Report of the Colchester Planning Commission
Adopted December 17, 2019
tinyurl.com/ColchesterMBI

Malletts Bay Initiative Wastewater Project Report

The Colchester Planning Commission provides the following report in response to a request from the Colchester Selectboard to analyze options to address human waste water pollution in Malletts Bay. The report is divided into five areas:

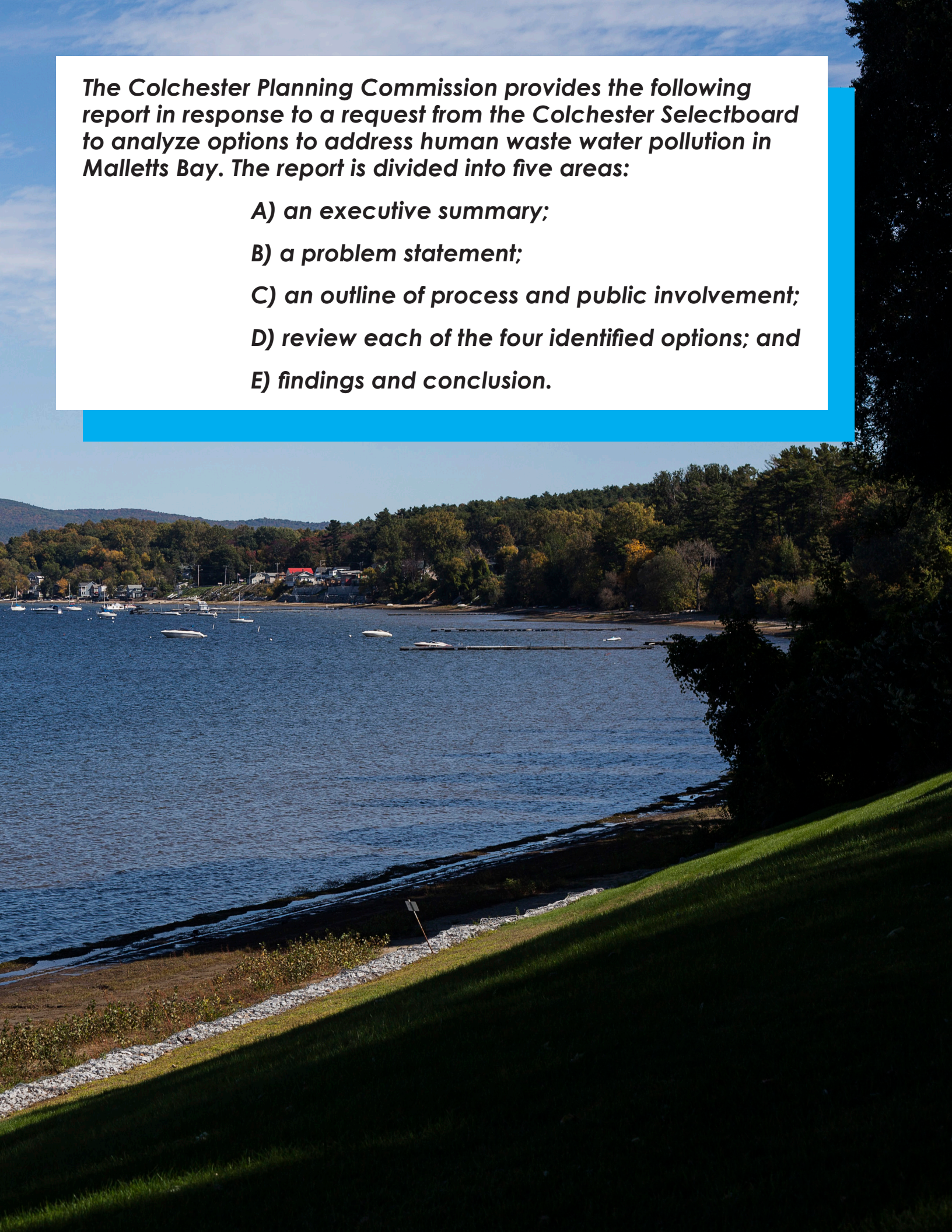
A) an executive summary;

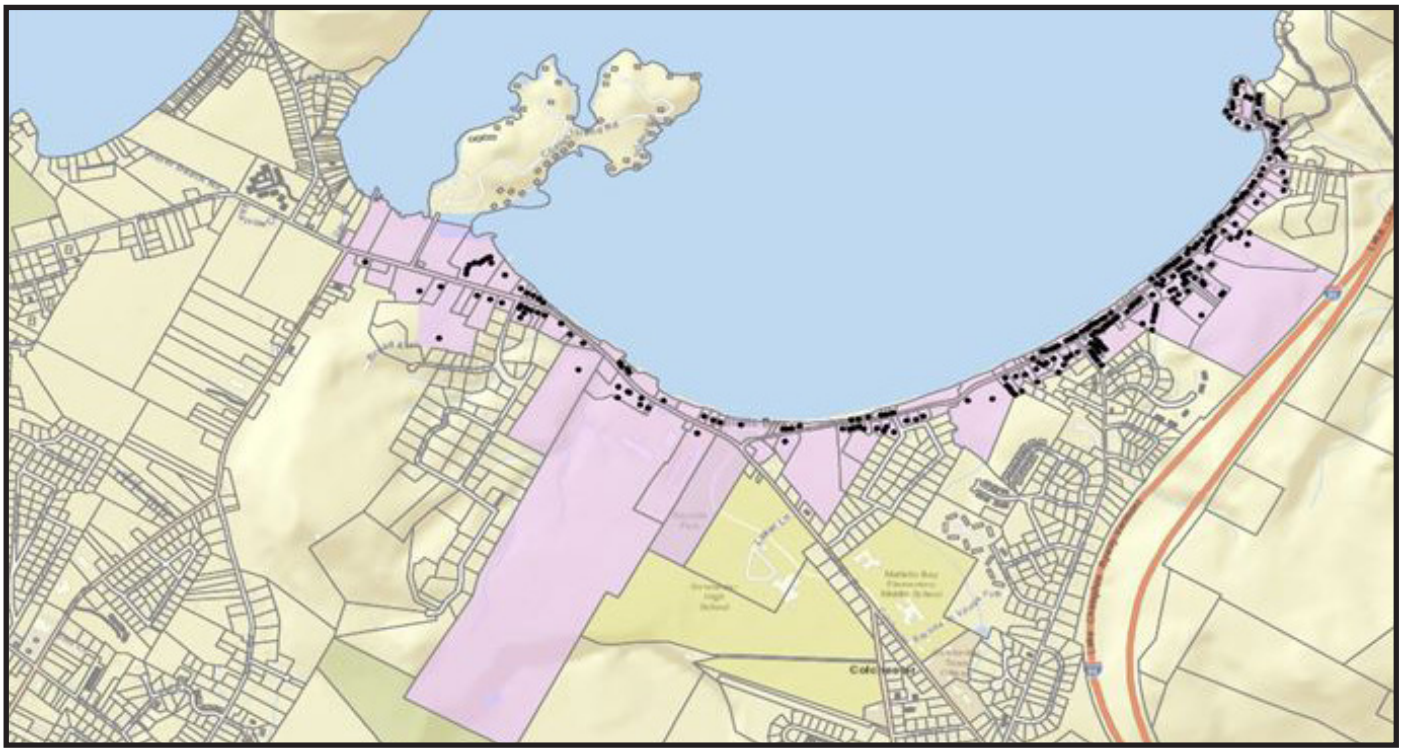
B) a problem statement;

C) an outline of process and public involvement;

D) review each of the four identified options; and

E) findings and conclusion.





Executive Summary

The Planning Commission developed the Colchester Malletts Bay Initiative Wastewater Solutions to provide the Colchester Selectboard with an alternatives analysis to effectively address human wastewater pollution in the Inner Bay by the fall of 2019. The initial charge was provided to the Commission after the failure of a vote to fund a sewer for a specific portion of the Inner Bay (289 properties) along West Lakeshore Drive, East Lakeshore Drive and Goodsell Point. For the purposes of this report, the specific portion will be referred to as the Inner Bay throughout this document. The Commission began this project by reviewing past studies such as the Integrated Water Resources Management Plan and learning about wastewater regulation. The Commission has understood its charge to be to identify solutions for the same geographic area and to solicit as much community involvement as possible in identifying solutions. Within this area, all alternatives were open to consideration. After a forum, a survey, online polls, workshops, and various discussions the Commission identified four possible solutions: land conservation, community septic, sewer and doing nothing or status quo. The Commission identified the following parameters to evaluate these solutions using feedback from the May 20th forum: 1) does the solution maintain and/or improve water quality for both current and future land use and site conditions; 2) is the solution efficient, cost effective, and reliable; 3) what is the impact to the character of the neighborhood; and 4) what is the impact to property values and taxes. Estimated costs and timelines to implement were provided for each option. The report herein examines the advantages and weaknesses of each solution.

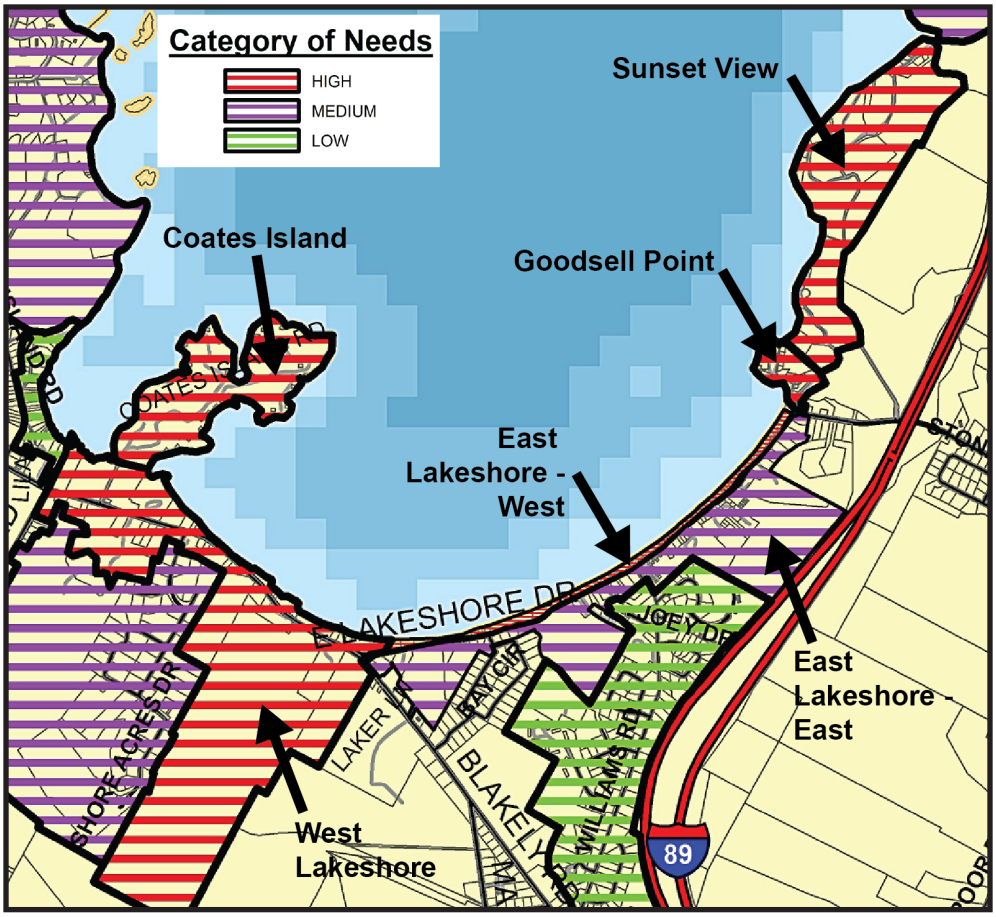
Problem Statement

At the Selectboard meeting on March 26, 2019, the Selectboard requested the Planning Commission review and analyze options to address the lack of effective wastewater disposal capacity for properties on inner Malletts Bay and report back their findings in the fall of 2019.

The issue of wastewater within the Inner Bay has a long history stretching back to the original 1967 Town Plan. In 1999 a sewer proposal was considered by the community and defeated. The Selectboard posed a funding vote to the community to serve 289 properties along West and East Lakeshore Drive as well as Goodsell Point with sewer on Town Meeting Day, March 5, 2019. This project was a derivative of a project that began under Fire District Two to serve a larger and broader area. The 2019 vote was narrowly defeated.

The Inner Bay has a continuing and sustained presence of human wastewater. In a 2015 determination, the Vermont Department of Environmental Conservation's Watershed Management Division stated the following:

> "The Division has examined E.coli sampling records from lakes and ponds throughout Vermont. While exceedances of the criteria are relatively common in streams and rivers, they are much rarer in lakes, owing to the dilution and exposure of the bacteria to ultraviolet light that is incident to the lake surface. The exposure to ultraviolet light is relevant as this accelerates the senescence of the bacteria, rapidly under most circumstances. *The record of repeating and regular E.coli bacteria exceedances during dry weather is uncommon in Vermont lake waters and suggests a higher than expected source signal in Malletts Bay."*



The Planning Commission looked at previous reports and studies conducted as part of defining their investigation including the 2013 Integrated Water Resources Management Plan (IWRMP). The IWRMP was completed for Colchester as part of a U.S. Environmental Protection Agency Demo Grant. This plan sought to comprehensively improve the overall management of non-point source pollution control infrastructure. The plan considered natural resources, current and future uses of both the natural and built infrastructure, and cumulative impacts to water quality. The IWRMP identified the environmental and area constraints, conducted wastewater system assessments, created a wastewater needs assessment of priority areas, and provided wastewater management recommendations for the Town including an alternatives analysis of possible solutions. The Inner Bay was comprised of mostly high risk areas with one medium risk area along the non-lakeside portion of East Lakeshore Drive. This study constituted the highest level of wastewater investigation physically and legally possible and concluded that the best solution for the high risk area of the Inner Bay was sewer. Due to the proximity of the medium risk area, it was recommended that sewering this area was also a preferred solution in the IWRMP.

The Commission understood its charge to be to identify solutions for the same geographic area of the Inner Bay identified in the 2019 sewer project. The Commission also sought as much community input to identify the problem statement and possible solutions. In a public forum and walk and talk held on May 20th and simultaneous survey many concerns were heard including but not limited to: 1) land conservation could be used to buy out property owners; 2) community septic should be examined as an alternative; 3) sewer should still be an option; 4) boaters may be contributing to the problem; 5) wildlife should be targeted for improvement; 6) upstream runoff was the source of pollution; 7) better enforcement and wastewater rules could be used to crack down on polluters with failed septic systems; and 8) more studies could be done to further limit the area for which wastewater solutions were needed.

The Commission discussed the results of the May feedback throughout their June meetings. The Commission had heard at their May 7th meeting about the comprehensive approach that Colchester was taking to water quality improvements including stormwater and other efforts such as pet waste management and wildlife management efforts. It was evident that very little additional non-human E.Coli can be removed despite these efforts. The wastewater solution project is one portion of a much broader water quality initiative the Town is bringing forward including the creation of a stormwater utility. These various water quality projects will work together to address the wide range of issues Colchester has. Wastewater solutions were not being done at the expense of stormwater projects. Testing done by the Town did not indicate that runoff upstream of the Inner Bay contributed to human wastewater pollution.

The forum summary notes from May 20th did not substantiate concerns about boater pollution. There has been education and outreach surrounding free boat toilet pump-outs offered by marinas as well as enforcement decreasing the probability of boat septic dumping as a substantial cause of pollution. The need for more studies could be examined under a "No Action", "do nothing", or "status quo" option. Information on State Wastewater Rules and enforcement was presented to the Commission on May 7th. The Commission heard that the Town had put forth efforts to increase control over the operation and administration of onsite wastewater through an operating permit and that the State did not support this effort. It was agreed that the Town should host a meeting with State Officials about rules and enforcement to better understand what options were available to the Town and educate the community about wastewater permitting. A punitive option such as enforcement was not viewed to be a viable solution by the Commission without viable solutions for failed systems.

The Commission also heard concerns about impacts to the character of the Inner Bay that could be caused by infrastructure such as sewer. There were concerns about the type and rate of development. The Commission also agreed to consider these development concerns at a meeting in August. While not a solution, the Commission's role to administer the land use regulations could be used to address these concerns. In 2014 the Planning Commission developed a land use plan for the West Lakeshore Drive that seeks to preserve and enhance the existing character regardless of wastewater infrastructure.

The Commission isolated four possible solutions to be evaluated: 1) land conservation; 2) community septic; 3) sewer; and 4) no action. Each would have a dedicated work session. Additional work sessions would be provided on development impacts and wastewater rules and permitting.

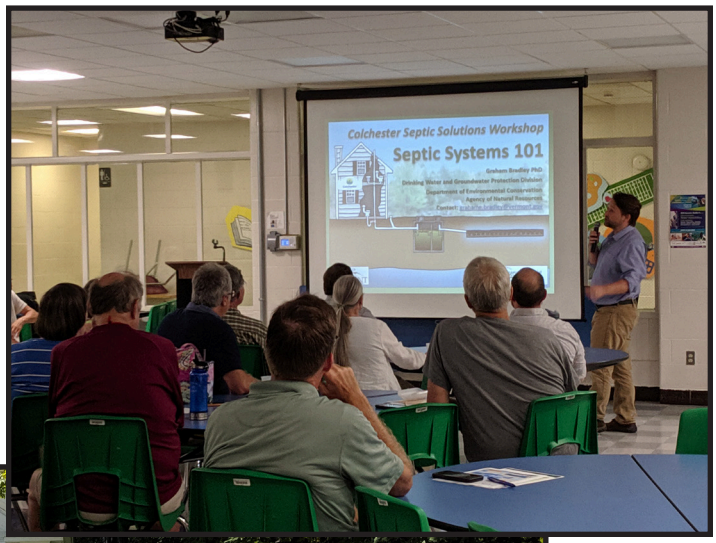
Process and Public Involvement

On May 20th a community wastewater forum was held as well as a walk and talk tour of the Inner Bay. These events, coupled with an online survey, informed the Commission as to community concerns and possible solutions. A town-wide mailing and ad in the Colchester Sun made the community aware of the May events. A postcard mailing in June updated the community on subsequent workshops. Attendees of meetings were added to the Town's Notify Me emailing service to receive updates on the project.

On June 4, 2019, the Commission met and set a course of action for the project, adopting a decision matrix to evaluate four possible solutions: land conservation, community septic, sewer, and no action. The Commission continued their discussion of their course of action into the June 18th meeting and periodically revisited at future meetings.

A series of workshops was held by the Commission throughout the summer focusing on the solutions and other community concerns such as general information on septic systems on July 2nd and development concerns on August 6th. A workshop on land conservation was held on June 18th, a presentation on sewer occurred on July 30th, a presentation on community sewer occurred on August 20th following wastewater information received during the work session on July 2nd, and the Commission discussed the no action alternative on September 17th. A tour of community septic systems was also conducted on September 6th with visits to facilities in Charlotte, Sugarbush, Warren, and Waitsfield by a group of Commissioners accompanied by Colchester Staff, consultants from Stone Environmental, and members of the Colchester community.

The Commission solicited public input throughout their process with an interactive website with polling. The initial PlaceSpeak website was developed to allow an online interactive forum, but was unfortunately perceived to be complicated and not user friendly. This website was abandoned in favor of a regular Town website. A variety of experts were consulted by the Commission including Stone Environmental, Waite Heindel Environmental Management, Aldrich Elliott Associates, and State Wastewater Officials as well as Colchester Staff. Many officials from



the State, municipalities, and private entities donated their time to assist Colchester in this project. Presentations from the public workshops and information considered by the Commission including comments from the public are available on the Town's website linked through tinyurl.com/ColchesterMBI. Videos of all of the Commission's meetings, workshop, and septic tour are also available at this website. Where locations permitted, meetings were live broadcast with the ability for viewers to email in questions. The Colchester Sun also provided coverage of many of the events.

The May 20th forum and July 2nd Septic Solutions workshop attracted the highest level of public participation with approximately 50 people attending the forum and about half that attending the workshop. Despite these numerous outreach efforts, meeting or workshop participation overall remained minimal with usually less than ten members of the public in attendance at all other meetings.

The survey work identified some public concerns regarding the 2019 sewer proposal including: the requirement for mandatory hook-up of all properties in the proposed service area to the sewer system; the use of local option tax funds to initially finance the project; the amount users were expected to pay; the cost to connect to the system; situations where property owners had recently installed new on-site systems; and a wish not to revisit the matter again. Other comments included that the project served too few properties, the project was a "no brainer", and that the vote should be brought back again. Identifying specific funding solutions for projects is outside the Commission's charge and is not addressed in its findings however it recommends that any solution should consider these concerns.

In evaluating community feedback throughout the project, the Commission has noted many misperceptions held about septic systems, enforcement abilities of the Town, and wastewater permitting rules. The community could benefit from additional outreach and education about septic system maintenance, permitting, and rules but it is difficult to reach and engage people. As the Town looks to improve water quality in the future, engagement of the community will be a continued challenge

Review of Options

1) Land Conservation Option

The entire Inner Bay area is comprised of 289 properties with a value exceeding $72 million dollars. The option of purchasing and conserving the entirety of the Inner Bay is not feasible given this considerable cost. For this reason, the Commission looked at a subset of the area even though it was recognized that a limited land conservation initiative may not solve the wastewater pollution problem. The conservation of lakeside properties (126 parcels) has a current estimated assessed value exceeding $38 million. These properties would need to be purchased and conserved over a set time period through consensual purchase if possible or eminent domain should consensus fail. Using a fifty year time horizon and 126 lakefront properties along West Lakeshore, East Lakeshore, and Goodsell Point approximately two and a half properties would have to be purchased and restore the natural shoreline each year. Using an average property value of the 126 properties ($303,658), an annual purchase fund approximating $759,146 is required to acquire approximately two properties a year on average over 50 years. Additional funds of approximately $150,000 would be needed for demolition, site restoration, and legal fees. Total annual costs would need to be in excess of $909,146 to support this conservation effort (exceeding $45 million in direct costs excluding lost grand list value). Eminent domain cases and increases to property value over time would substantially increase required funds.

The character of the properties adjacent to conserved land would see positive impacts in that their lake views could potentially improve additional public use recreational/ green areas could potentially be created, and the vehicle transportation networks would have greater lake views. While the character of the neighborhood could be a benefit to this option, including opening lake views and potentially adding public recreational areas, there needs to be consideration for potential increase in use of these new recreational areas. Further, with land purchases and the relocation of residents from these parcels, there may be negative impacts to businesses and/or population within this area as relocations would occur outside the project area, and perhaps outside Colchester.

Purchasing and conserving properties in perpetuity is a great way to remove the human wastewater source for Inner Mallets Bay, but there are also considerable disadvantages. First, purchasing these properties requires substantial funding for a great length of time. Townwide increases in taxes would be a primary source of funding, yet may not be considered the best approach by the community. While possible grant sources were evaluated, there were no sources identified that would regularly provide this level of funding for such a project.

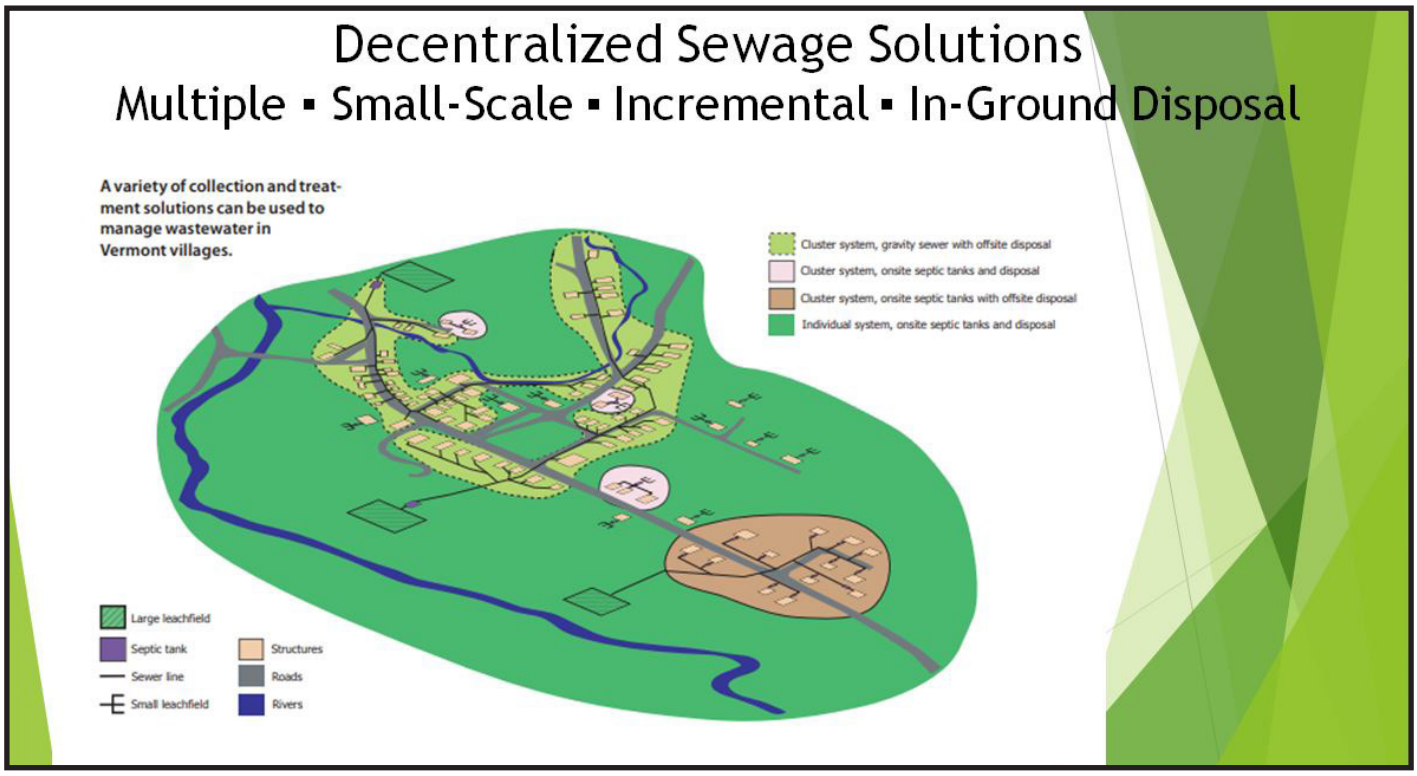
Finally it would take many decades to fully purchase the properties. This option is by far the highest cost to the Town. This option would take the longest to implement (50 years). During that implementation time, properties with inadequate septic treatment would still be polluting the Inner Bay. This option has the highest costs to taxpayers as it would require an to increase taxes while decreasing the grand list and creating a smaller pool of properties to tax. Other options can utilize grant funds as well as generate user fees and other non-taxpayer funds to offset costs.

In looking to the future of Colchester, the Planning Commission found that land conservation has many merits but is not an effective and efficient solution for human wastewater pollution in the Inner Bay. During this project, the Commission learned of previous land conservation efforts within the community. No local conservation fund currently exists in Colchester.

2) Community Septic

The Integrated Water Resources Management Plan (IWRMP) provided information as to how community septic could be used and where based upon conditions assessment, information on permits, and sampled test sites. Task Four of the IWRMP stated that community septic was perhaps viable along the non-lakeside section of East Lakeshore Drive and at one location in the Goodsell Point area. No community septic areas were deemed viable within the West Lakeshore Drive area. A survey mailed to property owners along East Lakeshore Drive did not yield any property owners with appropriate land willing to consider a community septic solution on their property. The owners of the Goodsell Point property initially responded to the survey but a request to do onsite investigations of the soils was not granted. Review of previous septic permits within the area yielded an estimate that the site may be capable of supporting a 3,000 gallons per day system at best with over 16,000 gallons per day required to serve existing needs.

With no privately owned sites available for community septic on East Lakeshore Drive, the Town owned Bayside Hazelett property was evaluated. This fourteen acre property was purchased by a Townwide voter approved bond in 2004 for 1.1 million dollars. The site is currently vacant however significant planning has been undertaken by the Town to identify recreation needs, and program specific recreation elements and transform the site into a park. Craig Heindel, a hydrogeologist, was hired to evaluate if the property could accommodate the 120,000 gallons per day of wastewater identified as necessary to serve the area as identified in the 2019 sewer project. While some members of the public debated if this was gallonage was excessive, the 120,000 gallons would serve all properties in the Inner Bay. Heindel's report affirmed that the site could be capable of treating in the range of 100,000 gallons per day. This is 20% less than the amount necessary to serve the entire area but the Commission believed this solution was worthwhile investigating given the limited community septic options.



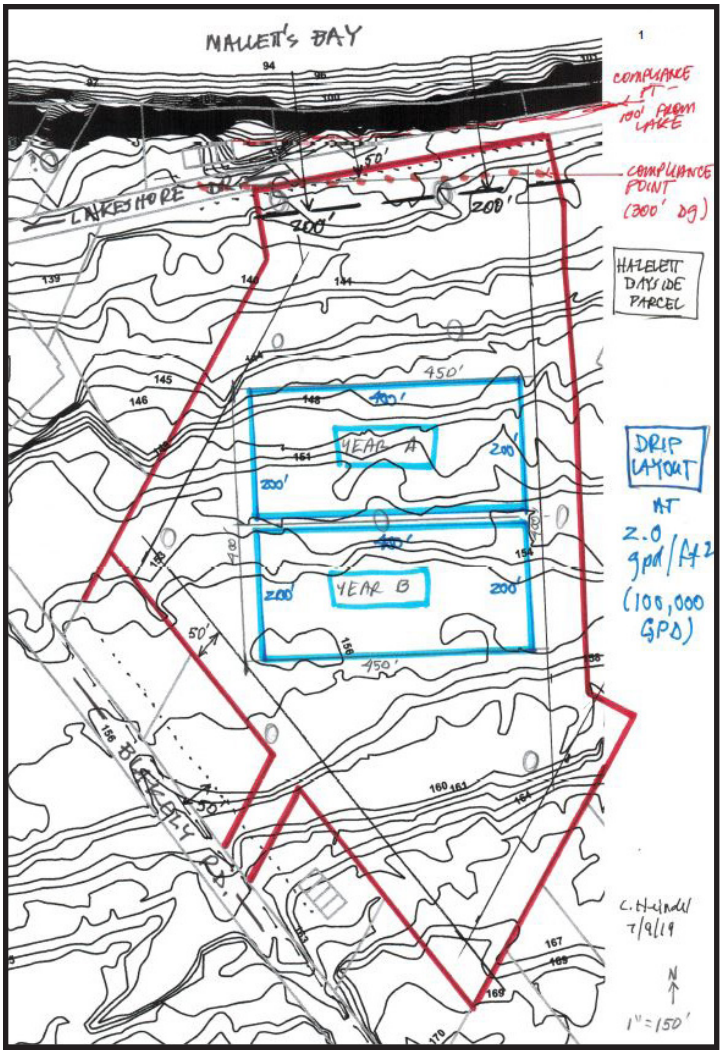
A community system would require a small wastewater treatment plant to be constructed. The permitting, design, and construction could take three to five years to complete. The plant would have to be staffed to meet regulatory requirements. Stabilization of the shoreline portion of this property would also be likely needed to address the 100,000 gallons of wastewater moving through the soils daily that could serve to destabilize the bank, adding additional cost based upon other stabilization projects in the area.

Systems treating over 50,000 gallons per day of effluent, as would be necessary to meet the needs of the area, are required to have tertiary treatment by the State of Vermont to remove the majority of phosphorus. If several smaller systems were built under this threshold, tertiary treatment would still be necessary as State would consider it one system subject to these State standards. Below is an estimated cost of construction. In addition, the ongoing annual operating costs are estimated at $250,000 or more for staffing, sludge removal, and required testing. While some components of this option may have a 50 year life, several of the components will need to be replaced more frequently.

Concerns were raised by the Commission that the development of a community system on the Bayside Hazelett property could conflict with park planning for the site. While some systems can allow for general playing fields on top of the leach-field, the presence of a system would constrain the recreational use of the site. There were also concerns regarding the chance of malfunction and smells associated with the operation of the system.

The ability of property owners to utilize off-lot septic solutions may increase the rate of growth potentially impacting the character of the neighborhood. The existing rate of growth for the area is half a percent or less than one dwelling unit a year. Even if this solution were to double the rate, it would still be a very low and slow build out of the area. There were also concerns raised by the public as to additional growth and the potential adverse impacts such as traffic. The zoning particularly for East Lakeshore Drive was identified in the 2019 Town Plan as needing additional review by the Commission within two years of adoption of the plan. The Commission heard concerns about increased rates of growth within the West Lakeshore Drive area although this area has recent zoning: Lakeshore One and Two. At the conclusion of this project, the Commission identified that it

Bank Stabilization	$100,000
Sewer Collection System	$8,000,000
Wastewater Treatment Facility	$4,400,000
Leachfield Site Work	$250,000
Design, Permitting, Contingency, etc.	$4,800,000
Total Estimated Construction Cost	**$17,550,000**



should work with the Selectboard to implement any regulatory measures necessary to minimize unwanted impacts such as too many residential units or conversions. Zoning would continue to limit the possible uses and determine how many units total could be built. Building caps or other growth management tools could be enacted for the Inner Bay to help address growth concerns.

This solution could maintain and improve water quality for both current and future land uses although if limited to 100,000 gallons per day the scope of the system may not be sufficient to serve future land uses. The solution is efficient in that it treats wastewater close to where it originates however the solution is also expensive and requires considerable oversight to operate reliably. As with any plant, the community system would require monitoring, upgrades, replacements, and maintenance with routine testing to ensure that when break downs or failures occur, water quality and surrounding properties are not impacted. The property values in the immediate area of the facility could be impacted. The construction and operation of a community system could be paid for by grants, user fees, and non-tax revenue. Incremental grand list growth may positively impact property taxes. Operating costs could be paid by user fees.

While there was public comment that the community system could be sized to be at a much smaller scale thus avoiding the cost of tertiary treatment, it was unclear to the Commission as to how this could be fairly achieved and adequately address water quality. State wastewater rules and regulations restrict enforcement on wastewater failures to systems that are surfacing or back flowing into properties. The Integrated Water Resources Management Plan and follow up water quality testing has provided the greatest amount of information likely to be known on wastewater systems and risk. More specific testing as to what properties have deficient systems is not feasible. It is not probable to further isolate problem properties. With the known high risk areas, even if the worst sites could be identified and solved through a limited community system, there would likely be as many new failures to solve shortly thereafter. It is also unlikely that these failures would be grouped together to provide any cost savings in the piping needed to service. If a system was built without tertiary treatment then expanded, additional treatment measures would be necessary at additional cost. A system built incrementally could increase costs as new demands are placed on the system and create delay.

The Bayside Hazelett property would likely yield enough wastewater capacity for a community system that could address existing flows and limited build out. While the tertiary treatment would be costly, this would be a high form of wastewater treatment and would help to ensure that the wastewater discharged was as clean as possible should a break down or failure occur.

3) Sewer

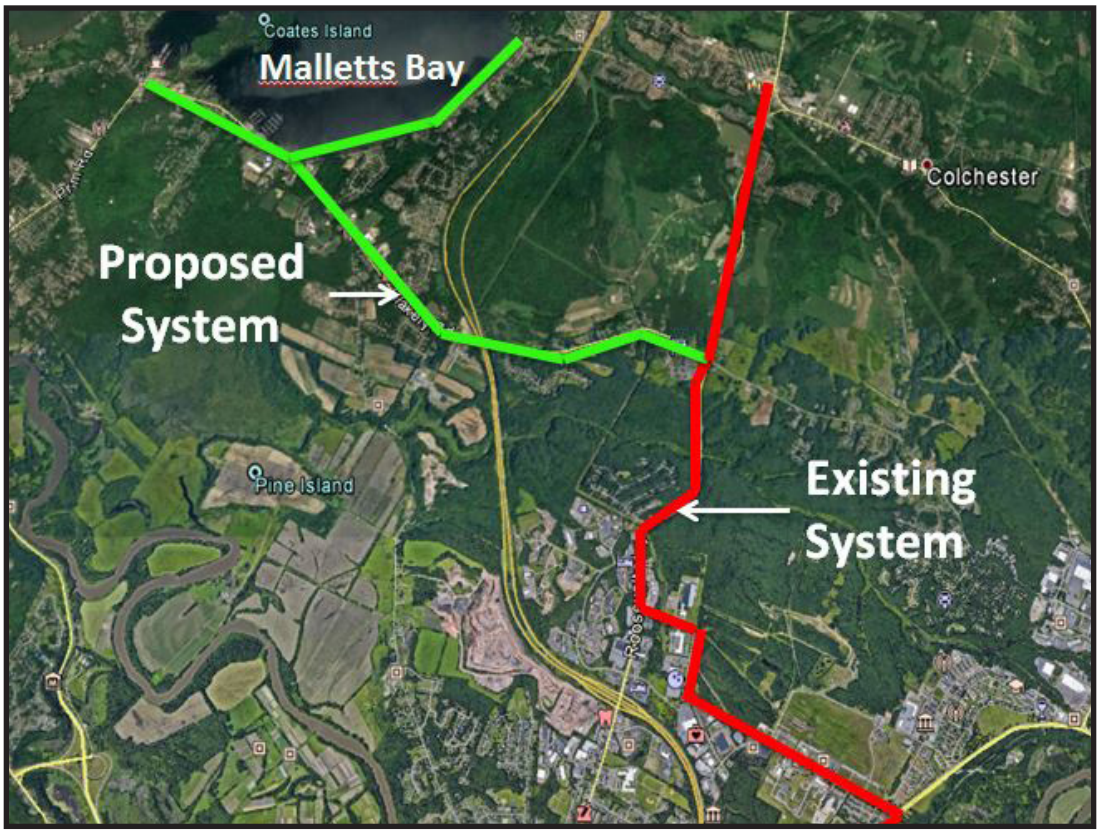
The 2019 proposed sewer project was the source of information for this option, The project would connect all properties within the Inner Bay to municipal sewer. The Town's existing sewer system is served by the South Burlington Airport Wastewater Treatment Plant. The South Burlington Airport Wastewater Treatment Plant has tertiary treatment and no discharges of untreated wastewater. This facility is staffed by wastewater operators. A 2.2 mile force main would be installed to extend the service to the Inner Bay from its current location at Severance Corners. The project would take three years to implement and would have a life cycle of 50 years. Construction would cost approximately $14.4 million with annual operating costs expected to be $100,000.

As the Town of Colchester already has purchased allocation from the City of South Burlington and has an existing agreement, the only costs beside construction of the system would be a per gallon fee paid for by the user which is part of the expected $100,000 annual operating cost.

The South Burlington plant has been recently upgraded and expanded and does not require modifications to take the proposed 120,000 gallons per day of wastewater anticipated at full build out of the Inner Bay.

The original funding package for the construction of the sewer option was 15% local option tax (LOT), 25% grant, and 60% loan. After the LOT was repaid by user fees, 75% of the costs would be paid for by users and 25% by grant. No property taxes would be used and a significant amount of LOT funds would still be available to other projects during this time. The LOT, when repaid, would become available for other Town needs. Operating costs would be paid for by user fees.

Similarly to community septic, there is the potential for an increase rate of growth and some grand list growth. The existing rate of growth for the area is half a percent or less than one dwelling unit a year. Even if this solution were to double the rate, it would still be a very low and slow build out of the area. There would be no impact to property taxes as the project had identified funding sources of grants, user fees,



and local option tax funds. The Commission should work with the Selectboard to implement any regulatory measures necessary to minimize unwanted impacts such as too many residential units or conversions. Zoning would continue to limit the possible uses and determine how many units total could be built. Building caps or other growth management tools could be enacted for the Inner Bay to help address growth concerns.

This solution could maintain and improve water quality for both current and future land uses. The solution is efficient and cost efficient in that it ties into the Town's existing system and does not require the construction of a treatment plant or area. The sewer option also is highly reliable as it uses an existing plant and only obligates the Town to the maintenance of pump stations.

The construction and operation of a sewer system could be paid for by grants, user fees, and non-tax revenue. Incremental grand list growth may potentially positively impact property taxes. Operating costs could be paid by user fees. Public concerns noted about the financing of the project are noted in the problem statement herein and should be addressed if this option were to be reconsidered.

4) No Action

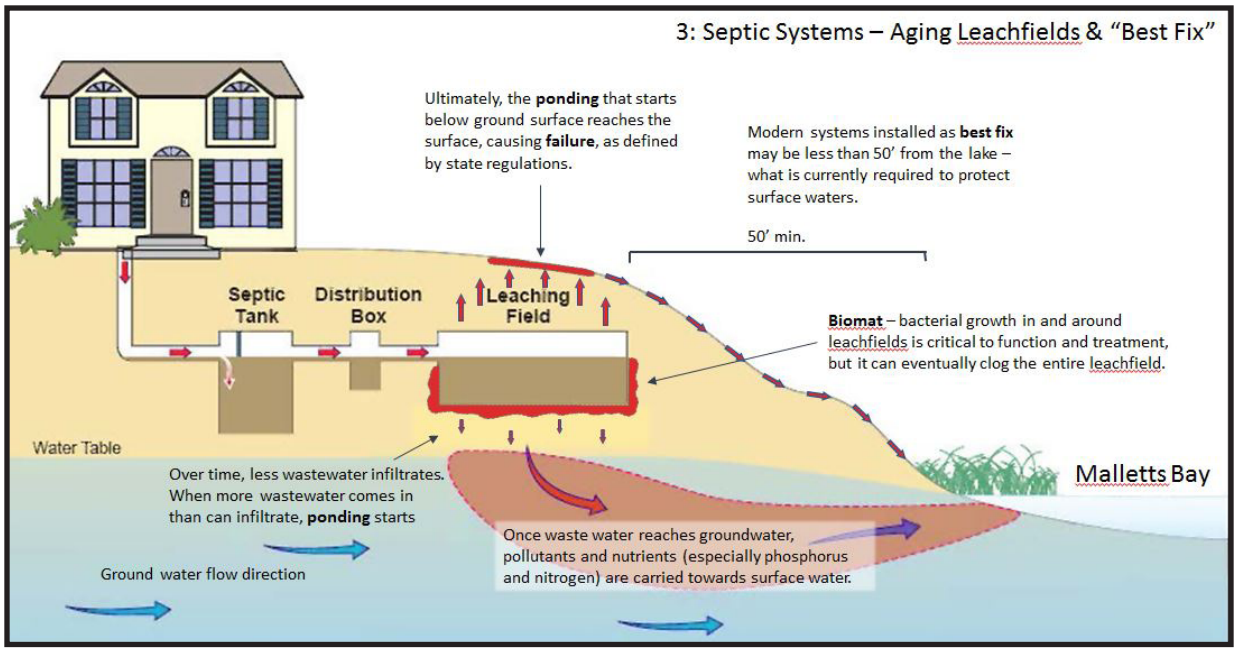
This option includes the status quo and do nothing approaches that came out of the May 20th forum. The "No Action" option was evaluated as a baseline comparison for the other options identified to remediate human waste pollution in the Bay.

The no action option was defined as maintaining the status quo, including continuing ongoing water quality monitoring and enforcement of septic related public health and safety regulations. During the course of the Commission's public outreach, despite the 4 years and $2 million Integrated Water Resources Management Plan, there were calls to conduct additional study on the scope of the problem and delay action. In evaluating the septic solutions other communities have implemented, it is evident that Colchester's study of the problem far exceeds that of other communities that have moved forward with constructing wastewater improvements. The Commission agreed to reflect this sentiment for more information in this report. However the Commission noted that additional education about all of the studies and work to date may address these concerns sufficiently.

The primary advantage of doing nothing is that no additional costs are incurred by the Town. The no action approach aligns with the recent town vote which did not approve the sewer proposal.

Some public sentiments identified include:

- The sewer/community septic projects are too expensive.
- The costs and benefits of a sewer system are not fairly aligned among all.
- Better enforcement efforts could identify and hold polluters accountable.
- The sewer proposal was only a partial fix to the bay pollution problem.
- More monitoring data is needed to determine the best solution.



- The opportunity cost of spending funds on this project is too great vs other priorities.
- Better septic technologies may be developed in the future.
- Concerns about new development or redevelopment if new wastewater treatment solution is made available.

While the Town has undertaken considerable and comprehensive water quality initiatives, not all community members are aware of these efforts. It is clear that community members believe the Town's enforcement abilities to be greater than allowed by law. It is of note that Colchester has a higher level of wastewater enforcement than any other onsite municipality in the State of Vermont. The only power available to the Town that it has not availed itself of is a point of sale inspection requirement. Such a regulatory requirement could help to identify deficient systems as part of a property transaction precipitating upgrades. While the Town could still not require deficient but not failing systems to be replaced, the hope would be that there would be market pressure to improve systems to increase market viability akin to putting a new roof on a home prior to a sale. It is recommended that the Town investigate a point of sale inspection requirement as another tool to gradually improve wastewater systems.

The cost of inaction is considerable. The Bay will continue to experience frequent unsafe levels of E. coli bacteria and other pathogens as well as other harmful nutrient loading as a result of failed septic systems in the identified high risk area. This threat to health and safety impacts recreation and enjoyment of our natural resources and limits economic activity beneficial to the community. Should the problem persist or worsen, further economic impacts are possible such as lower property values and decreases in tourism related revenues.

Considering the deterioration of water quality in the Bay, we don't have time to choose the "no action" option, even if people would like to have more data. Colchester spent 4 years and $2,000,000 doing more research than any other town in the state in a similar position. Conducting more studies now is a waste of public funds and ultimately does not provide a solution to the problem of pollution. In a few decades, the quality of water will decrease property values along the lakeshore, decrease tourism revenue, lower the rate of economic activity in the area, and be much more expensive to clean up than it is now.

Findings and Conclusion

It should be noted that there was a common misperception amongst participants in the public process that properties with failing wastewater systems could be identified by the Town and thus either enforced against or made a priority to purchase. Under State Law, the Town does not have the authority to test private wastewater systems or enter onto private property for these purposes. A wastewater system can only be considered failed if it is surfacing or back-flowing into the property. Marginal systems that do not visibly discharge human wastewater into the Bay are therefore impossible to isolate and then, under State Law, can not be held accountable or made to comply with current wastewater standards. With the State's limited definition of failure and the Town's lack of authority to enter private property, additional enforcement staff or site visits will not identify pollution sources or solve current problems.

While the majority of participants in the process did not debate the pollution problem, the scope of the problem and solutions were often called into question. Many participants in the process thought that the Town could create its own rules and could increase enforcement to solve pollution problems. The Town has sought additional powers from the State to control the operation of wastewater systems only to be denied the ability to be more restrictive than State rules. Failed systems do not have to meet current State standards and can be "best fixes" that do not meet standards for setbacks to water bodies, ground water, or other dimensional standards. Innovative alternative systems are often used as best fix systems and there was confusion about how these systems function. Innovative alternative systems can provide a high level of wastewater treatment when designed to State standards. Innovative alternative systems that are used for best fixes for failures are not built to these standards and will not provide the same high level of treatment. The Commission conducted a Septic Solutions Workshop on July 2nd that helped to educate the community on wastewater rules and permitting requirements. Only about 20 community members attended this workshop demonstrating more work is needed on engagement and outreach.

It is evident that not all community members are aware of the Town's comprehensive water quality improvement initiatives. The sentiment that the wastewater project was being done at the expense of other water quality projects was also evident amongst public input during the project. The sewer project was not viewed by all as being a component of a larger water quality initiative. It is clear that community members believe the Town's enforcement abilities to be greater than allowed by law. It is of note that Colchester has a higher level of wastewater enforcement than any other onsite municipality in the State of Vermont. More education and outreach around the Town's current water quality efforts and plans could serve to engage the community in understanding the need and scope of these improvements.

The Commission also heard concerns about the scope of the wastewater problem. The Integrated Water Resources Management Plan and follow up water quality testing has provided the greatest amount of information likely to be known on wastewater systems and risk. More specific testing as to what properties have deficient systems is not feasible. It is not probable to further isolate problem properties. With the known high risk areas, even if the worst sites could be identified and solved through a limited community system, there would likely be as many new failures to solve shortly thereafter. With three or more times the failure rate of wastewater systems elsewhere, the Inner Bay poses among the highest risks in Colchester. During the course of this seven month project, at least four additional wastewater failures occurred in the study area, the majority of which were not along the lakeside. The additional study contemplated under the no action option will serve to only delay the needed solutions and inflate the cost to implement.

The land conservation option would be the most expensive option and would not address

the entire Inner Bay. With 50 years to fully implement a partial land conservation option, not all wastewater pollution sources would be solved. While removing development and restoring the land would serve to improve overall water quality to a great extent, a limited program would not yield the results necessary to maintain and improve water quality in an efficient and cost effective manner. There would be both benefits and detractions to the character of the neighborhood as structures are removed improving views but removing the fabric of the neighborhood. Impacts to property values and taxes would both be substantially negative. Reliability would only come with full removal of all possible wastewater pollution sources that would not be achieved by the project as proposed.

The community septic solution may yield close to the flows needed to sustain the Inner Bay but would introduce a wastewater treatment plant with ongoing liabilities immediately adjacent to the Bay. It was not clear that this option would provide sufficient capacity to address all properties in the Inner Bay and fully maintain and improve water quality for both current and future land use and site conditions. The need for a stabilized slope and continual monitoring was concerning. The construction of the $17 million dollar facility would have an annual operating expense of over $250,000. While non-tax payer funds could be sought to construct and operate the system, the project is not cost effective. Incremental grand list growth may serve to improve tax liabilities. Substantial oversight would need to be put into place to ensure the solution would be reliable and efficient. Concerns were raised by the Commission that the development of a community system on the Bayside Hazelett property could conflict with park planning for the site. While some systems can allow for general playing fields on top of the leach-field, the presence of a system would constrain the recreational use of the site.

The sewer option would address the entirety of the Inner Bay and could maintain and improve water quality for both current and future land use and site conditions as all sources of human wastewater pollution would be removed from the area. This option would extend the Town's existing system that utilizes an existing wastewater treatment plant that is effectively and reliably operated. The least expensive of the actual solutions, the sewer option is cost effective and would have an impact similar to the community septic with possible incremental development and grand list growth. Funding sources could also be non-property tax based with options for grants, user fees, and local option tax funds.

For these reasons, the sewer option is the preferred solution identified by the Planning Commission as most effectively addressing human wastewater pollution in the Inner Bay. The Commission recommends that the Selectboard consider additional outreach and education regarding its current water quality efforts as well as addressing development concerns prior to further development of a wastewater solution. The Commission looks forward to its future work in revisiting the zoning specifically in the East Lakeshore Drive neighborhood and evaluating the benefits of growth management tools. This project will continue on through these efforts.

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