presents an important addition to the literature and provides one of the first empirical analyses of the effect of marine aquaculture on coastal, residential property values. This revealed-preference study complements the stated-preference work on public perceptions toward aquaculture (Shafer, Inglis, and Martin 2010, D'Anna and Murray 2015, Jodice et al. 2015). Further, the design of our hedonic model allows us to address questions of direct interest to policy makers and land managers regarding the development of mariculture. Specifically, we measure not just the impact from proximity to aquaculture, but also from the spatial configuration of its siting, e.g., the density and acreage of leases across the local seascape. The results from this work provide insights into the impact of decentralized expansion of marine aquaculture. Finally, our results can also inform future exploratory analyses of transcripts from aquaculture lease hearings. For example, an exploration of the patterns of concerns raised at these hearings, and how they vary by lease, lessee, and community characteristics could be important for coastal managers. This type of analysis could provide information about the efficacy of public participation in the siting process, as well as provide insight into designing a siting framework that improves social acceptance of mariculture.

While there is a rich body of work that has evaluated the impact of land-based farming (Abeles-Allison and Connor 1990, Palmquist, Roka, and Vukina 1997, Le Goffe 2000, Herriges, Secchi, and Babcock 2005, Ready and Abdalla 2005, Kim and Goldsmith 2009), few studies have attempted to investigate the impact of water-based farming on residential property values (Northern Economics 2010, Jodice et al. 2015, Sudhakaran 2015). Our work fills this hole in the research. Our results suggest wide variation in how marine development of aquaculture impacts property values, both across and within study areas. In Casco Bay, we fail to find statistical evidence of impacts from marine aquaculture. Recall that this is an urban area for Maine, with an active working waterfront for shipping, recreation, and commercial fishing. It is possible that mariculture is insubstantial relative to these other coastal uses. In the Damariscotta River region, we find statistically significant and positive effects of the development of marine aquaculture. However, these

effects are very small – economically insignificant. This region has a long history of promoting aquaculture in its waters (Damariscotta River Association 2016). Our results may suggest that these efforts have been largely successful so that mariculture “blends” into the seascape. Finally, in Penobscot Bay, we find both statistically and economically significant negative impacts. Within this region, property values tend to fall as aquaculture leases become larger, denser, and closer to coastal homeowners. There is considerable within-sample variation of these impacts. Ninety-five percent of the observed transactions that had aquaculture within two miles experienced reductions in sales price from as low as less than 0.01 percent to as high as 4.7 percent (base model). For the past 40 years, this region has grown dependent on ecotourism for its income, relying on the natural quality of its environment (Penobscot Marine Museum 2012). Marine aquaculture could appear intrusive to the perception of this natural environment. This would be consistent with past research (Shafer, Inlgis, and Martin 2010, D’Anna and Murray 2015).

Despite the results that property values in two study areas are unaffected by the current level of mariculture, this does not suggest that we should target development in these areas. The hedonic model limits us to insights about the effect of development on the margin – household location choices are fixed. If we are to achieve the level of development suggested by NOAA’s target (50-percent increase in marine production by volume), then this would require large-scale, nonmarginal change in our coastal waters, which may lead to substantially different results. For example, it is possible that while a marginal increase in development of mariculture may reduce property values in Penobscot Bay, large-scale development may increase property values if it generates sufficient increases in local incomes through direct and indirect economic spillovers. While understanding the effects of nonmarginal development is important, it is beyond the scope of this paper. Future work should consider incorporating estimators capable of predicting nonmarginal impacts (e.g., equilibrium sorting models or other structural equation models). An important component of this work should be identifying the mechanisms through which aquaculture affects property values and the distance at which these effects become negligible.

It is also unlikely that the uncoordinated development of marine aquaculture will balance productive (e.g., profitable) growing of marine-based food with the spatial variation of social acceptance. Instead, we may want to consider adjustments to the leasing process to improve our awareness of these potential tradeoffs. For example, if the state wants to maintain control over the leasing process, it may consider the use of marine aquaculture zones. These predefined lease areas could be evaluated for biological productivity and social acceptance, coordinating development along the coastline. Alternatively, fine-scale management may also be successful. A potential candidate would be a co-managed process with municipalities, similar to how Maine currently co-manages its soft-shell clam fishery, giving municipalities power to govern access, fishing effort, and conservation activities in coastal

waters. This would allow leasing to capture the spatial heterogeneity of preferences across the coastline, and designate acceptable lease areas.

Our work reveals interesting challenges for coastal resource managers. There are potential benefits from coordinating aquaculture siting decisions to balance the competing objectives of diverse groups of coastal resource users. Policy makers could find this information especially relevant when considering future development of aquaculture and coastal planning as coastal development continues to accommodate growing populations and aging communities. Questions about the scale of coastal development are becoming more pressing as coastal populations grow (NOAA 2013). This requires information on preferences from multiple groups of users, which is often costly and difficult to obtain. The results from our hedonic pricing model aid to fill knowledge gaps for these managers, providing information on preferences toward the development of aquaculture in coastal waters by one particular group of users, coastal residents. It is possible that although an area may be biologically suitable for aquaculture development, failure to consider the social suitability of siting decisions could lead to unintended consequences that slow the long-run development of marine aquaculture. Our findings provide empirical evidence that mariculture sometimes exerts an externality that is often overlooked, but not always. Thus, it is worthwhile for both stakeholders and policy makers to carefully consider the impacts. Future planning and development can use these results and insights to inform integrative coastal management.

## Supplementary Material

To view supplementary material for this article, please visit <https://doi.org/10.1017/age.2017.19>.

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**Oakland Bay Real Estate  
Transactions for 537 Tax Parcels**

Sales Prior to 12/31/1989

Sales After 01/01/1990

APN	Property Address	Owner Name(s) Formatted	Sale Recording Date	Lot Size (SF/AC)	Lot Size Acres	Purchase Year
32003-00-02000	50 E Sandpiper Ln	Olympia Federal		310,148	7.120	
32003-34-80550		Taylor United Inc & Taylor United Incorpor	6/9/1986	43,560	1.000	
32003-43-00090		Wallace & Alicia Wong	5/25/2012	27,443	0.630	1989 or Prior
32003-50-01901		Bayshore Inc		10,019	0.230	
32003-50-01902		Susan Petty & The Susan R Petty Revocal	5/19/2021	10,890	0.250	1990 or Later
32003-50-01903		Susan Petty & The Susan R Petty Revocal	5/19/2021	10,019	0.230	
32003-50-02001	231 E Bayshore Dr	Bradley & Sada Mortensen	11/26/1997	20,909	0.480	
32003-50-03001	220 E Bayshore Dr	Wallace & Alicia Wong	9/14/2009	24,829	0.570	
32003-50-03002	210 E Bayshore Dr	Bothwell Living Trust	10/26/2016	15,246	0.350	
32003-50-03004	200 E Bayshore Dr	Samuel & Laura Trowbridge	9/13/2019	16,117	0.370	
32003-50-03005	190 E Bayshore Dr	Richard & Kathryn Cowley	7/13/1999	12,632	0.290	
32003-50-03006	170 E Bayshore Dr	Kathryn Cowley	7/1/2022	27,878	0.640	
32003-50-03007	160 E Bayshore Dr	The Eubank Edler Family Trust & Christo	7/1/2022	19,602	0.450	
32003-50-03008	140 E Bayshore Dr	Bayshore Inc		20,038	0.460	
32008-43-90121	1982 E State Route 3	Jane Carol Nowacki	6/8/2009	64,469	1.480	
32009-41-00010	2848 E State Route 3	Linda Haverland & Karolee Tone		10,890	0.250	
32009-41-80000		Manke Timber Company Inc	12/30/2010	99,752	2.290	
32009-43-00040	2500 E State Route 3	Manke Timber Company Inc	2/10/2012	23,087	0.530	
32009-43-00041		Debra Corrigan & Douglas Ayerst	10/24/2017	80,586	1.850	
32009-43-00042		Manke Family Resources	2/10/2012	4,356	0.100	
32009-43-80000		Debra Corrigan & Douglas Ayerst	8/21/2002	100,623	2.310	
32009-43-80001		Peggy A. Peters	6/4/2013	20,038	0.460	
32009-49-00020		Debra Corrigan & Douglas Ayerst	10/24/2017	20,909	0.480	
32009-49-00021		Douglas & Victoria Ayerst	10/2/2006	24,829	0.570	
32009-49-00022	2450 E State Route 3	Byron Debban		20,909	0.480	
32009-50-00001		Byron Debban	12/26/2001	7,405	0.170	
32009-50-00002	2400 E State Route 3	Peggy A. Peters	6/4/2013	34,412	0.790	
32009-50-00004	2370 E State Route 3	Trevor Robison & Kim Ellen	1/10/2017	29,185	0.670	
32009-50-00005	2350 E State Route 3	Donald E. Hodges	4/12/2010	32,234	0.740	
32009-50-00006		Brian Lagerberg & Dacia Dunbar	7/28/2017	42,689	0.980	
32009-50-00007	2290 E State Route 3	Brian Lagerberg & Dacia Dunbar	7/28/2017	17,860	0.410	
32009-50-00009		Manke Family Resources	8/2/2019	25,265	0.580	
32009-50-00010		Manke Family Resources	2/1/2017	30,056	0.690	
32009-50-00011		Manke Family Resources	10/12/1981	30,056	0.690	
32009-50-00012	2361 E State Route 3	Manke Family Resources	9/14/2004	30,056	0.690	
32009-50-00013		Manke Family Resources	1/21/2005	30,056	0.690	
32009-50-00014	2401 E State Route 3	Manke Family Resources	4/23/1996	44,866	1.030	
32009-50-00015	2401 E State Route 3	Manke Family Resources	4/23/1996	44,866	1.030	
32009-50-00900	2430 E State Route 3	Bryon L. Debban	5/23/2001	26,136	0.600	
32009-50-80303		Manke Timber Co Inc & Null	2/1/2017	22,651	0.520	
32009-50-80304		Manke Timber Company Inc			0.000	
32009-50-80305		Manke Family Resources			0.000	
32009-50-90081		Brian Lagerberg & Dacia Dunbar	1/20/2021	33,541	0.770	
32009-50-90082		Manke Family Resources	1/20/2021	34,848	0.800	
32010-00-60000		Manke Family Resources	10/15/2003		0.000	
32010-21-80070		Taylor United Inc & Taylor United Incorpor	6/9/1986	217,800	5.000	
32010-21-80140		Taylor United Inc & Taylor United Incorpor	6/9/1986	87,120	2.000	
32010-22-00000	3100 E Sr3	Marion Ann Vandermay	6/2/2015		0.000	
32010-22-00020		Taylor United Inc & Taylor United Incorpor	6/9/1986	10,890	0.250	
32010-22-00030		Taylor United Inc & Taylor United Incorpor	6/9/1986	32,670	0.750	
32010-22-00040		Curtis W. Bennett	10/15/2003	9,583	0.220	
32010-23-00000	2854 E State Route 3	Manke Family Resources	2/10/2012	213,444	4.900	
32010-23-00030		Manke Family Resources	4/23/1996	464,787	10.670	
32010-23-80120		Manke Timber Company Inc	12/30/2010	550,164	12.630	
32010-32-00010	2852 E State Route 3	Peggy & Tedd Davis	10/16/2013	60,984	1.400	
32010-32-00020	2850 E State Route 3	Linda Haverland & Karolee Tone	5/8/2015	19,602	0.450	
32016-12-70000		Debra Corrigan & Douglas Ayerst	8/21/2002		0.000	
32016-12-70010		Manke Timber Company Inc	12/30/2010		0.000	
32016-22-00010	1691 E State Route 3	William Phelps	8/31/2007	87,120	2.000	
32016-23-00000		Gretchen Matzen		84,942	1.950	
32016-23-00020	1671 E State Route 3	Brent Floch	6/30/2014	30,056	0.690	
32016-23-00030		Gretchen Matzen		30,492	0.700	
32016-51-00001	1729 E State Route 3	Roy & Renee Romo	9/25/2015	25,265	0.580	
32016-51-00004	1791 E State Route 3	James Kissinger & Catherine Steele	7/1/2011	25,265	0.580	
32016-51-00007	1821 E State Route 3	Not Available From The County	7/25/2019	17,860	0.410	
32016-51-00010	1931 E State Route 3	Stuart Horn	9/9/2015	25,265	0.580	
32016-51-00013		George & Kathryn Cox	11/24/2003	23,522	0.540	



32016-51-00016	1997 E State Route 3	Yupin Mclin	10/15/2013	13,504	0.310
32016-51-00017	1995 E State Route 3	Michael & Barbara Bridges	12/5/2019	13,504	0.310
32016-51-00018	1993 E State Route 3	Elizabeth & David Fluke	10/20/2010	22,651	0.520
32016-51-00019		Hoang & Rosa Nguyen	10/27/2017	6,534	0.150
32016-51-00020		Hoang & Rosa Nguyen	10/30/2006	20,038	0.460
32016-51-00023	2111 E State Route 3	Brandon & Alex Steward	10/17/2022	13,504	0.310
32016-51-00025		Cameron Del Phillips	5/16/2022	20,038	0.460
32016-51-00028		Manke Family Resources	9/14/2004	64,469	1.480
32016-51-00030		Manke Family Resources	9/14/2004	34,412	0.790
32016-51-00032		Manke Family Resources	9/14/2004	35,719	0.820
32016-51-00036	2230 E State Route 3	Thomas & Marilyn Burgess	8/3/2000	59,241	1.360
32016-51-00037	2210 E State Route 3	Quan Do & Tolan Phung	5/5/2023	14,810	0.340
32016-51-00039		Brian & Shelly Renecker	1/4/1990	5,663	0.130
32016-51-00041	2172 E State Route 3	Brian & Shelly Renecker	11/12/2009	17,424	0.400
32016-51-00043	2170 E State Route 3	Vo Nguyen Investments Llc	12/24/2019	39,640	0.910
32016-51-00045	2140 E State Route 3	Gene & Susan Gonzales	7/28/2020	46,609	1.070
32016-51-00047	2110 E State Route 3	Jill Himlie		71,003	1.630
32016-51-00049	2080 E State Route 3	Hoang & Rosa Nguyen	10/30/2006	46,609	1.070
32016-51-00051	2052 E State Route 3	Lisa Olsen & Seth Walker	7/12/2019	24,829	0.570
32016-51-00052	2050 E State Route 3	Danilo Fulgencio & Brad Brennecke	6/15/2021	24,829	0.570
32016-51-00053	2010 E State Route 3	Joseph Holt	3/11/2021	50,965	1.170
32016-51-00055	1982 E State Route 3	Jane Carol Nowacki	12/4/2000	27,007	0.620
32016-51-00056	1980 E State Route 3	Jane Carol Nowacki	7/29/2005	26,572	0.610
32016-51-00057	1960 E State Route 3	Robert & Vicki Clark	10/30/2001	27,878	0.640
32016-51-00058	1950 E State Route 3	Katherin & Noel Magnusson	5/17/2011	20,909	0.480
32016-51-00059	1890 E State Route 3	George & Kathryn Cox	11/24/2003	23,087	0.530
32016-51-00061		George & Kathryn Cox	11/24/2003	27,878	0.640
32016-51-00064	1882 E State Route 3	George & Kathryn Cox	11/20/2020	9,583	0.220
32016-51-00065	1880 E State Route 3	Susan Wolff	7/5/2013	35,284	0.810
32016-51-00068	1840 E State Route 3	James & Stacy Goss	11/1/2004	30,056	0.690
32016-51-00901		Jill Himlie & Jill Barnard		43,560	1.000
32016-51-00903	1991 E State Route 3	Gabriel Harder & Telissa Wilson	3/15/2011	88,427	2.030
32016-51-00904	1933 E State Route 3	Bradley & Linda Owen	11/5/1993	91,476	2.100
32016-51-00905		Manke Family Resources	9/14/2004	29,621	0.680
32017-41-00000		Manke Family Resources	10/3/1995	158,123	3.630
32017-41-00010		Manke Family Resources	10/3/1995	20,038	0.460
32017-41-00020		Manke Family Resources	10/3/1995	59,241	1.360
32017-41-00040		Manke Family Resources	10/3/1995	10,890	0.250
32017-43-00070		Manke Family Resources	12/7/1998	141,570	3.250
32010-13-00010	90 E Beaver Ln	Nicholas Corn & Ashley Ferguson	11/6/2020	19,166	0.440
32010-13-00020		Martin & Maria Ferns	2/28/2014	16,553	0.380
32010-13-00030		Thelma V Fong Trustee	1/30/2014	15,246	0.350
32010-13-00040	150 E Beaver Ln	David & Siri Bach	12/10/2009	50,094	1.150
32010-13-00060	210 E Beaver Ln	Allan & Patricia Rumbaugh	6/1/2006	27,878	0.640
32010-13-00070	220 E Beaver Ln	Oak Bay Holdings Llc	1/14/2022	461,737	10.600
32010-13-00080		Babare L . L . C	7/28/1998	737,038	16.920
32010-13-00090	1151 E Daniels Rd	Michael & Elizabeth Hill	9/16/2019	228,690	5.250
32010-13-00100	110 E Beaver Ln	Alvin F & Slyvia J. Buchholtz	10/30/2013	34,848	0.800
32010-13-00110	102 E Beaver Ln	Martin & Maria Ferns	2/28/2014	16,117	0.370
32010-13-00120	200 E Beaver Ln	Nancy Triplett	1/10/2022	12,197	0.280
32010-13-00130	180 E Beaver Ln	Daniel & Sera Rogers	9/27/2021	27,878	0.640
32010-13-00150		David & Siri Bach	3/14/2011	20,473	0.470
32010-13-00160	1151 E Daniels Rd	David M & Siri Bach	2/20/2015	59,677	1.370
32010-13-00170	100 E Beaver Ln	Kim & Mariella Moore	8/11/2016	23,958	0.550
32010-13-00180	130 E Beaver Ln	R & Shirley Finanger		20,473	0.470
32010-13-70590		Babare L . L . C	9/12/2005	320,602	7.360
32010-13-70591		Babare L . L . C	9/12/2005	21,780	0.500
32010-13-90140	171 E Beaver Ln	Michael & Elizabeth Hill	7/27/2020	198,198	4.550
32010-13-90200		Thylan Dao & Dao Man	4/8/1997	47,480	1.090
32010-13-90210		Kevin Caskey	5/7/1986	41,818	0.960
32010-24-80131		Babare L . L . C	9/12/2005	21,780	0.500

32010-24-80132		Babare L . L . C	9/12/2005	4,356	0.100
32010-31-50120	951 E Daniels Rd	Swindler's Cove LLC	3/1/2021	218,236	5.010
32010-31-80130	291 W Wivell Rd	Joe, Rae	7/25/2014	143,312	3.290
32010-34-00000		Jm Resources Llc	2/12/2020	357,193	8.200
32010-34-80520		Jm Resources Llc	3/20/2014	201,247	4.620
32010-41-00000		Z V Company Inc.	6/26/2001	217,800	5.000
32010-41-00010		Peter & Melinda Wooding	6/19/2020	217,800	5.000
32010-42-00000		Z V Company Inc.	5/1/2000	217,800	5.000
32010-42-00010		Wild Cove Llc	3/11/2022	1,746,762	40.100
32010-43-00000		Peter & Melinda Wooding	6/19/2020	217,800	5.000
32010-43-00010		Dan & Mary Kopacz	11/15/1999	69,696	1.600
32010-44-00000		Z V Company Inc.	5/1/2000	222,156	5.100
32010-44-00010	90 E Swindlers Cove Rd	Suzanne Kruppa & Christine Grundy	3/22/2023	87,120	2.000
32010-44-00020		Agate Point Llc	3/30/2023	1,942,783	44.600
32010-50-01031	1391 E Beaver Ave	James & Karen Johnston		14,810	0.340
32010-50-01032	1381 E Beaver Ave	Linda & William Morrell	12/8/2010	10,019	0.230
32010-50-01033		Linda & William Morrell	11/7/1994	9,583	0.220
32010-50-01034	1361 E Beaver Ave	Arthur & Mary Barkshire	11/4/1997	9,583	0.220
32010-50-01035	1351 E Beaver Ave	Arthur & Mary Barkshire	1/11/1993	10,019	0.230
32010-50-01036	1341 E Beaver Ave	Steven & Julie Youngs	8/5/2019	10,019	0.230
32010-50-01037	1331 E Beaver Ave	John Kelly & M Cheryl	9/22/2000	10,890	0.250
32010-50-02015	1520 E Beaver Ave	Cedar Grove Country Club		74,923	1.720
32010-51-03008		Adam & Jennifer Lang	12/3/2015	18,295	0.420
32010-51-03009		Ryan Kraut	7/13/2010	14,375	0.330
32010-51-03010		Ryan & Dawn Kraut		15,246	0.350
32010-51-03011		Sharon Burk	11/26/2019	13,939	0.320
32010-51-03013	1130 E Daniels Rd	Allen James	4/5/2019	17,424	0.400
32010-51-03014	1150 E Daniels Rd	Timothy Blanchard Jr & Carrie Blanchard	5/26/2022	15,682	0.360
32010-51-03015	1170 E Daniels Rd	Carrie Cosgrove	7/22/2011	13,068	0.300
32010-51-03016	1190 E Daniels Rd	Scott & Nancy Ennor	11/15/2019	16,988	0.390
32010-51-03017	1250 E Beaver Ave	Richard & Susan Carroll	2/15/2005	12,632	0.290
32010-51-03018	1270 E Beaver Ave	Martha Macfarlane	5/29/2013	15,682	0.360
32010-51-03019	1300 E Beaver Ave	Martha Macfarlane	5/24/2002	15,682	0.360
32010-51-03020	1330 E Beaver Ave	Martha Macfarlane	5/31/1995	13,504	0.310
32010-51-03021	1350 E Beaver Ave	Joseph & Frances Stevens	1/20/2016	15,682	0.360
32010-51-03022	1370 E Beaver Ave	Lynn Phipps	4/22/2005	13,939	0.320
32010-51-03023	1390 E Beaver Ave	Mason County & Mason County Courtho	8/18/2009	18,295	0.420
32010-51-03024	1400 E Beaver Ave	Henry James Jr & Lorna James	10/1/2010	29,185	0.670
32010-51-04001		Jimmy Truong & Van Le	2/17/2021	12,197	0.280
32010-51-04002		Jimmy Truong & Van Le	2/17/2021	17,860	0.410
32010-51-04003	50 E Beaver Ln	Jimmy Truong & Van Le	2/17/2021	28,314	0.650
32010-51-04006	90 E Beaver Ln	Nicholas Corn & Ashley Ferguson	11/6/2020	23,522	0.540
32010-51-04007		Cedar Grove Country Club		259,618	5.960
32010-51-94051		Kimberly Lauzon & Steve Toy	6/29/2021	16,117	0.370
32010-51-94052		Kimberly Lauzon & Steve Toy	6/29/2021	13,504	0.310
32015-10-80160		Taylor United Inc & Taylor United Incorp	6/9/1986	4,035,414	92.640
32015-13-00000	600 E Sunset Rd	Duane & Jeanne A. Knutson	11/20/2017	431,245	9.900
32015-13-00010		Eric Liss	6/27/2000	297,515	6.830
32015-13-00020	681 E Sunset Rd	Tyler & Bobbi Whitener	12/4/2020	280,963	6.450
32015-13-00030		David & Connie Mclean	7/27/2017	351,530	8.070
32015-14-00000		John Rogers Jr & Jody Rogers	9/11/2017	341,947	7.850
32015-14-00010		John Rogers Jr & Jody Rogers	1/7/1980	87,120	2.000
32015-14-00020	550 E Sunset Rd	Dennis Peacock	8/11/2000	500,941	11.500
32015-20-70830		Eleanor Brewer		148,540	3.410
32015-21-80120		Jm Resources Llc	12/31/2008	148,540	3.410
32015-24-00000		Eric Liss	6/27/2000	357,193	8.200
32015-24-00010	961 E Sunset Rd	Markco,Llc & Null	12/31/2012	339,769	7.800
32015-24-00020	1001 E Sunset Rd	Robert Meacham Iii & Pamala Meacham	5/20/2021	157,252	3.610
32015-31-00030		Robert & Pamela Meacham	4/1/1980	217,800	5.000
32015-32-00000		Mason County	3/23/2012	875,559	20.100
32015-41-00000		John Rogers Jr & Jody Rogers	9/29/1988	87,120	2.000
32015-50-00001	1230 E Sunset Rd	Roger & Carrie Willson	10/25/2013	44,431	1.020
32015-50-00002	1210 E Sunset Rd	Roger & Carrie Willson	10/25/2013	29,185	0.670
32015-50-00003		Roger & Carrie Willson	2/21/2014	33,106	0.760
32015-50-00004	1170 E Sunset Rd	Thomas & Melanie Nevares	2/17/2017	39,640	0.910

32015-50-00005		Patrick & Erin Pattillo	5/21/2021	95,832	2.200
32015-50-00007		Great Peninsula Conservancy	12/30/1998	49,222	1.130
32015-50-00008		Young, Simon Yuk-Fan & Susan Fan & Null		47,044	1.080
32015-50-00009	1082 E Sunset Rd	Ninh O. & Thanh K. Dinh	10/30/1996	47,916	1.100
32015-50-00010	1080 E Sunset Rd	Roger & Florence Fierst	8/3/2022	48,787	1.120
32015-50-00011	1062 E Sunset Rd	Andrew Willner & C Nancy	7/24/2020	45,738	1.050
32015-50-00012	1060 E Sunset Rd	Ronald Lewis & A Laurie	10/25/1995	41,818	0.960
32015-50-00013	1040 E Sunset Rd	James E & Susan Campbell	8/17/2001	38,768	0.890
32015-50-00014		Marlar Properties, Llc & Null	12/31/2012	36,155	0.830
32015-50-00015	1020 E Sunset Rd	David & Virginia Douglas	8/5/2021	33,977	0.780
32015-50-00016	1000 E Sunset Rd	Kevin T. & Heather L. Renso	7/20/2018	32,670	0.750
32015-50-00017	990 E Sunset Rd	Dewey Hall & Tana Blocker Trsees	8/25/2011	32,234	0.740
32015-50-00018	980 E Sunset Rd	Melissa Kennedy & William Boynton	12/2/2014	32,670	0.750
32015-50-00019	970 E Sunset Rd	Linda Chinn & C Carolyn	11/6/2012	32,670	0.750
32015-50-00020	950 E Sunset Rd	David & Connie Mclean	9/21/1999	31,799	0.730
32015-50-00021	940 E Sunset Rd	Markco,Llc & Null	12/31/2012	33,106	0.760
32015-50-00022	930 E Sunset Rd	Richard Bidwell & Judith Brumley Bidwel	12/1/1988	34,412	0.790
32015-50-00023	920 E Sunset Rd	Richard & Jana Royal	8/24/1999	35,284	0.810
32015-50-00024	880 E Sunset Rd	Richard & Christina Christopherson	10/5/2017	36,590	0.840
32015-50-00025	860 E Sunset Rd	Mark & Christin Herinckx	7/11/2022	37,462	0.860
32015-50-00026	850 E Sunset Rd	William Lanning & Kathy Kent Lanning	1/17/2003	38,768	0.890
32015-50-00027	844 E Sunset Rd	Devitt & Deborah Barnett	1/10/1991	34,848	0.800
32015-50-00028	840 E Sunset Rd	Eric Liss	6/27/2000	35,719	0.820
32015-50-00029	820 E Sunset Rd	Wayne & Marva Glandon	3/3/1998	36,155	0.830
32015-50-00030	800 E Sunset Rd	Jason & Shanoah Beaty	6/12/2020	41,382	0.950
32015-50-00031		Taylor United Inc & Taylor Timber Invest	6/9/1986	46,609	1.070
32016-34-70500		Squaxin Island Tribe	6/12/2007		0.000
32016-41-70000		Taylor United Inc & Taylor United Incorp	5/26/1994		0.000
32016-50-00001		Mason County	3/23/2012	112,820	2.590
32016-50-00002		Klaus & Sherri Heise	10/1/2015	68,825	1.580
32016-50-00003		Klaus & Sherri Heise	9/27/1995	222,156	5.100
32016-50-00005		Klaus & Sherri Heise	9/27/1995	30,928	0.710
32016-50-00006		Klaus & Sherri Heise	12/16/2019	8,712	0.200
32016-50-00007		Klaus & Sherri Heise	9/27/1995	47,916	1.100
32016-50-00009		David & Suzette James	2/26/1999	19,602	0.450
32016-50-00010		Daniel G & Rhonda H. James	2/26/1999	28,314	0.650
32016-50-00011		Patricia James & Angle Tractstr	4/25/2018	28,314	0.650
32016-50-00012		Patricia James	1/27/2012	28,314	0.650
32016-50-00013		Jm Resources Llc	3/20/2014	128,502	2.950
32016-50-00018		Sleek Find Llc	3/23/2007	21,780	0.500
32016-50-00019		Beisley, Inc.	1/31/2007	32,670	0.750
32016-50-00020		James Harlan & Dyrnes Cynthia	1/31/2007	69,696	1.600
32016-50-00021		Beisley, Inc.	1/31/2007	52,272	1.200
32016-50-00022		Sleek Find Llc	2/17/2017	34,848	0.800
32016-50-00023		David & Debra Simpson	2/22/2007	52,272	1.200
32016-50-00024		James & Dorothy Shireman	8/31/2004	54,885	1.260
32016-50-00028		Patricia James & James Daniel	11/17/2011	116,305	2.670
32016-50-00035		Daniel James	2/14/2007	114,563	2.630
32016-50-00901		Sleek Find Llc	3/23/2007	21,780	0.500
32016-50-00902		David & Debra Simpson	2/22/2007	34,848	0.800
32016-50-00903	231 E Seamount Way	Daniel & Rhonda James	11/17/2011	65,340	1.500
32016-50-00904	110 E Jamesview Pl	Daniel & Rhonda James	11/17/2011	141,570	3.250
32016-50-90170	151 E Seamount Way	Greg & Kathy Clark	10/8/2009	19,602	0.450
32016-50-90171	161 E Seamount Way	Steven & Sally Brooks	5/6/2008	19,602	0.450
32016-52-00001	1250 E Sunset Rd	Mason County	3/23/2012	120,226	2.760
32016-52-00005		Mason County	3/23/2012	409,030	9.390
32016-53-01001	2500 E Crestview Dr	David & Debra Simpson	9/21/2006	22,651	0.520
32016-53-01002		Koral Miller	1/27/2020	11,326	0.260
32016-53-01003	31 E Seamount Way	Koral Miller	8/31/1999	13,068	0.300
32016-53-01004		Koral Miller	8/31/1999	9,148	0.210
32016-53-01005	51 E Seamount Way	Walter Brewer	3/6/2009	18,295	0.420
32016-53-01007	71 E Seamount Way	James Harlan & Cynthia Dyrnes	6/13/2007	9,148	0.210
32016-53-01008	91 E Seamount Way	James Harlan & Cynthia Dyrnes	11/20/2018	9,148	0.210
32016-53-01009	101 E Seamount Way	Kathleen Kravitz	7/12/2022	9,148	0.210
32016-53-01010		Michael Dillon	3/23/2007	9,148	0.210

32016-53-01011	131 E Seamount Way	Anthony De Augustini	9/6/2017	9,148	0.210
32016-53-01013	151 E Seamount Way	Clark Greg	10/8/2009	19,166	0.440
32016-53-01014	161 E Seamount Way	Steven & Sally Brooks	8/11/2005	19,166	0.440
32016-53-01016	191 E Seamount Way	John & Deborah Ann Kraft	4/28/2006	9,583	0.220
32016-53-01017	211 E Seamount Way	Karen Mclellan & Lori Crouch	4/28/2006	9,583	0.220
32016-53-01018	221 E Seamount Way	Daniel & Rhonda James	4/22/2008	9,583	0.220
32016-53-02002	160 E Skyline Dr	Shawna & James Creamer	10/16/2007	8,276	0.190
32016-53-02003	140 E Skyline Dr	Anthony Ondich Iii	3/5/2004	7,841	0.180
32016-53-02004	120 E Skyline Dr	Amy Ouhl	10/8/2021	9,583	0.220
32016-53-02005	110 E Skyline Dr	Nancy Stewert & Taylor Trust	8/25/2005	16,988	0.390
32016-53-02007	80 E Skyline Dr	Skyline Security Land Trust & Sharon Pra	6/26/2007	8,276	0.190
32016-53-02008		David & Carolyn Christensen		8,276	0.190
32016-53-02009	50 E Skyline Dr	Joseph Campbell Iii & Ripp Campbell	9/2/1994	8,276	0.190
32016-53-02010		Joseph Campbell Iii & Ripp Campbell	2/21/1995	10,454	0.240
32016-53-02011	30 E Skyline Dr	Kathryn A. Pruett	5/5/2010	7,841	0.180
32016-53-02012	141 E Parkway N	David Roberts & Kayla Reid	8/16/2021	8,712	0.200
32016-53-02013		Patricia James	1/27/2012	208,653	4.790
32016-53-03001	2450 E Crestview Dr	William Bennett	9/7/2006	21,780	0.500
32016-53-03003		Charles D. Thompson	4/17/1984	8,276	0.190
32016-53-03004	2444 E Crestview Dr	Charles Thompson	6/5/2007	8,276	0.190
32016-53-03005		Charles Thompson	6/18/2021	8,276	0.190
32016-53-03007	120 E Seamount Way	Ian & Alicia Cunningham	5/10/1994	16,117	0.370
32016-53-03008	130 E Seamount Way	Anthony De Augustini	10/14/2022	7,841	0.180
32016-53-03009		Kennet D. Y Judene M. Cook	10/7/2005	7,841	0.180
32016-53-03010		Kennet D. Y Judene M. Cook	10/7/2005	7,841	0.180
32016-53-03011	151 E Skyline Dr	Frank & Deborah Veselovsky	6/24/2011	7,841	0.180
32016-53-03012		Frank & Deborah Veselovsky	6/26/1995	8,712	0.200
32016-53-03013	151 E Skyline Dr	Frank & Deborah Veselovsky	6/26/1995	14,810	0.340
32016-53-03014	131 E Skyline Dr	Tyler Bentley	9/8/2005	9,148	0.210
32016-53-03015	131 E Skyline Dr	Tyler Bentley	9/8/2005	7,841	0.180
32016-53-03016	121 E Skyline Dr	Tyler Bentley	2/26/2009	9,148	0.210
32016-53-03017	111 E Skyline Dr	Christopher Ridenour	8/10/2007	8,276	0.190
32016-53-03018	91 E Skyline Dr	Indigo Mahira	11/16/2005	8,276	0.190
32016-53-03019	81 E Skyline Dr	David Boyle	7/5/2006	8,276	0.190
32016-53-03031	110 E Greenwood Ln	Danielle & Marcia Mill	2/9/2021	7,841	0.180
32016-53-03032	120 E Greenwood Ln	Nicholas Pemberton	7/9/2021	7,841	0.180
32016-53-03033	130 E Greenwood Ln	Marie & Scott Campbell	5/28/2021	7,841	0.180
32016-53-03034	150 E Greenwood Ln	James & Tamala Kanies	7/16/2019	16,117	0.370
32016-53-03036		Kenneth D. & Judene M. Cook	10/7/2005	13,504	0.310
32016-53-03037		Anthony De Augustini	10/14/2022	9,148	0.210
32016-53-03039	200 E Greenwood Ln	Betty Morris & William Cook	10/13/2011	17,860	0.410
32016-53-03040	210 E Greenwood Ln	Jackie Strom	2/17/2021	13,068	0.300
32016-53-03041	2430 E Crestview Dr	Tobias & Kristen Tarzwell	4/30/2008	12,632	0.290
32016-53-03042	2410 E Crestview Dr	Pedro Schotte	12/4/2020	12,197	0.280
32016-53-04001	19 E Greenwood Ln	Philip Tobias	3/5/2020	11,326	0.260
32016-53-04002		Rapid Capital Inc	5/2/2023	11,761	0.270
32016-53-04003	161 E Greenwood Ln	Judith Shattuck	7/3/2014	7,841	0.180
32016-53-04004	151 E Greenwood Ln	Ryan Graves	7/8/2009	7,841	0.180
32016-53-04005		Baring Site Development Llc	5/2/2023	7,841	0.180
32016-53-04006	121 E Greenwood Ln	Elk View Park Llc	4/12/2021	7,841	0.180
32016-53-04007	111 E Greenwood Ln	Kursta Joslin	4/1/2013	7,841	0.180
32016-53-04021		Leonard & Debra Dato	10/13/1999	7,841	0.180
32016-53-04022	2350 E Crestview Dr	George Sampson	2/18/2009	7,841	0.180
32016-53-04023	2360 E Crestview Dr	Jordan Arbanasin	8/27/2021	7,841	0.180
32016-53-04024		Keevin Simon	1/18/2019	7,841	0.180
32016-53-05036	10 E Peyton Pl	Robert & Sharon Armstrong	5/4/2017	16,988	0.390
32016-53-05038		George Sampson	4/6/2017	8,276	0.190
32016-53-06002	31 E Peyton Pl	Daniel & Rhonda James	11/17/2011	24,394	0.560
32016-53-06003	41 E Peyton Pl	Rhonda Chesley	7/1/2022	16,988	0.390
32016-53-06005	71 E Peyton Pl	John Hesch	4/3/1996	16,553	0.380
32016-53-06007	101 E Peyton Pl	Paul Ingebrigtsen	8/9/2000	8,276	0.190
32021-00-81350		Mason County & Null	2/10/2015	192,971	4.430
32021-13-81360		Stacy Augustine	2/28/2020	15,682	0.360
32021-20-70510		Squaxin Island Tribe	6/12/2007	92,783	2.130
32021-52-01030	411 E Orchard Ln	Vito & Ethlynn Quaranta	1/27/2010	85,377	1.960

32021-52-01036	81 E Shoreline Pl	Wallace & Sandra Goelzer	4/8/1997	17,424	0.400
32021-52-01900	81 E Midway Ln	Roann Milligan	3/14/2018	8,712	0.200
32021-53-01028	11 E Shoreline Pl	Chad & Teresa Goelzer	11/20/2009	27,878	0.640
32021-53-01029	21 E Shoreline Pl	Terrence Mccarthy & Mccarthy Kathleen	3/25/1997	6,534	0.150
32021-53-01030	31 E Shoreline Pl	Scott A. & Ella L. Williams	4/11/1997	6,970	0.160
32021-53-01031	41 E Shoreline Pl	Donna & Shirley Fabian	8/26/2021	6,970	0.160
32021-53-01032	51 E Shoreline Pl	Donald & Gayle Harris	8/26/2015	6,970	0.160
32021-53-01033	71 E Shoreline Pl	Wendy Allan	10/15/2003	20,038	0.460
32021-53-01038	61 E Shoreline Ln	Jeanette Lewis	5/11/2001	17,424	0.400
32021-53-01040	71 E Shoreline Ln	David & Joanne Williams	2/15/2011	8,276	0.190
32021-53-01041	81 E Shoreline Ln	James & Kimberly Barker	3/6/2006	8,276	0.190
32021-53-01042	91 E Shoreline Ln	Stefan & Carol Pilcic	8/30/2016	8,712	0.200
32021-53-01043	111 E Shoreline Ln	Michael & Lisa Devogel	4/29/2016	9,148	0.210
32021-53-01044		Shawn & Thaninthorn Hanson	8/6/2004	9,148	0.210
32021-53-01045	131 E Shoreline Ln	Gail Nordeen	6/29/2006	9,148	0.210
32021-53-01046	151 E Shoreline Ln	Jack J & Donna M. Squires	8/8/2005	18,295	0.420
32021-53-01049	181 E Shoreline Ln	David & Tracy Duerst Trs	11/12/1998	16,553	0.380
32021-53-01050	191 E Shoreline Ln	Bente Olsen	10/20/2005	7,405	0.170
32021-53-01051	201 E Shoreline Ln	Michael Perry	5/15/2018	9,148	0.210
32021-53-01052		Henry O'Neal	1/22/2013	6,534	0.150
32021-53-01053	221 E Shoreline Ln	William Coleman Iii & Amber Coleman	7/17/2020	8,712	0.200
32021-53-01054	291 E Midway Ln	Mark & Joni Carlson	3/22/1999	6,098	0.140
32021-53-01055	301 E Midway Ln	Mark & Joni Carlson	12/6/2007	6,098	0.140
32021-53-01056		Robert & Ashley Santos	7/29/2021	6,098	0.140
32021-53-01057		Jonathan Moyer	9/26/2016	6,098	0.140
32021-53-01058		James & Dorothy Shireman	8/31/2004	13,068	0.300
32021-53-01900	261 E Midway Ln	Richard & Julie L. Fortier	5/17/2012	5,227	0.120
32021-53-01901	211 E Shoreline Ln	James & Debra Stephenson	6/14/2007	7,841	0.180
32021-53-01902		William Coleman Iii & Amber Coleman	7/17/2020	5,227	0.120
32021-53-01903	231 E Shoreline Ln	Son & Thanh Le	7/12/2019	7,841	0.180
32021-53-01904	241 E Shoreline Ln	Matthew & Amanda Cuaresma	6/25/2021	7,405	0.170
32021-53-01905	261 E Shoreline Ln	Robert & Ashley Santos	7/29/2021	6,534	0.150
32021-53-01906	271 E Shoreline Ln	Jonathan Moyer	9/26/2016	7,405	0.170
32021-53-01907	281 E Shoreline Ln	James & Dorothy Shireman	1/23/2009	11,761	0.270
32021-53-02027		Terrence Mccarthy & Mccarthy Kathleen	3/25/1997	7,405	0.170
32021-53-02028		Donald & Gayle Harris	9/22/2006	7,405	0.170
32021-53-02029		Richard & Nancy Heath	9/6/2006	10,454	0.240
32021-53-02034	171 E Midway Ln	Randolph & Cynthia Potter	4/21/2010	9,148	0.210
32021-53-02035	181 E Midway Ln	Cynthia Potter	3/31/2021	7,405	0.170
32021-53-02036	291 E Midway Ln	Michael & Tracey Mcglothlin	9/14/2017	7,405	0.170
32021-53-02037	201 E Midway Ln	Wayne & Gerritdina Brock	6/15/2023	7,405	0.170
32021-53-02038	211 E Midway Ln	Loni Miller	8/7/2020	7,405	0.170
32021-53-02039	231 E Midway Ln	Michael & Michael Mcaboy	5/17/2023	8,276	0.190
32021-53-02040	10 E Shoreline Ct W	Dorothy & Philip Vella	12/6/2021	8,276	0.190
32021-53-02041		Henry O'Neal	4/26/1999	6,970	0.160
32021-53-03001	240 E Shorecrest Dr	Matthew Jadra & Megan Richardson	2/27/2023	10,019	0.230
32021-53-03002	2270 SE Cole Rd	Joe Rae	9/29/2011	8,276	0.190
32021-53-03003		Peter & Patricia Meeboer	8/1/1988	7,405	0.170
32021-53-03004	100 E Midway Ln	Craig Leone & Taylor Mccallum	3/1/2023	9,148	0.210
32021-53-03005	220 E Shorecrest Dr	Cannell Investments Llc	7/27/2022	10,890	0.250
32021-53-03006	130 E Midway Ln	Johnathan Talbot	6/8/2023	10,890	0.250
32021-53-03007	190 E Shorecrest Dr	William & Janet Mcturnal	1/25/2022	21,344	0.490
32021-53-03008	180 E Midway Ln	Daniel & Cynthia Johnson	4/26/2023	12,197	0.280
32021-53-03010	182 E Midway Ln	Joel Roswall & Steve Blankenship	6/22/2007	13,068	0.300
32021-53-03011	170 E Shorecrest Dr	Robert & Shirley Edwards	6/22/2001	10,454	0.240
32021-53-03012	190 E Midway Ln	Milagros Bautista Jr & Felix Bautista	1/24/2006	12,632	0.290
32021-53-03013	160 E Shorecrest Dr	Almadin Besic	4/5/2021	10,454	0.240
32021-53-03014		James Bennett & Tyron Schmitt	3/28/2006	12,632	0.290
32021-53-03015		Alexis & Nicauri Plasencio	4/8/2021	10,454	0.240
32021-53-03016		Tyron Schmitt	11/7/2008	11,326	0.260
32021-53-03017	140 E Shorecrest Dr	Alexis Whitney	6/9/2015	10,454	0.240
32021-53-03018		Paula Chuka	10/8/2019	10,454	0.240
32021-53-03019		Shorecrest Estates Water	3/27/2019	11,326	0.260
32021-53-03020	240 E Midway Ln	Shorecrest Estates Water Company & Nu	4/19/2019	9,583	0.220
32021-53-03021	110 E Shorecrest Dr	Charles & Josephine Marcacci	5/25/2016	10,019	0.230



32021-53-03022	250 E Midway Ln	Erik Kohnhorst	9/7/2004	10,019	0.230
32021-53-03023		Charles & Josephine Marcacci	4/5/2004	10,019	0.230
32021-53-03024		Vincent Settle	7/30/1997	16,988	0.390
32021-53-03025		Bradley & Laura Casper	12/17/2020	13,504	0.310
32021-53-03026		Bradley & Laura Casper	12/16/2020	10,019	0.230
32021-53-03027	40 E Shorecrest Dr	Ms40 Llc	9/25/2006	13,939	0.320
32021-53-03028		Ms40 Llc	12/15/2009	13,939	0.320
32021-53-04019		Victoria Frantz	8/20/1981	10,019	0.230
32021-53-04020	390 E Bridger Ln	Robert & Karen Chatham	4/30/2008	10,019	0.230
32021-53-04021	380 E Bridger Ln	Ross E. & Nadine P. Hanson	3/21/1989	10,019	0.230
32021-53-04022	360 E Bridger Ln	Kevin Flanagan & Hollind Kevo	6/9/2006	10,019	0.230
32021-53-04023	350 E Bridger Ln	Sound Built Homes Inc & Gary Racca	10/23/2007	20,038	0.460
32021-53-04025	331 E Shorecrest Dr	James Null	10/15/2020	10,019	0.230
32021-53-04026		Sleek Find Llc & Null	3/27/2019	9,583	0.220
32021-53-04027		Reed Pagel	5/12/2020	10,454	0.240
32021-53-04028		Thomas Root	5/6/2021	10,454	0.240
32021-53-04029	291 E Shorecrest Dr	Joy Meek	5/21/2021	10,454	0.240
32021-53-04030	281 E Shorecrest Dr	Stacy & John Kovacs	10/28/2022	9,583	0.220
32021-53-04031		Behnaz Mohammadi	2/15/2006	9,148	0.210
32021-53-04033	241 E Shorecrest Dr	Ismet Basic	1/18/2022	20,473	0.470
32021-53-04034		Dean Christiansen	2/29/2000	9,583	0.220
32021-53-04035		Dean Christiansen	2/29/2000	10,019	0.230
32021-53-04036	200 E Bridger Ln	Cynthia Hurd	6/16/2006	10,019	0.230
32021-53-04037		Paul Delaurenti	7/13/2006	10,019	0.230
32021-53-04038		Tho Nguyen & Huong Phan	9/18/2020	9,148	0.210
32021-53-04039	140 E Bridger Ln	Benjamin Mecham	12/9/2019	9,148	0.210
32021-53-04040	130 E Bridger Ln	Victor W. Rose	2/14/2018	9,148	0.210
32021-53-04041	120 E Bridger Ln	Robert & Susan Slocum	4/5/2006	8,712	0.200
32021-53-04042		Robert & Susan Slocum	5/5/2006	9,148	0.210
32021-53-04043	100 E Bridger Ln	Larry Stecker	11/3/2015	8,276	0.190
32021-53-04045	70 E Bridger Ln	Ronald & Kathryn Mortensen	12/19/2005	16,553	0.380
32021-53-04046	50 E Bridger Ln	Cole & Hailey Mccarter	3/15/2023	8,712	0.200
32021-53-04047		Amelia 1 Llc	6/13/2023	9,583	0.220
32021-53-04048	30 E Bridger Ln	Lloyd & Paula Schuler	12/30/1994	11,326	0.260
32021-54-01001	2371 E Crestview Dr	Christine Jackson Trse & Jackson Revclb I	10/7/1996	9,148	0.210
32021-54-01002	2381 E Crestview Dr	Leslie Wickline	10/8/2019	9,148	0.210
32021-54-01003	2391 E Crestview Dr	Duane & Marca Hoxit	1/26/2009	9,148	0.210
32021-54-01004	2401 E Crestview Dr	James Belleville & Bakala Melanie	7/22/2016	9,148	0.210
32021-54-01005	2421 E Crestview Dr	Paul Zollo	7/24/2020	9,148	0.210
32021-54-01006	2431 E Crestview Dr	Kelly Waliser	9/13/2021	9,148	0.210
32021-54-02007	2351 E Crestview Dr	Kathy Shipp	12/30/2013	9,148	0.210
32021-54-02008	21 E Cross Rd	Lake Light Llc	4/27/2022	9,148	0.210
32021-56-01001	10 E Panorama Dr	Ernest G. & Dorothy M Boys	12/17/2009	7,405	0.170
32021-56-01002	31 E Bridger Ln	Larry & Shirley Shilley	2/11/2008	8,712	0.200
32021-56-01003		Larry & Shirley Shilley	2/11/2008	9,148	0.210
32021-56-01004	60 E Panorama Dr	Patricia Mccray	3/1/2006	9,148	0.210
32021-56-01005	70 E Panorama Dr	Carlos Anaya	4/18/2006	9,148	0.210
32021-56-01006	80 E Panorama Dr	Forest Luttrell	9/23/2022	9,583	0.220
32021-56-01007	90 E Panorama Dr	Mark Padgett & Leilani Wynne	2/11/2016	9,583	0.220
32021-56-01008	110 E Bridger Ln	Niederriter William	3/28/2023	11,761	0.270
32021-56-01009	120 E Panorama Dr	Joseph Costello Iii & Malisa Forshaw	3/31/2016	10,890	0.250
32021-56-01010	130 E Panorama Dr	Kevin Wentz & Gilda Martin	6/22/2007	17,424	0.400
32021-56-01012	150 E Panorama Dr	Matthew Thorns	7/24/2020	8,712	0.200
32021-56-01013	160 E Panorama Dr	David & Jody Scovill	2/15/2006	8,712	0.200
32021-56-01014		Gary Ernst	1/11/1996	8,712	0.200
32021-56-01015		Gary Ernst	1/11/1996	9,148	0.210
32021-56-01016	210 E Panorama Dr	Suong Che & Robert Villahermosa	1/21/2022	8,712	0.200
32021-56-01017		James & Sun Lindsey	4/5/2021	9,583	0.220
32021-56-01018		Harry & Dorothy Fishel		10,019	0.230
32021-56-01019	240 E Panorama Dr	Edith Harris	9/5/2019	9,148	0.210
32021-56-01020		Phillip & Angeline Bracero		9,583	0.220
32021-56-01021	260 E Panorama Dr	Louis Maggi Sr & Kathryn Maggi	9/13/2017	18,295	0.420
32021-56-01023	300 E Panorama Dr	Byron Howes	3/15/2004	9,148	0.210
32021-56-01024		Lyle & Janis Campbell	8/13/1992	9,148	0.210
32021-56-01025		Alhagie Touray	6/26/2020	9,148	0.210

32021-56-01026		Byron Howes	7/8/2016	9,148	0.210
32021-56-01027		Dawn Hagopian & Janet Krag Leblanc	7/23/2021	9,148	0.210
32021-56-01029	380 E Panorama Dr	Terry & Sandra Robertson	10/9/2018	18,295	0.420
32021-56-02010		David & Constance Inglin	11/21/2005	8,712	0.200
32021-56-02011		Catherine A. Dolle	3/6/2019	8,712	0.200
32021-56-02012		Stuart Klatt	12/31/1987	8,712	0.200
32021-56-02013	321 E Panorama Dr	Cannell Investments Llc	4/4/2014	8,712	0.200
32021-56-02014		Stuart Simpsn	3/31/2020	8,712	0.200
32021-56-02015		Stuart Simpson	12/10/2018	8,712	0.200
32021-56-02016		Michael Allen Beadle	7/26/1999	8,712	0.200
32021-56-02017	251 E Panorama Dr	Dennis House	6/21/2019	7,841	0.180
32021-56-02018		Angelica Meza Del Valle	4/17/2006	7,841	0.180
32021-56-02019	231 E Panorama Dr	Sidra Gifford	7/21/2021	7,841	0.180
32021-56-02020		Sidra Gifford	12/1/2004	7,841	0.180
32021-56-02022	201 E Panorama Dr	Donald Bakko Jr	4/28/2000	24,394	0.560
32021-56-02024	520 E Wood Ln	Melissa Rogers	8/28/2018	8,712	0.200
32021-56-02025	530 E Wood Ln	Joe & Sue Haynes		10,890	0.250
32021-56-02026	540 E Wood Ln	Kenneth Adam li & Sarah Adam	2/11/2021	12,632	0.290
32021-56-02027	550 E Wood Ln	Robert Stewart	4/24/2020	12,632	0.290
32021-56-02028	560 E Wood Ln	Robert Stewart & Dianne Boatwright Fro	12/16/2021	8,712	0.200
32021-56-02029	570 E Wood Ln	Barbara Love	9/18/1996	8,712	0.200
32021-56-02030	580 E Wood Ln	Janness Morgan	12/10/2021	17,424	0.400
32021-56-02032	600 E Wood Ln	Amy & Amanda Carr	6/22/2022	8,712	0.200
32021-56-02033	610 E Wood Ln	Patricia Roberts		8,712	0.200
32021-56-03001		Ralph Lordier	9/1/2021	9,148	0.210
32021-56-03002	41 E Panorama Dr	Ralph Lordier	4/30/2012	10,454	0.240
32021-56-03003	51 E Panorama Dr	Todd Brown	10/23/2018	9,148	0.210
32021-56-03004		Robert & Juliet Brown	9/6/2022	8,276	0.190
32021-56-03005	71 E Panorama Dr	David Boyle	5/15/2009	8,276	0.190
32021-56-03006	81 E Panorama Dr	Henley Wa 16 Llc	4/4/2023	8,276	0.190
32021-56-03007	91 E Panorama Dr	Reva Fowler	8/8/2008	8,712	0.200
32021-56-03008	101 E Panorama Dr	Teresita Pearson	10/10/2019	9,583	0.220
32021-56-03009	121 E Panorama Dr	James Quinones	10/20/2015	8,712	0.200
32021-56-03010	141 E Panorama Dr	Gordon Winch	8/28/2019	8,276	0.190
32021-56-03011	151 E Panorama Dr	Gordon Winch	8/28/2019	8,276	0.190
32021-56-03012		Carma Anderson	8/20/2013	8,276	0.190
32021-56-03013	490 E Wood Ln	Karla Powell	11/21/2019	12,197	0.280
32021-56-03014	480 E Wood Ln	Jerry & Donna Greenway	11/29/2007	10,454	0.240
32021-56-03015	470 E Wood Ln	Henley Wa 16 Llc	6/21/2023	9,583	0.220
32021-56-03016	460 E Wood Ln	Michael Landers & Bragg Rebecca	11/20/1995	8,276	0.190
32021-56-03017	450 E Wood Ln	Myung & Hai Hong	5/2/2005	8,276	0.190
32021-56-03018	440 E Wood Ln	Betty Bradford	11/30/2021	9,148	0.210
32021-56-03019	430 E Wood Ln	Anglea M. Archer	10/30/2018	10,454	0.240
32021-56-03020	420 E Wood Ln	David & Shirley Pilkey	7/2/2019	10,890	0.250
32021-56-03021	380 E Wood Ln	Henley Wa 13 Llc	3/1/2023	10,454	0.240
32021-56-03022	370 E Wood Ln	Mckenzie Jorgensen & Mitchell Johnson	1/8/2021	8,712	0.200
32021-56-03023	40 E Cross Rd	Owen & Brenda Oehrling	6/22/2007	8,712	0.200
32021-56-04008	340 E Wood Ln	Gordon Hecker Jr	11/28/2017	9,148	0.210
32021-56-05010	561 E Wood Ln	William Wootton Iii & Karen Wootton	8/11/2014	8,712	0.200
32021-56-05011	551 E Wood Ln	Stanley & Kathleen Lamb	9/21/2021	16,117	0.370
32021-56-05013	531 E Wood Ln	Tracey McGroven	10/12/2021	16,117	0.370
32021-56-05015	501 E Wood Ln	Saul Pineda	2/28/2019	8,712	0.200
32021-56-05016	491 E Wood Ln	North Country Home Buyers Llc	9/18/1989	8,276	0.190
32021-56-05017	471 E Wood Ln	Robert Reece Jr & Deanna Reece	5/17/2007	7,841	0.180
32021-56-05018	461 E Wood Ln	Mary Mary & The Mary Anne Louise Hea	6/29/2020	6,970	0.160
32021-56-05019	451 E Wood Ln	Stuart Perry	12/20/2012	6,970	0.160
32021-56-05020	441 E Wood Ln	Stuart Perry	1/9/2014	7,405	0.170
32021-56-05021	421 E Wood Ln	Luanne Price	11/26/2019	8,276	0.190
32021-56-05022	381 E Wood Ln	Archie Pecor	3/2/1999	7,405	0.170
32021-56-05023	371 E Wood Ln	C & E Conway		7,841	0.180
32021-56-05024	361 E Wood Ln	Tyson Kinnan	1/4/2007	8,276	0.190
32021-56-05044	130 E Olympic Pl	Billy Franco	10/5/2018	9,148	0.210
32021-56-05045	150 E Olympic Pl	Machado Revocable Living Trust, Irene &	4/22/2014	9,148	0.210
32021-56-05046	150 E Olympic Pl	Machado Revocable Living Trust, Irene &	4/22/2014	9,148	0.210
32021-56-05047	152 E Olympic Pl	Gary Sage	4/14/2006	11,761	0.270
32021-57-01020	301 E Orchard Ln	Grantee Lafferty	9/24/2020	20,038	0.460
32021-57-01021	321 E Orchard Ln	Andrew & Barbara Hazzard	8/25/2020	19,166	0.440
32021-57-01022	331 E Orchard Ln	Stacy Augustine	7/12/2017	18,295	0.420
32021-57-01023	341 E Orchard Ln	Ho Byun & Scott Loeser	10/24/2019	7,841	0.180
32021-57-01024	361 E Orchard Ln	Cassandra Campbell & Preston Chinn	3/8/2021	16,117	0.370



Pink Highlight: Purchased After 01/01/1990  
 Blue Highlight: Purchased Before 12/31/1989

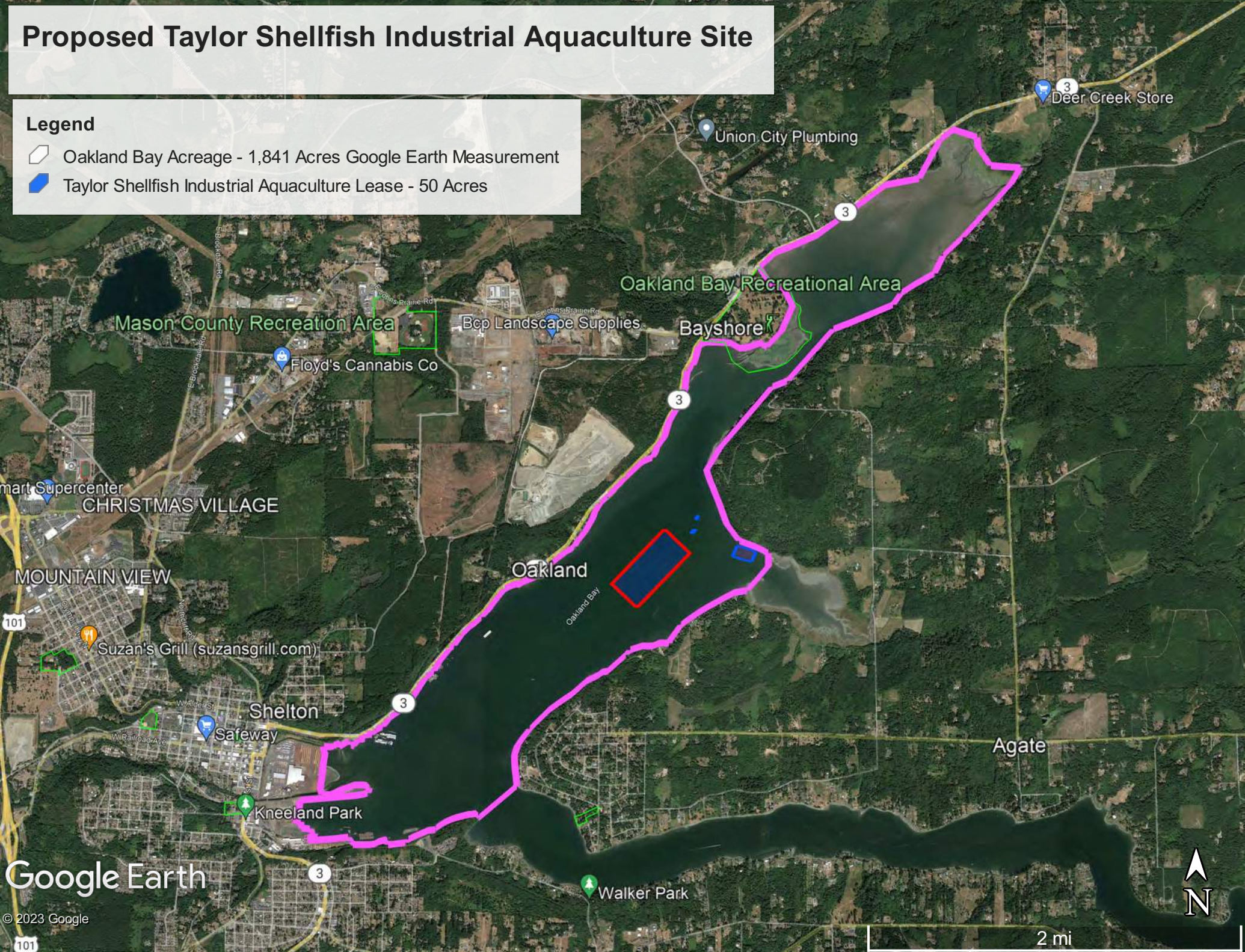
32021-57-01025	371 E Orchard Ln	Michael & Marcia Jacobson	4/21/2006	6,970	0.160
32021-57-01026	401 E Orchard Ln	Nancy & Robert Pinkney	6/6/2008	37,026	0.850
32021-57-01035	21 E Shoreline Ln	Timothy & Luzviminda Ebor	8/20/2015	19,166	0.440
32021-57-01037	31 E Shoreline Ln	Mark & Lisa Weller	6/30/2004	19,602	0.450
32021-57-01900	41 E Shoreline Ln	Leishman Sep&Trs, Jerald S & B Sandra	4/11/1994	10,890	0.250
32021-57-02019	310 E Orchard Ln	Steven W. & Molly Crofts	8/17/2018	16,553	0.380
32021-57-02021	340 E Orchard Ln	Gerrard & Christine Strong	8/29/2014	7,405	0.170
32021-57-02022	350 E Orchard Ln	Michael & Marcia Jacobson	11/28/2006	6,970	0.160
32021-57-02023	360 E Orchard Ln	William & Debbie Pompa	9/29/2004	6,534	0.150
32021-57-02024	380 E Orchard Ln	William & Debra Pompa	5/18/2006	6,534	0.150
32021-57-02025	370 E Shorecrest Dr	Scott & Janice Hanson	8/29/1990	7,405	0.170
32021-57-02030	91 E Midway Ln	Steven & Bernadette Franklin	7/16/2021	6,970	0.160
32021-57-02031	40 E Shoreline Ln	Charlotte Sampson & Herbert Sampson I	9/12/2019	13,939	0.320
				29,680,959	681.381
				56,214	1.271
Totals					
No Sale Date				25	
Purchased 1989 or Earlier				19	
Purchased 1990 or Later				493	



# Proposed Taylor Shellfish Industrial Aquaculture Site

## Legend


-  Oakland Bay Acreage - 1,841 Acres Google Earth Measurement
-  Taylor Shellfish Industrial Aquaculture Lease - 50 Acres

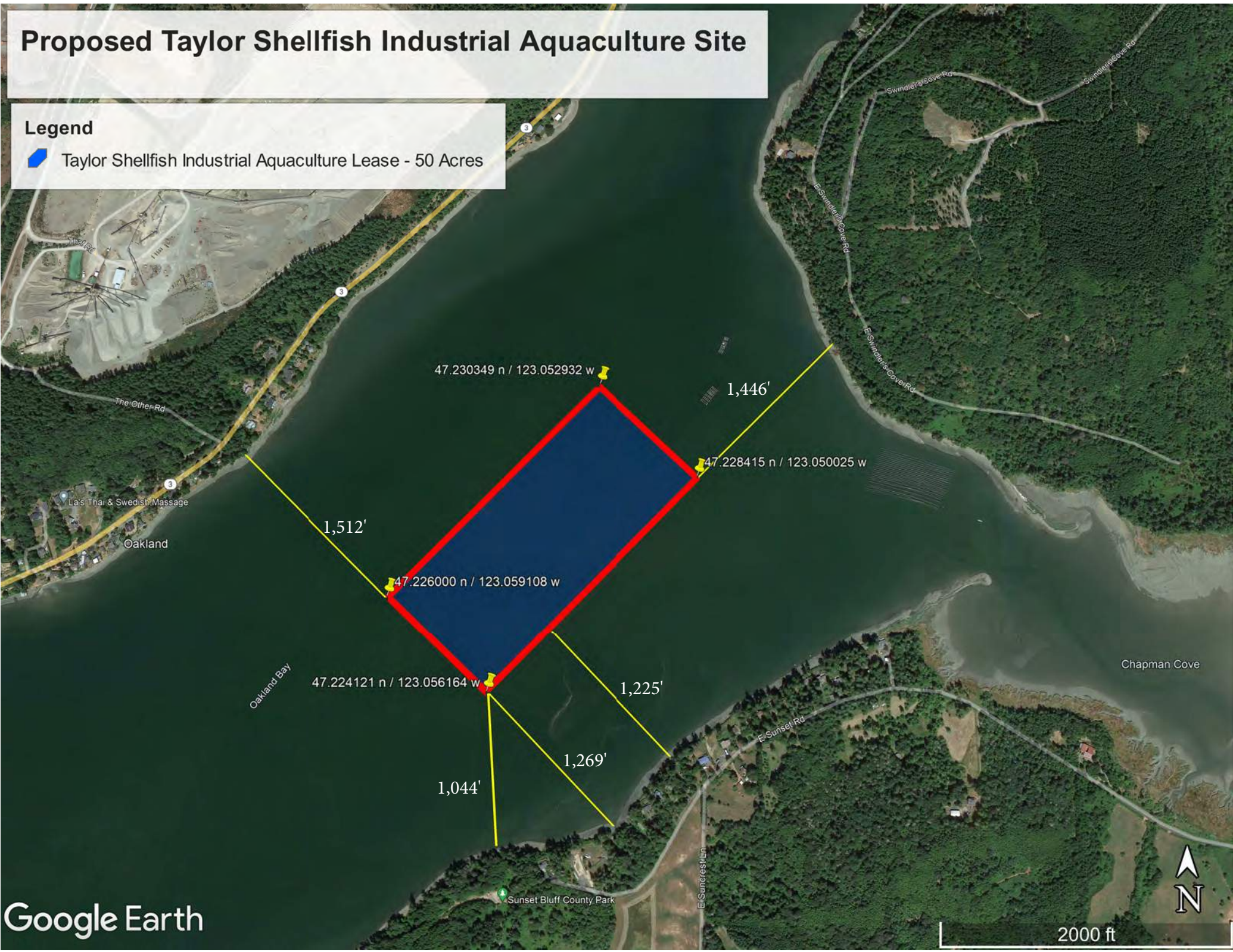




# Proposed Taylor Shellfish Industrial Aquaculture Site

## Legend

 Taylor Shellfish Industrial Aquaculture Lease - 50 Acres







# Oakland Bay Waterfront


Taylor Shellfish Proposed Industrial Aquaculture Impacted Properties

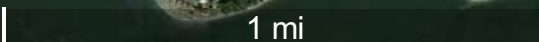
**Legend**

-  East Side, Oakland Bay
-  Highway 3 Frontage Properties



Google Earth

  
N

 1 mi



# Proposed Taylor Shellfish Industrial Aquaculture Site

Middle Oakland Bay - 580 Acres





9/10/2023

LViscusi Mason County  
Taylor Shellfish Company  
Shoreline Substantial Development Permit  
SHR2023-00003

The continuous addition of HDPE plastic pollution in the waters of Puget Sound and Oakland Bay is an ongoing problem that cannot be mitigated.

There are still many unknowns about the effects of the chemicals that are used to create UV resistant HDPE. We cannot ignore the possible leaching of chemicals and the breakdown of micro plastics in the marine environment. If this permit is approved tens of thousands of UV treated oyster bags, miles of lines, and buoys will be added to the marine waters of Oakland Bay.

The Confluence report indicates that the HDPE gear is “unlikely” to degrade to micro plastics but does not mention the possibility of chemicals, that are added to the HDPE aquaculture gear to make it UV resistant, leaching into the marine waters.

The use of the word “unlikely” means there is still a small chance that an event will happen, you are not completely sure. The probability of less than 50% is unlikely! Additional studies are needed to protect Oakland Bay and the greater Puget Sound from leaching plastics and micro plastics in aquaculture gear.

The health of Puget Sound and Oakland Bay should not be gambled away! I urge you to deny this permit !

Janey Aiken  
iamquiltngal@gmail.com

Here's 5 pictures of our Aesthetics from our address.

Kevin Renso















September 10, 2023

TO: Hearing Examiner - Mason County

RE: Taylor Shellfish Company Shoreline Substantial Development Permit SHR2023-00003

**Requesting denial of the Substantial Development Permit**

FR: Melissa Kennedy, 980 East Sunset Road, Shelton, WA 98584

Taylor Shellfish is a 100 million dollar for profit company. All documents and stated facts are created by person's on Taylor Shellfish's payroll. These person's have a vested interest in spinning Taylor's narrative of little to no impact in the installation of 30,000 floating oyster bag on Oakland Bay

It needs to be acknowledge that 30,000 floating oyster bags and their adjacent plastic floats will have an impact aesthetically on Oakland Bay.

Taylor continues to state, "Shellfish aquaculture is a preferred water-dependent use." As the justification for using Oakland Bay as an experiment in the industrialization of large scale oyster farming. Taylor conveniently leaves out all the other preferred uses stated in the Shoreline Management Act, including, but not limited to, that navigation on open water is a public right.

The required updated Aesthetics study is by Taylor is simply a cut-and- paste of different portions of documents that are often out of context or leave out the competing components.

What is not acknowledged by Taylor is that where their proposed farms will be located **is not** an industrial area, has no bridges, no docks and very few bulkheads. Taylor is injecting their business on the surface of all that is our visual field. The majority of the shoreline is untouched, as our views of the water and night sky.

Yes, there is commercial shellfish harvesting on our beaches, but it natural harvesting where the organisms are growing in their natural habitat, minus the oyster raft at the end of the bay. The impact of this proposal is front and center, floating over 51 acres of our views. The angle of our homes sitting 30 + feet above the water look directly into the center of the bay (See photo inserted on last page), the reason may of us bought our homes. That view will now be gone. It does not matter that it will blend with "nature". There will be no reflections, birds diving, fish jumping, whales breaching, or my kids fishing in the deep water channel from the 12' little aluminum fishing boat.

**WHAT IS NOT STILL ADDRESSED:**

1. What do the floats actually look like. A actual picture or prototype has never been supplied
2. What chemicals are used in the UV protection infused into the floats
3. What the navigation light impacts will be, this proposal covers the **ONLY** navigational channel in Oakland Bay.

Taylor states each light will be 6 lumens, but does not state whether the lighting is:

- 30 lights, a single light on each row
- 60 lights, one on each end
- 90 lights, each end and at the middle
- 180 lights, each end and a light at 600 feet and 1200 feet
- 270 lights, one every 200'

Any additional night lighting will impact the stars and night sky visible, but similar in that we do not know what the floats look like, the chemicals infused into the floats for UV protection, we do not know how our night sky will be impacted.

For the approximately 400 homes on Oakland Bay, most who bought in the last 30 years, they have never know anything but a serene bay that lacks any type of visual commercial/industrial use besides the oyster rafts deep into the estuary and away from residential areas.

### **Updated Aesthetics Analysis:**

Instead of an Aesthetics Analysis, Taylor Shellfish is supplying their opinion of the THEIR project.

*(Page 6 -7 ;Updated Aesthetics Analysis) The Proposal will **complement, and not substantially detract from, the aesthetic qualities** of the surrounding area. Shellfish have been commercially farmed in Oakland Bay since the 1800s, and there are currently over 270 acres of shellfish production in the bay, in addition to significant acreage under tribal harvest. Existing shellfish farms include both intertidal and subtidal/floating cultivation, including mussel rafts and FLUPSYS.*

*Given the significant shellfish cultivation currently within Oakland Bay and the mix of other uses and development, floating aquaculture projects **fit in well with the existing aesthetic characteristics of the area generally.***

*Finally, there are **no major public viewing points such as parks in the immediate vicinity of the Proposal**, and Highway 3 affords limited, passing views of the site of the Proposal to motorists.*

**Sunset Bluff Park; E Sunset Road, Shelton: This year round 35 acre undeveloped natural open space provides water access to Oakland Bay.** (Mason County Parks: Information About Our Parks; [masoncounty.wa.gov](http://masoncounty.wa.gov))

*To the extent that views from residences are considered, however, the Proposal will have a **minor to moderate impact**,....*

*“the visual presence of most facilities is reduced to a line near the horizon. At this distance, size and surface coverage doesn’t **seem to affect visual impact**”*

Taylor Shellfish does not get to state where my horizontal view line is. From the location of my home, the horizon is well beyond the middle of Oakland Bay. My primary view is the center of Oakland Bay. (See picture attached)

*The Proposal meets multiple recommendations from each minimization category. With respect to the first category, as discussed above the Proposal is located in waters offshore of “[c]ulturally modified landscapes, particularly those with existing commercial/industrial maritime activity.”*

The only commercial or industrial maritime activity visible from my home is a single oyster float far into the estuary that. The only activity on the water directly in front of my home is the skiffs traveling to check on the single float.

The picture addressing “the existing near bottom oyster bag farm” is misrepresented as part of our views. These bags are located in the mudflats and around the corner from those of us who will sit directly in front of the proposed floating aquaculture farm.



The pictures included by Taylor are all showing commercialization that is not within the area that our homes have a view of. Taylor is taking the commercial activities on the shoreline and twisting them into a justification for commercialization over the center of the navigational waters of the bay.

From the pictures taken by Taylor for the proposed area, "South Shoreline homes view from within the proposed farm boundary" my home is dead middle in that picture. It is a clear visual that the proposed farm is in direct alignment with my view line. My home sits above the water and looks directly into the area.

It is of great concern that the updated Aesthetic Analysis is a list of outline again why Taylor Shellfish is not required to consider the aesthetic visual impact their proposed project will have. The report goes as far as to state they have the right to impact aesthetics:

*(Page 3 & 4). Paragraph (J) states: "To the maximum extent practicable, floating aquaculture structures shall not substantially detract from the aesthetic qualities of the surrounding area, provided methods are allowed by federal and state regulations and follow best management practices." As discussed above, this regulation focuses broadly on how an aquaculture Proposal aligns with the aesthetic qualities of the surrounding area rather than the extent to which it impacts views from residential properties. **Further, the regulation does not prohibit aesthetic impacts, nor does it even prohibit a project from substantially degrading aesthetic qualities. Rather, it requires projects to minimize substantially detracting from the aesthetic qualities of the surrounding area to the maximum extent practicable.***

*For reasons discussed below, the Proposal complies MCC 17.50.210(b)(1)(J) because it will not substantially detract from the aesthetic qualities of the surrounding area. **And even if it did, Taylor Shellfish is minimizing such impacts to the maximum extent practicable.***

*(Appendix D)Because boaters can easily and safely navigate in between the Proposal's oyster bags, the Proposal is not expected to adversely impact boaters traveling north or south in Oakland Bay. However, even if boaters did not choose to travel in between the Proposal's rows of oyster bags, they could still easily travel north and south through the Bay as the Proposal is sited over 1,000 feet from each shoreline. Similarly, individuals traveling west or east Oakland Bay at the location of the Proposal would still be able to do so, although they would need to spend some additional time navigating to the north or south depending on their destination.*

**There is no passage East-West across the bay with this proposal**

## **To give clear context to the intent of the SMP rearing aesthetics/views:**

### **17.50.070 Use Preferences and Shorelines of Statewide Significance**

#### **A. Use Preferences**

1. The public's opportunity to enjoy the physical and aesthetic qualities of natural shoreline of the state shall be preserved to the greatest extent feasible consistent with the overall best interest of the state and the people generally.

#### **B. Shoreline of Statewide Significance**

1. The shoreline Management Act of 1971 has designated the following shoreline areas of Mason County as Shorelines of Statewide Significance
  - b. Marine Waters of South Puget Sound seaward from extreme low tide

2. The Act states, concerning Shorelines of Statewide Significance: "The Legislature declares that the interest of all of the people shall be paramount in the management of shorelines of statewide significance." In managing shorelines of statewide significance, Mason County shall give preference to uses **in the following order of preference which:**
  - A. Recognize and protect the statewide interest over local interest;
  - B. Preserve the natural character of the shoreline;**
  - C. Result in long term over short term benefit;
  - D. Protect the resources and ecology of the shoreline;
  - E. Increase public access to publicly owned areas of the shoreline;
  - F. Increase recreational opportunities for the public in the shoreline;
  - G. Provide for any other element as defined in RCW 90.58.100 deemed appropriate or necessary.

#### **17.50.145 VIEWS AND AESTHETICS POLICIES**

##### Policies

1. **This program seeks to minimize obstructions of the public's visual access to the water and shoreline from new shoreline developments while recognizing private property rights.**
2. **Shoreline use and development should not significantly detract from shoreline scenic and aesthetic qualities (as seen from land or from water) that are derived from natural or cultural features, such as estuaries, bluffs, beaches, vegetative cover and historic sites/structures**

#### **17.50.210 AQUACULTURE**

##### A. Aquaculture Polices

**10. Recognition should be given to the possible impacts that aquacultural activities might have on the aesthetic quality of the shoreline area.**

11. Structures or activities associated with aquaculture should be located landward of shoreline buffers unless clearly shoreline dependent.

12. **Aquacultural activities should be operated in a manner that allows navigational access to shoreline owners and commercial traffic.**

13. Floating aquaculture should be reviewed for conflicts with other water dependent uses in areas that are utilized for moorage, recreational boating, sport fishing, commercial fishing or commercial navigation. Such surface installation shall incorporate features to reduce use conflicts.

## **DEFINITIONS**

(Page 15 SMP) **Shorelines.** All of the water areas of the state, including reservoirs, and their associated shorelands, together with the lands underlying them; except

- (1) Shorelines of statewide significance;
- (2) Shorelines on segments of streams upstream of a point where the mean annual flow is twenty cubic feet per second or less and the wetlands associated with such upstream segments; and
- (3) Shorelines on lakes less than twenty acres in size and wetlands associated with such small lakes.

(Page 19 SMP) **Water Enjoyment Use.** A recreational use or other use that facilitates public access to the shoreline as a primary characteristic of the use; or a use that provides for recreational use or aesthetic enjoyment of the shoreline for a substantial number of people as a general characteristic of the use and which through location, design, and operation ensures the public's ability to enjoy the physical and aesthetic qualities of the shoreline. In order to qualify as a water-enjoyment use, the use must be open to the general public and the shoreline-oriented space within the project must be devoted to the specific aspects of the use that fosters shoreline enjoyment. Primary water-enjoyment uses may include, but are not limited to, parks, piers and other improvements facilitating public access to the shorelines of the state; and general water-enjoyment uses may include, but are not limited to restaurants, museums, aquariums, scientific/ecological reserves, and resorts/hotels (as part of mixed-use development or with significant public access or restoration components).

### **17.50.140 Public Access**

#### A. Policies

1. This program is intended to preserve and enhance the public's opportunity to enjoy the physical and aesthetic qualities of County shorelines.
2. Increasing all types of public access is a priority for the County. Strategic efforts to find and fund new shoreline public access are encouraged to meet increasing demands. The County should cooperate with appropriate local, state, tribal and non-governmental organizations to preserve and enhance lands that provide physical access to public waters for public use.
3. Public entities are encouraged to provide public access as part of each development project, unless access would be incompatible with this Program because of safety, security, or adverse impacts to shoreline functions.
4. Private entities should provide public access when the development would either generate a demand for public access, or would impair existing legal access opportunities or rights.

#### B. Regulations

1. Public access shall be required to the extent allowed by law in the review of Shoreline Substantial Development or Conditional Use Permits in the following circumstances:

- A. The use or development is a public project; or
- B. The project is a non-residential, water-enjoyment or non-water-oriented use or development; or
- C. The project is a private water-dependent or water-related use or development and one of the following conditions exists:
  - i. The project increases or creates demand for public access;
  - ii. **The project impacts or interferes with existing access by blocking access or discouraging use of existing access;**

#### B. AQUACULTURE REGULATIONS (PG 59 SMP)

j. To the maximum extent practicable, **floating aquaculture structures shall not substantially detract from the aesthetic qualities of the surrounding area**, provided methods are allowed by federal and state regulations and follow best management practices.

**k. Aquacultural structures shall be placed in such a manner, and be suitably sized and marked, so as to minimize interference with navigation.**

#### 17.50.215 COMMERCIAL

##### A. COMMERCIAL POLICIES

3. Commercial development should be aesthetically compatible with the surrounding area. Structures **should not significantly impact views from upland properties**, public roadways or from the water.

5. Commercial developments should be encouraged to be located landward of shoreline buffers unless they are dependent on shoreline location. **Commercial developments should be discouraged over-water or in wetlands and floodplains.**

This permit proposal by Taylor Shellfish is incomplete in its documentation on impacts and plans. What impact is known is that the approval of this permit will forever change the waters of Oakland Bay, who uses the bay and what it is used for. Our natural resources are severely limited and overall impacted, please don't all Oakland Bay to fall to commercialization, keep it as it stands, serene and an example of what many of our already commercialized bays used to look like.





Oakland Bay - In front of 980 East Sunset Road with a view of the proposed area.



Sept. 10 2023

Hearing Examiner

We disagree with the approval of the lease for Taylor Shellfish in Oakland Bay.

The bay has been changed back to its original look after the removal of the log rafts from the bay. However the amount of toxic sediment that remains on the bottom of the bay is unknown and stirring up these sediments with the action of placing the anchors is also unknown the damage of pollution it will release. It is still unknown what additional pollution will be added to the bay from this “industrial project”, (their words). The look of the bay would return to looking cluttered with debris (oyster bags), instead of the smooth and soothing water. Most of the families surrounding the bay bought their property with that comforting look and feeling. This will definitely take that away.

The generator noise comment regarding car traffic is unacceptable. Vehicles travel intermittently on the road. A generator running constantly is not the same as a car driving down the road. Why would anyone make such a comparison? There needs to be complete and accurate data regarding these generators and the length of time, their noise levels and frequency of their use. No one wants to hear a generator running on for hours.

Please protect our bay for us and future generations.

Thank you

Nancy & James Hancharik

Mason County Hearing Examiner  
411 N 5<sup>th</sup> St  
Shelton, WA 98584

RE: Taylor Shellfish Oakland Bay Floating Farm Proposal  
Mason County Project #202300003  
Response to Taylor Shellfish August 30 Comments

Dear Hearing Examiner,

I greatly appreciate your review and consideration of my comments on the above-referenced project. The following comments address Taylor Shellfish Farms (TSF) August 30 responses to questions of the Hearing Examiner including the cover letter and Appendices A-D.

### The Floating Oyster System Is Likely to Impede Fish Migration

Confluence continues to mischaracterize migration of Endangered Species Act listed Puget Sound Steelhead and the potential for negative interaction and impact with the with the TSF floating oyster system. Despite the acknowledgement of differences in migration behavior between Steelhead and other Oakland Bay salmon species, Confluence treats these different species as an aggregate to draw the conclusion:

**Given the shoreline and shallow water orientation of most outmigrating salmon, the vast majority will not interact with the proposed floating culture and therefore do not have the potential for any negative results.**  
(Taylor Shellfish – Appendix B, page 10)

As Confluence correctly describes, all the ESA-listed Puget Sound steelhead outmigrate in deeper waters and will be affected by the 50-acre floating oyster system. Not only are steelhead migrating in deeper water, but they migrate near the surface and so the floating oyster system will be directly in their path.

Restating previous comments (Patrick Pattillo, 08.16.2023):

“This point was also made August 9 testimony of Confluence Environmental employee Chris Czesla. But contrary to this argument, on page 20 of the HMP, is the statement admitting that Steelhead are present and migrating within the project area:

**Steelhead present within the action area would likely be migrating and are unlikely to occur in the area for an extended period.**

Despite the acknowledgement that Steelhead migration and presence in the project area is different from Chinook salmon, the applicant summarizes the impact as being the same (Exhibit 8, page 40)

**Steelhead (PS DPS) - Minor to Discountable - Same conclusions as for Chinook salmon”**

Confluence continues to dismiss the potential negative impact of the proposal on Oakland Bay juvenile steelhead migration suggested by the documented impediment to migration of the floating Hood Canal Bridge. They conclude the only similarity between the 50-acre TSF floating oyster bag system to the Hood Canal Bridge is that both are a “structure in the water.” The floating farm is 2,000 feet long [**Note: this another example of inconsistent descriptions of the Project, as Taylor’s presentation of August 16 shows the length of the floating farm is 2,200 feet**]- one-third the length – but wider than the Bridge. Both structures seem consistent with the general description of a “massive structure.” The fact that the Bridge extends deeper in the water column is immaterial to the potential for impeding juvenile Steelhead that swim in the top 3 feet of the water column. The floating farm’s depth of up to 24 inches (or “6 inches”, or “the top several inches”) is directly in the path of these ESA-listed fish. With no supporting evidence, Confluence claims to understand how juvenile Steelhead will “easily navigate under, around, and through the array”



of 30,000 oyster bags with a few small open areas. While sharply dismissing the analogy of the Hood Canal Bridge, Confluence wants citizens concerned about wild Steelhead to readily accept the analogy that floating oyster bags will provide refuge and prey resources, since the fish “have just successfully navigated down complex river channels with roots, logs, boulders.” This is certainly a creative notion. However, given the very poor status of Puget Sound Steelhead and the challenging set of obstacles they face in order to survive juvenile migration, and having just successfully navigated down complex river channels, introducing this massive system of floating oyster bags in their migration path can only be a negative impact.

#### Inconsistencies in Physical Description of the Project

With the Confluence response of August 30, we now have two new descriptions of the floating oyster system’s physical dimension:

**“the proposed floating culture only occupies the top several inches of the water column”**

And alternatively,

**“only extending about 6 inches into the water column”**

These new descriptions contrast with previous descriptions such as in Exhibit 08, the Habitat Management Plan, where the depth of the floating oyster system is described as:

**“The floating bags are designed to have a shallow draft (i.e., less than 24 inches when fully stocked with oysters).”**

Such inconsistencies may seem inconsequential, but they are frequent enough in the TSF proposal materials to call into question the credibility of the applicant. For example, regarding “Analysis area and scale of farm” and the related topic of “public access,” Taylor makes the following adjustment to their proposal that gives the impression to the concerned public that the applicant has only recently realized inconsistencies with documentation.

**In response to questions raised during public comment, Taylor is clarifying that the Proposal’s oyster bag rows will be placed on 30-foot centers** (Taylor Shellfish – Appendix A, page 4, public access)

This statement by the applicant is inconsistent with previous descriptions of the project, that the space between bags is 30 feet, and with the Habitat Management Plan Figure showing oyster bag rows will be placed on 20-foot centers. With this “clarification”, no change was made to the claim that the project area will occupy just 9.1 acres. It is implausible that the overwater coverage of the floating system will remain unchanged with such a major adjustment to oyster bag row spacing. Calculations are not provided, but TSF is intent on misrepresenting the “scale of the farm” by stating the proposal is “not “large” or of “unprecedented” scale when considering oyster aquaculture within Washington.” That intent is demonstrated with entirely new statistics generated to compare the proposed floating oyster bag system with shellfish farms that do not involve floating bag systems (TSF PowerPoint, August 16, slide #4), showing the number of shellfish farms with areas greater than or equal to the size of the proposed floating farm. That information was completely inconsistent with the concern raised by public commenters who are aware that the proposed floating farm is 30,000 bags, ten times the size of any existing floating oyster farm in Washington State, or anywhere in the United States or Canada. This point has been made by several concerned citizens and TSF continues to deny or obfuscate the issue. The order-of-magnitude increase in scale of the proposed project is serious and consequential. Failure of TSF to admit that the project is fundamentally different and a massive increase in scale to any floating oyster farm in existence, and to admit that because of this massive scale increase, no direct and objective studies are available to base conclusions of negative impacts for the project. None of the slides presented by TSF on

August 16 were relevant to the proposed floating oyster bag system. None of the photos of existing shellfish farming activity depicted the system or siting of the Oakland Bay proposal. This lack of previous experience with a floating oyster bag system more than one-tenth the size of the proposal, and the absence of any scientific studies on key issues of concern such as water quality, translate to high risk of unexpected and potentially negative outcomes. This is the reason for concern with TSF's claim that "The environmental documentation appropriately applies relevant research and sources to assess the impacts of such a project." The appropriate response to inadequate information and associated high risk is precautionary management. The fact that a precautionary management approach has not even been considered by Mason County or TSF is reason to be concerned.

#### Bird Interaction Issues - Loss of Marine Habitat for Sea Ducks

Sea duck species such as surf scoters have undergone significant population declines on Puget Sound, where it winters. Increasing development in the Puget Sound has led to more disturbance, pollution, and degradation of foraging areas used by sea ducks. Reduction of marine forage (primarily herring spawn) may be reducing populations in some areas. *Some aquaculture practices can impact foraging areas through exclusion of sea ducks.*

Wintering surf scoters feed mostly on mussels and clams at up to 66 feet in depth, before switching to herring eggs or other seasonally abundant prey during spring migration. (WDFW, Species & Habitats, 2023, emphasis added)

TSF does not mention sea ducks such as surf scoters in their comments regarding potential impacts from the proposed floating oyster bag system. Although the aquaculture practices that can impact foraging areas through exclusion of sea ducks are not specifically identified by WDFW, the loss of 50 acres of open water in Oakland Bay is a major exclusion of foraging area. These sea ducks are not near shore foragers, but tend to be deep divers seeking shellfish as prey. TSF's suggestion that these sensitive sea duck species may experience temporary disturbance from noise or human presence at the proposed farm ignores their foraging behavior. There is nothing temporary about this loss of habitat.

#### Water Quality

Confluence clarifies misrepresentation of the claimed effect by TSF that oyster filtration will result in water quality improvement.

**"The proposed floating aquaculture farm would include primarily seed oysters, which have a lower feeding rate than adult oysters, reducing the potential for uptake of fecal coliform."**

Seed oysters cannot be as effective as adult oysters at filtration, especially in a top-water situation with elevated temperatures and enclosed in plastic bags (Patrick Pattillo, 08.16.2023). No studies of filtration effect in top water situations— whether 6 inches, 24 inches, or the top several inches of the water column - are cited by TSF or Confluence to validate the claims of water quality improvement. Given these three facts, (1) no studies exist to demonstrate or substantiate the filtration effect of floating oyster systems, (2) the applicant has clarified that seed oysters have a lower feeding rate (filtration rate) than adult oysters, and (3) elevated temperatures in top water situations are likely to further reduce filtration rates, Mason County must correct their statement regarding the effect of the TSF project on water quality:

*As filter feeders, shellfish are widely recognized as playing an important role in maintaining water quality (essentially helping to clean up after the impact of the growing population on marine waters).* (Exhibit 1 - Staff Report, page 20)

And for the reasons stated above, Mason County must remove the general statement in Exhibit 1:

*Shellfish aquaculture has been shown to provide beneficial ecosystem services such as nitrogen absorption, carbon sequestration, and habitat formation.* (Exhibit 1 - Staff Report, page 21)

The TSF proposal not representative of shellfish aquaculture in general. The beneficial ecosystem services expected by the Staff Report are unlikely outcomes of the project and should be removed. Absent the conclusion that the

project will in these ecosystem service outcomes, Mason County cannot continue to conclude that the proposal for **this** commercial shellfish farm is consistent with the protection of water quality and saltwater habitat conservation.

### Aesthetics

Concern has been expressed for the arbitrary use of the Aquaculture Siting Study to address several of the key issues associated with aesthetic values and policies of the SMP. The Mason County Staff Report seems to acknowledge the importance of objective evaluations on these issues:

*The applicant has completed an Aquaculture Visual Assessment (Exhibit 25), which uses the Aquaculture Siting Study (Exhibit 24) prepared for the Washington State Department of Ecology. The Aquaculture Siting Study is intended to be an environmental assessment tool for use in evaluating and regulating aquaculture facilities. Despite the study being from 1986, Ecology still considers the study to be best management practices for determining visual and aesthetic impacts. Ecology recommends that local governments utilize the study in their 2017 Shoreline Master Program Handbook (Chapter 16, Page 22), which was further confirmed through email correspondence with Lizzie Carp of the WA Department of Ecology (Exhibit 17).*

TSF's response to aesthetic concerns is insensitive and either ignores or completely discounts the values of citizen stakeholders in the decision process:

**The SMP does not prohibit aesthetic impacts but rather requires operators to utilize best management practices to reduce impacts and, to the maximum extent practicable, avoid substantially detracting from the aesthetic qualities of the surrounding area. The Proposal is utilizing BMPs including neutral colored gear that will blend into the marine environment and neat and orderly alignment of structures. The Proposal will fit into and complement the aesthetic qualities of the surrounding area, which is characterized by a wide variety of uses and developments including shellfish aquaculture, mining, port facilities, forestry, commercial activities, residential development, and a state highway.**

Without following the guidance provided by the Aquaculture Siting Study, the SMP requirement to “utilize best management practices” has little meaning. TSF extensively relies on the qualifying phrase of the policy – “to the maximum extent practicable” – to justify not implementing meaningful actions to “avoid substantially detracting from the aesthetic qualities of the surrounding area.” The description of uses and developments, featuring “shellfish aquaculture, mining, port facilities, forestry, commercial activities, residential development, and a state highway” may as well have been written to describe the heavily industrialized ports of Seattle or Tacoma. TSF misrepresents the SMP policy by suggesting a heavy-handed approach to resolving conflicts over aesthetic values. If unavoidable conflicts result in a priority for shellfish aquaculture, then why would the applicant have any interest in avoiding conflict by implementing best management practices in a way that meaningfully addresses aesthetic concerns?

### Lighting

Another example of inconsistent characterization of the project proposal by TSF, and credibility of the applicant, is the impact of lighting on the floating oyster bag system.

Confluence states that “Artificial lighting can affect the behavior of wildlife, including fish and birds, in the vicinity. However, the USCG required lighting is intended to alert boaters to the presence of a navigational hazard and as such is typically flashing, colored, **and not directed down into the water column.**” (Taylor Shellfish – Appendix B, emphasis added)

Taylor states exactly the opposite: “Taylor Shellfish would **direct all lights during work operations in a downward direction.**” (Taylor Shellfish – Appendix A, emphasis added)

### Water Flow and Circulation

TSF consistently admits that floating oyster bags in Oakland Bay may affect the velocity profile by reducing water velocities in the zone where bags intercept flow and accelerating them **below and outside** of those zones.

The degree of environmental impact is related to site-specific conditions, such as water depth, current velocity, and sediment movement. Studies of water flow and circulation with mussel culture in Totten Inlet is not comparable to the conditions of the Oakland Bay proposed site, in terms of the absolute size of the project (50-acres) or the relative amount of space in the area (one-third of the Oakland Bay width).

Further, as previously commented (Pattillo, USACE, June) the applicant’s Habitat Management Plan ignores the recommendation of the study they cited regarding these important potential effects that “Reduction of wave and current energy by aquaculture gear is an important area for additional study” and made no proposal for additional study of water circulation effects associated with the project either prior to implementation or as part of ongoing monitoring to detect unforeseen problems.

The related negative effect addressed by TSF (Appendix B), potential erosion and shoreline damage, is dismissed without a substantial technical or scientific basis. The mechanism for change in water circulation described by TSF is that current may accelerate both below and outside the floating oyster bag site. Particularly given that Oakland Bay has some of the more energetic hydraulics in Puget Sound (large tidal swings), and understanding that the eastern side of Oakland Bay between Munson Point and Chapman Cove and adjacent to the project’s proposed site is near a bank that is failing, more study is needed to determine the potential for changes in hydraulic effects caused by the project.

### Summary

Information provided to the Hearing Officer and the public by TSF since the August 16 public hearing is not substantially new, but are restatements of the TSF points of view regarding topics of concern. In several cases, latest statements by TSF conflict with previously provided descriptions or in different parts of the TSF comments (e.g., Lighting). This feature of the comments by TSF is disturbing, as such inconsistencies negatively affect the credibility of the applicant.

Serious flaws persist with TSF’s address of key issues of concern, such as potential risks of water circulation effects, impacts on critical species such as Steelhead and Sea Ducks. The address of aesthetics appears to be entirely dismissive of the public’s legitimate concern and avoidance of meaningful actions.

The most serious shortcoming of the TSF arguments in support of their project proposal is directly related to the massive scale of the floating oyster bag system. TSF is evasive on this issue, conjuring up new information and statistics that are clearly not comparable to the proposal, or simply stating the project is not “massive”. Lack of experience with such a large new project - scaling up by an order of magnitude from 3,000 bags in existing floating farms owned by TSF to 30,000 bags – and in a new area for intensive aquaculture, without conducting rigorous scientific studies on key environmental issues, has great potential for high-risk outcomes.

For these reasons, I respectfully urge you to not approve the Taylor Shellfish Farms project as currently proposed.

Thank you,

Patrick Pattillo

9/11/23

Mr. Viscusi,

Please see images below which demonstrate current views from our property on Oakland Bay. In addition to the potential destruction of our aesthetic views we vehemently oppose this project due to the environmental destruction (anchor disruption to sediment, plastics, water quality, light and fuel pollution etc.) as previously described as well the impairment to recreational activities.

Sincerely,

David and Kristina Stolte

Views from Stolte property. Parcel #320103150180



View from Stolte property of Oakland Bay at approximately 15ft elevation (lowest point) facing Southwest.





View of current Taylor Shellfish structures from property. Existing structures occupy approximately 0.26 acres (Google Earth). Proposed floating oyster net structure will occupy approximately 192 times the surface area of existing structure causing significant view degradation.



View of existing structures from beach.