

Managed Retreat from Chatham's Marshes

Gerry Stahl

Introduction

Managed retreat is an intentional, coordinated municipal effort to permanently move community members, structures, and systems away from locations that are prone to prolonged or frequent high-intensity climatic events, such as flooding, storm surge or sea-level rise. Due to the complex and multifaceted impacts of climate change, planners may be tasked with leading communities through tough situations with no simple solutions. Relocating people out of harm's way can be an effective adaptation approach, but the change and disruptions this causes can make managed retreat a contentious topic. Practitioners must be thorough when assessing whether managed retreat will assist their communities in mitigating the effects of climate change and carefully plan and coordinate its application (according to the American Planning Association¹).

There are scattered examples of managed retreat in the US and elsewhere. In previous times, FEMA sometimes financed managed retreat from neighborhood disasters, such as hurricane Sandy or flooding in the Mississippi delta.² Generally, however, the consequences were borne by the homeowners, with disastrous effects on the local communities. So far, examples of managed retreat on the Cape are mostly limited to Town-owned properties, such as beach parking lots that had to be relocated due to coastal erosion. Of course, the Cape's National Seashore involved preserving large areas of shoreline and marsh as publicly owned – currently allowing, for instance, the major marsh preservation effort in Wellfleet.

In Chatham, property owners are threatened by the effects of climate change in the areas of salt marsh as well as along the shores. In the coming decades, the areas of current marsh will become completely uninhabitable and probably merge into the sea. This is already having financial impacts on private property owners as flood insurance is becoming hard to obtain or unaffordable, lowering real estate value and disrupting mortgages.

At the same time, sea-level rise is a threat to the survival of the marshes themselves, which are a major resource for Chatham at large. The preservation of the marshes will ultimately depend largely upon the retreat of private owners from the wetlands. The natural survival of salt marsh involves migration to the surrounding upland in response to sea-level rise. This will require retreat of homeowners from the areas of potential marsh migration as well as from the current marsh sites.

A coordinated managed retreat effort might include these aspects in order to protect property owners, the marshes and the larger community:

1. Relocate private property ownership out of the floodplain without their total loss of real estate value.
2. Protect the ecological future of the floodplain with conservation restrictions, preventing development and allowing marsh preservation efforts, including studies and interventions.
3. Facilitate marsh migration to nearby upland to keep pace with expected sea-level rise.
4. Modify low-lying roads in the floodplain to avoid isolation of neighborhoods in flood emergencies.
5. Facilitate tidal flow throughout Chatham's marsh system as it evolves in order to maximize sedimentation buildup to counter sea-level rise.

¹ <https://www.planning.org/pas/quicknotes/106/managed-retreat/>

² See a review of the effects on the people affected in “*The Great Displacement: Climate Change and the Next American Migration*” by Jake Bittle.

The following discussion and recommendations will focus on the major marshes in South and West Chatham along the Nantucket coast, drawing on the findings of a recent study by the Center for Coastal Studies commissioned by the Energy and Climate Action Committee (ECAC) along with the Department of Natural Resources of the Town of Chatham.

This document will be structured in terms of several specific recommendations:

Recommendation 1. Establish a voluntary managed retreat program in Chatham to assist property owners in relocating out of current and future marsh areas.

Recommendation 2. Begin with a managed retreat pilot project focused on a critical band of marsh protecting nearby neighborhoods in South and West Chatham.

Recommendation 3. Given the original studies of four marshes and a follow-up study of nine additional marshes, determine priority property acquisition areas for marsh preservation and migration.

Recommendation 4. Target modification of low-lying roads to prevent isolation of large neighborhoods during floods.

Recommendation 5. Explore the potential of strategically placed culverts to facilitate tidal flow throughout Chatham's marsh system in order to maximize sedimentation buildup to counter sea-level rise.

Recommendation 1: Establish a voluntary managed retreat program

These recommendations are based on the 2024 study by the Center for Coastal Studies (CCS) of the salt marshes in South and West Chatham. The results were presented³ in December 2025 to the Select Board, who asked for follow-up recommendations. A book⁴ with more detailed documentation was subsequently distributed to Select Board members in January. This document's recommendations suggest actions that the Select Board could pursue to help preserve Chatham's marshes while protecting neighboring residents. If the Select Board endorses these proposals in principle, ECAC could work with the Department of Natural Resources, the Open Space Committee and the Conservation Commission to develop concrete strategies to realize the proposals and to bring draft implementation plans back to the Select Board.

APCC's report, "Hanging in the Balance,"⁵ makes the following recommendations for local town government:

- Support the restoration of **salt marshes** by **protecting adjacent floodplains** and strengthening regulatory protections.
- Continue to **acquire open space parcels**, especially in priority natural resource areas.
- Strengthen **wetland protection regulations** to ensure wetland resources can be fully utilized for their flood control benefits.
- Support the **restoration of cranberry bogs** to wetlands to enhance carbon sequestration and flood storage, and improve habitat restoration.

In order to pursue these recommendations, Chatham could adopt the recommendations of this document. The environmental goal of managed retreat is to preserve salt marsh in the face of climate change in order to protect neighboring residential areas, lower Chatham's carbon footprint and maintain these crucial ecosystems. The approach is to assist interested owners of parcels in the Chatham floodplain to transform private endangered land into conservation land – owned by the Town of Chatham Land Bank or by a nonprofit land trust and/or covered by a

³ <https://youtu.be/VmkV-dMQ75o>

⁴ Stahl (2025) *Studying Climate Locally: The Future of Chatham's Marshes*. Free download at: <https://gerrystahl.net/elibrary/climate>

⁵ <https://apcc.org/hanging-in-the-balance>

conservation restriction. A managed retreat effort would include providing advice on tax benefits, obtaining surveys or appraisals, facilitating subdividing parcel areas within the floodplain from segments outside where appropriate, arranging for conservation restrictions, defining easements, etc. These services could be paid from existing open-space funds. Individualized negotiations would encourage combinations of donation and sale at market value of floodplain parcels to the Town.

The Floodplain was defined by FEMA in 2014 as the land with a 1% annual probability of being flooded by a major storm (a “hundred-year storm”). Since that time, the frequency and intensity of storms, hurricanes and storm surge have increased and will continue to increase due to accelerating climate change, including sea-level rise. As major flooding increases in the near future, the habitability and market value of land in the floodplain will plummet. The managed retreat effort is designed to assist interested owners of land in the floodplain to retreat prior to the increased flooding.

From a public perspective, the managed retreat effort is designed to facilitate future preservation of the salt marshes and other natural resources located in the current floodplain by insuring access to this land for conservation efforts in perpetuity. For instance, ECAC is currently pursuing scientific studies of several salt marshes, but does not have access to privately held parcels in the floodplain that contain current or future salt marsh. Such parcels form an initial priority for the managed retreat effort.

Chatham is committed to preserving its extensive, but threatened salt marshes. The network of marshes is a foundation of the town's environmental health, and provides the town's major wildlife corridors and fish breeding grounds, as well as recreational areas and scenic vistas. As the new Coastal Floodplain regulations state, this land is “important for storm damage prevention, flood control, protection of public and private water supply, groundwater and groundwater quality, erosion and sedimentation control, water pollution prevention, wildlife and wildlife habitat, fisheries, and shellfish.”⁶ According to the Cape Cod Commission's statement on managed retreat, “Effective management of floodplain retreat in Cape Cod relies on comprehensive planning, financial support, and community buy-in to move people and assets out of harm's way and build a resilient coastal future.”⁷

The recommendations in this document complement the efforts of the Chatham Conservation Commission to strengthen marsh preservation by revising the bylaws and regulations for the Coastal Floodplain. Following the recommendations of ECAC, the Conservation Commission will likely adopt the MC-FRM 2070 state-approved model of flooding to replace the 2014 FEMA map, in order to anticipate expected sea-level rise. Also based on the recommendations of ECAC, the Conservation Commission will likely designate Special Transition Areas for projected salt-marsh migration by adopting the CCS studies map of possible marsh-migration routes. ECAC is currently working with CCS to align its marsh-migration maps with MC-FRM and the Conservation Commission's Coastal Floodplain maps. Recommendations for the revised Wetlands Bylaws are presented in a separate document.⁸

Although the studied marshes are currently healthy, they will largely succumb to flooding by sea-level rise in the coming decades. MC-FRM predicts 4.3 feet of sea-level rise by 2070. If the Town takes no action, this will completely drown the marshes. The CCS study showed that the sedimentation rate in these marshes is far too low to keep pace with sea-level rise. It calculated that a rise of 1.2 feet would drown 40% of the four studied marshes and 3 feet would eliminate 62%. The surrounding parcels are mostly privately owned, which will prevent the marsh's ability to expand or spread (migrate) to surrounding higher land. Figure 1 shows the areas of potential marsh migration by 2070 overlaid on the Cape Cod Commission's map of Coastal Resilience Zones.

The above recommendations are focused on the marshes in South and West Chatham, studied by CCS in 2024. To date, these marshes have not been specifically addressed by Town preservation efforts, except for beach enrichment. ECAC will make similar recommendations for the rest of Chatham's marshes next year, after completion of the current study of nine more marshes by CCS. Note that the Town has already pursued preservation projects in most

⁶ Regulations adopted by the Conservation Commission July 1, 2026.

⁷ <https://capecodcommission.org/our-work/managed-retreat>

⁸ *Access to protect Chatham's marshes*. Unpublished study. Web: <http://GerryStahl.net/elibrary/climate/access.pdf>.

of these other marshes of Chatham, such as Muddy Creek, Frost Fish Creek, Jackknife Beach, the Fish Pier, Bridge Street and sewerage near some of those marshes.

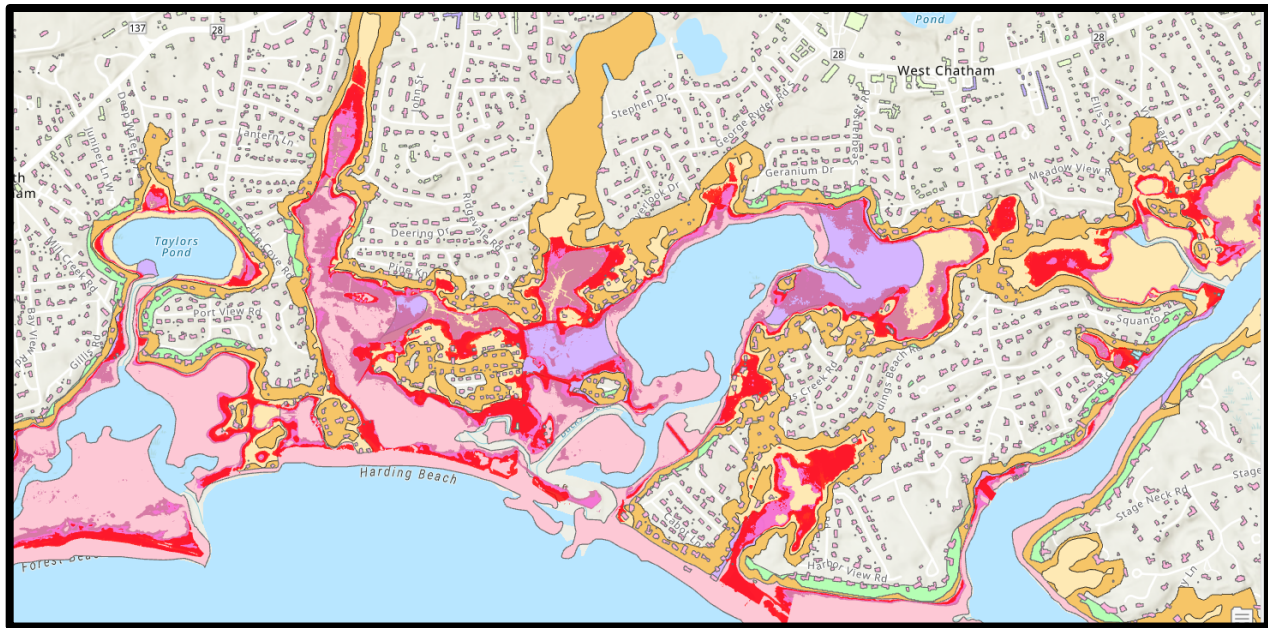


Figure 1. Current version of the Cape Cod Commission's proposed 2070 Coastal Resilience Zones: salt marsh and sea in light blue; V or VE Zone in pink; MoWA Zone in purple; MiWA Zone in yellow; Coastal Flood Risk Zone in light brown; Special Transition Areas in light green. The CCS predictions of potential marsh migration are overlaid in bright red.

Despite the important revisions of the bylaws and regulations proposed by the Conservation Commission, managed retreat is still also necessary. Marsh migration cannot take place on land that is occupied by houses, residents, cars and landscaping. The new bylaws and regulations allow houses to remain even after substantial flood damage. Only "if the structure incurs Substantial Damage due to floods or coastal storms after being rebuilt to all applicable flood protection standards, then the Commission *may* require that the structure shall either be (a) moved landward beyond the Zone or (b) demolished." Note that even after repeated flooding, the removal of a structure is not required, but just permitted. Lawyers or future Commission members may be able to allow structures to remain indefinitely. Private ownership of parcels in the floodplain not only blocks potential marsh migration, but it can prevent access for Town interventions to preserve the marshes. So assisted retreat from the floodplain is not only supportive of residents to relocate before they lose their insurance or home value, but also necessary for Town stewardship.

The recommendations presented here are proposed as part of a climate resilience program for Chatham based on a long-range planning horizon. Climate change has begun, with significant occurrences of sea-level rise, flooding, wildfires, droughts and destructive storms throughout the world. Given the carbon and methane emissions already in the atmosphere and continuing to be released, it is virtually guaranteed that climate will get increasingly chaotic for the next several decades. This document therefore tries to project out 40 or 50 years. Chatham has not yet experienced conditions as extreme as elsewhere, but given its position jutting into the ocean, it may not be so lucky for long. A voluntary managed retreat program will take a long time, as property owners' concerns adjust to changing conditions.

Hundreds of homes near the coast of South and West Chatham are likely to be flooded in the coming decades. The large salt marshes of Forest Beach, Cockle Cove and Bucks Creek provide significant protection from extreme storms with dangerous wave surge. However, as projected in Figure 2, those marshes are likely to be substantially submerged in the interim by sea-level rise and thereby to lose much of their protective power.



Figure 2. Probability of flooding by 2070 (dark blue with homes in tan) protected by salt marshes at Forest Beach, Cockle Cove and Ridgevale Beach. Based on MC-FRM flood model with 4.3 feet sea-level rise. Bright red shows marsh migration based on CCS study with 3.0 feet of sea-level rise.

To reduce danger to residents and to allow the Town to intervene to preserve the marshes, it will be important to encourage and support property owners to relocate out of the Coastal Floodplain.

The Town could promote and subsidize a combination of land donation, sales and tax rebates for owners of parcels in the Chatham floodplain to convey the parcels to the Town to be preserved as open space. Using funds already available for open-space procurement, a consultant experienced in such acquisition could work with the ECAC, Department of Natural Resources, and Open Space Committee to develop and promote the program, and negotiate with homeowners.

One way to structure a managed retreat program for the marshes would be through a consultant contract supervised by a Town committee and authorized by the Select Board to include purchases of parcels. The Energy and Climate Action Committee (ECAC) or the Open Space Committee (OSC) could obtain funds from the Chatham Community Preservation Act (CPA) to cover initial costs, such as outreach, surveying and legal fees. The following sketch of a consultant contract for this program was developed in early 2023 with the help of two potential consultants who are experienced in negotiating acquisitions for land trusts on the Cape.

*** Sample Memorandum of Understanding for Chatham Floodplain Parcels Preservation Effort

Purpose. The purpose of this MOU is to establish the terms and conditions for work with the Energy and Climate Action Committee (ECAC) and the Department of Natural Resources (DNR) of the Town of Chatham to help initiate Chatham Floodplain Parcels Preservation Effort. This Effort is supported by a grant from the Chatham Community Preservation Act (CPA).

This effort is a response to the risk to Chatham's salt marshes from climate change and sea level rise. The objectives are:

- To protect owners of properties in the paths of potential marsh migration from the consequences of flooding, including property damage, rising insurance costs and lowering property values.
- To ensure that paths of potential marsh migration are kept free of obstacles.
- To ensure that paths of potential marsh migration are accessible for study and preservation efforts.
- To aid in the preservation of Chatham's salt marshes.

The goal of the Chatham Floodplain Parcels Preservation Effort is to assist interested owners of parcels in the Chatham floodplain to transform private endangered land into conservation land – owned by the Town of Chatham Land Bank or by a nonprofit land trust and/or covered by a conservation restriction.

The Effort will include providing advice on tax benefits, obtaining surveys or appraisals, facilitating subdividing parcel areas within the floodplain from segments outside where appropriate, arranging for conservation restrictions, defining easements, etc.

Responsibilities of Contractor. Tasks covered by the MOU include:

- Working with ECAC and DNR to plan and advertise the Chatham Floodplain Parcels Preservation Effort.
- Drafting and publicizing statements describing the Effort.
- Working with ECAC and DNR to prioritize parcels in the floodplain to be contacted.
- Contacting owners of priority parcels in the floodplain.
- Advising interested property owners, negotiating with them concerning arranging for property transfer, arranging for related services.
- Reporting to the ECAC and DNR on a monthly basis, including an invoice for work done since the last invoice.
- A final report will be provided to ECAC and DNR compiling all work done under this MOU.

Responsibilities of Town of Chatham. ECAC and the DNR will work with Contractor to define and plan the effort. ECAC and DNR will work with Contractor on the drafting of all documents associated with the effort, including publicity and letters to property owners. ECAC and DNR will work with Contractor to prioritize parcels in the floodplain to be contacted.

Recommendation 2: Begin with a voluntary managed retreat pilot project

As an initial pilot project, the Town could target assisted retreat from specific, strategically located parcels and subdivided parcels in the migration paths of the Forest Beach, Cockle Cove and Bucks Creek salt marshes. The target area is a broad band of salt marsh protecting residential neighborhoods from storm surge; it is mostly already publicly owned, but includes several private parcels that could block marsh migration or Town management efforts. A combination of land donation with tax benefits, negotiated sale and/or Conservation Restrictions would allow the Town to optimize marsh migration in the target area and generally manage marsh preservation. A demonstration project with acquisition of a particular set of properties could make a coordinated, visible impact on marsh preservation.

The following outlines an acquisition project designed to have such a visible impact. Moreover, a number of the properties involved may be particularly ripe for acquisition right now. Perhaps the most timely implementation of this

project would be for the Open Space Committee to extend its contract with Mark Robinson to have him research the dozen properties targeted and contact their owners to discuss potential acquisition options by the Town Open Space Committee and/or the CCF land trust.

The target area is a broad band of salt marsh protecting residential neighborhoods from storm surge; it is mostly already publicly owned, but includes several private parcels that could block marsh migration or Town management efforts. A combination of land donation with tax benefits, negotiated sale and/or Conservation Restrictions would allow the Town to optimize marsh migration in the target area and generally manage marsh preservation.

To promote a Town-sponsored program of assisted voluntary managed retreat from the Coastal Floodplain, a focused pilot project could be an effective way to illustrate the program's utility and desirability. Rather than just hoping for interest from property owners scattered throughout the floodplain, a focus on a strategic area could make a visible impact. The Forest Beach, Cockle Cove and Bucks Creek marshes already form a protective barrier against storm surge for the neighborhoods just inland of them (see Figure 3). The majority of parcels in and around these marshes are already publicly owned by the Town or in a land trust. However, there are still 21 privately owned parcels that will soon be flooded and that prevent interventions by the Town to preserve this healthy marsh (see Figure 4). Nine of these privately owned parcels have homes on one end of the parcel and marsh at the other end; they could be subdivided and have just the marsh end acquired (see Figure 5). Success of the voluntary managed retreat program in this targeted area could demonstrate the practicality and the benefit of the program for all concerned.

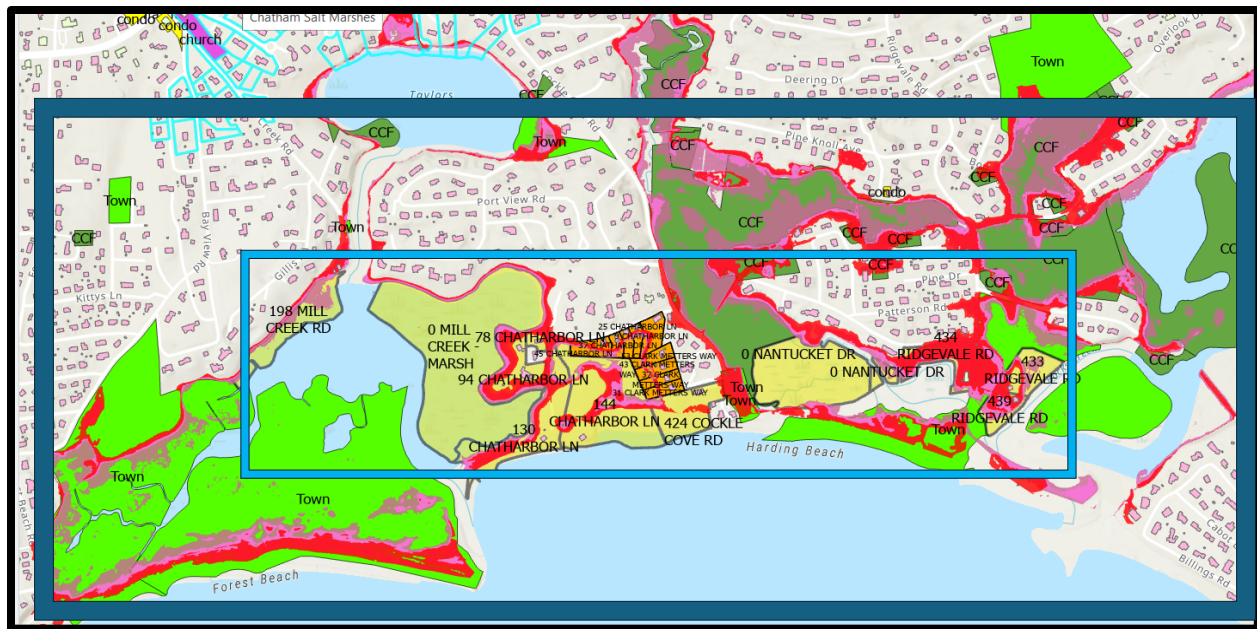


Figure 3. Overview of South Chatham and West Chatham coast. Dark blue rectangle shows projected public salt marsh barrier. Light blue rectangle shows proposed target for property acquisition and conservation. (Dark green properties already in a land trust; light green properties already Town-owned open space; yellow properties targeted for acquisition; orange properties targeted for subdivision and partial acquisition.) Control of this band of salt marsh behind the Nantucket Sound beaches would give the Town control over marsh preservation efforts and prevent development.

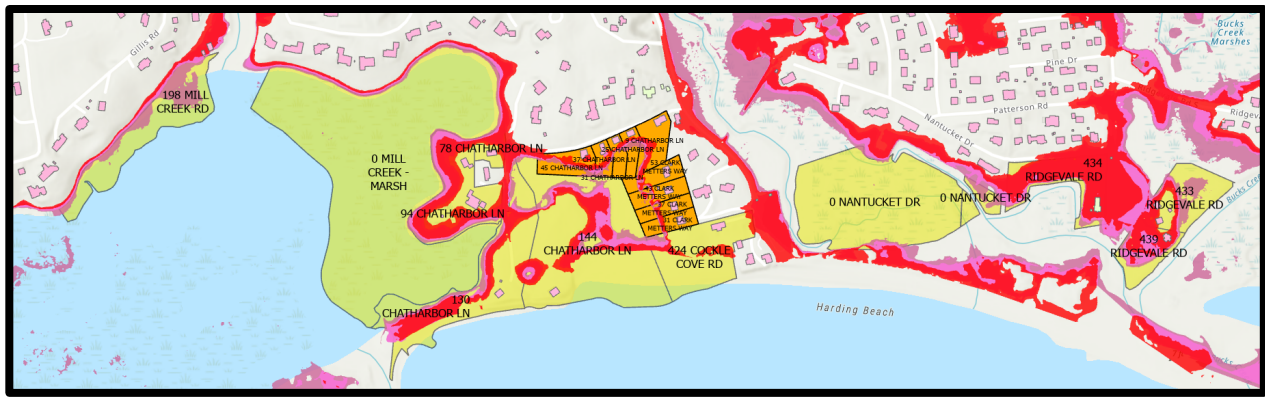


Figure 4. Parcels in yellow targeted for acquisition; orange properties targeted for subdivision and partial acquisition.

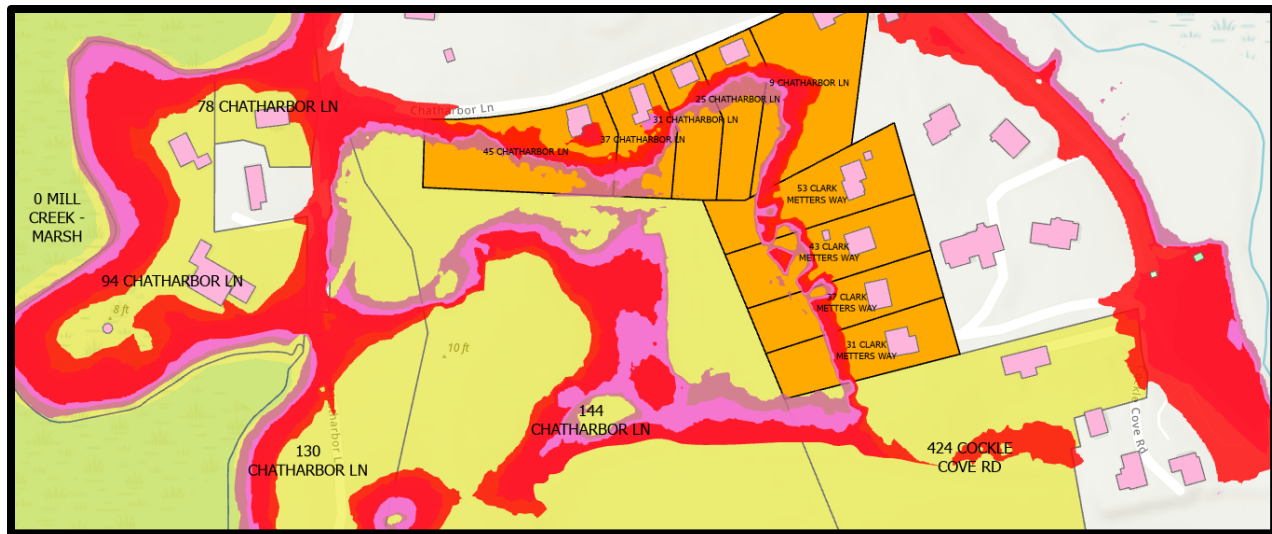


Figure 5. Detail of 9 parcels targeted for acquisition of subdivision of marsh-migration area separated from housing.

Recommendation 3. Determine priority property acquisition areas

Here is information based on the study of four salt marshes conducted recently in South and West Chatham. It indicates where the marshes could migrate in the coming decades, by combining data and mapping compiled by the Center for Coastal Studies with parcel data from the Chatham Appraiser. It is intended to indicate priority parcels to consider for acquisition and/or conservation restriction to clear the way for marsh preservation through migration.

The Chatham managed retreat effort could focus on parcels predicted to be in the marsh migration path. The following maps correspond to the entries in the accompanying spreadsheet, which provides data for these properties from the Chatham appraiser's office. These maps are high resolution, so they can be legibly zoomed into. For convenience, the maps have been included at different scales for visual browsing.

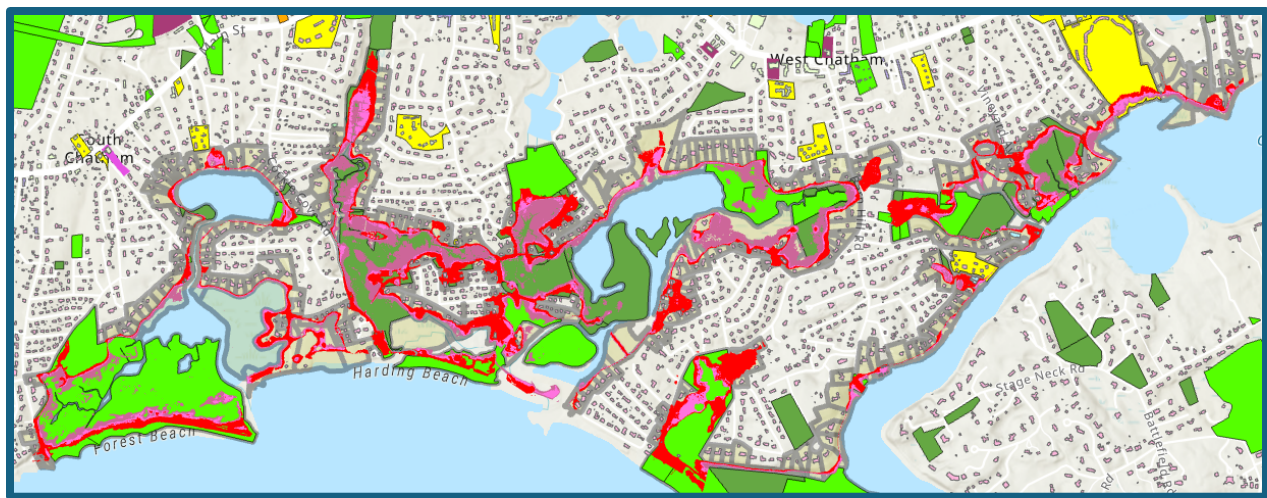
These maps cover the four marshes in South and West Chatham that were studied in 2024. The main finding of that study was locations where it may be possible (given the ground elevation) for the marshes to "migrate" as the sea level rises. The predicted migration areas assume sea level rise of 1.15 ft, 1.80 ft and 2.95 ft by 2050, 2070 and 2100, shown in purple, pink and red, respectively. As discussed in the book, sea level rise of 3 feet may come to Chatham by 2050, rather than 2100, so it is time now to clear the way. (It could take many years to acquire parcels, strengthen bylaws, negotiate conservation restrictions and implement mitigation efforts.)

In some situations, it makes sense to differentiate between marshes that are likely to thrive despite sea level rise and those that are likely to die despite efforts to support migration. This was the case, for instance, for small areas of marsh scattered around Pleasant Bay and may apply to some of the nine Chatham marshes being studied in 2026. But as can be seen in the overview map below, the four marshes recently studied are predicted to expand outward wherever possible, and to tend to merge into one large water system. The study predicts alarming levels of marsh loss from sea level rise, requiring this kind of outward expansion to preserve the considerable benefits Chatham now gets from these marshes.

In addition to natural migration upland, marsh preservation can perhaps be aided by interventions, such as sand nourishment, thin-layer deposition, runneling, etc. These would require control of the (new and old) marsh lands. While there are currently state and local bylaws protecting the wetlands, more public control may be needed in the future. Property acquisition and/or conservation restrictions (CRs) by the Town or land trust may be necessary in specific locations. To facilitate this process, the following maps identify properties that include areas of predicted marsh migration. As a first cut at this relatively long list of properties, those parcels that have no houses on them are singled out.

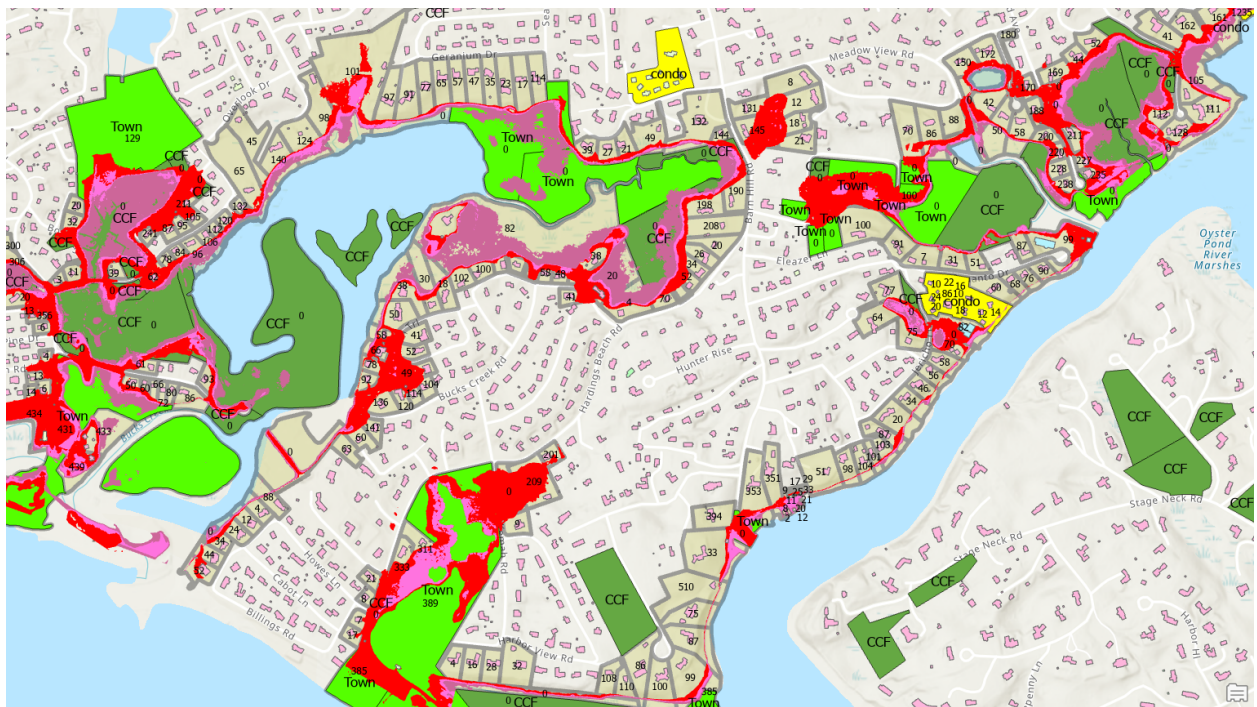
The accompanying spreadsheets provide initial ownership information, acreage and appraised value. In many cases, the houses are at one end of a parcel with the migrating marsh at the other end. In such cases, it might make sense to divide off the marsh end and either acquire it publicly or negotiate a CR on it.

Here is an overview of the marsh area studied, at a scale of 24,000:1. Light green are Town properties. Dark green are CCF land trust properties. Yellow are nonprofit or condo association properties. Purple, pink and red are marsh migration areas with about 1, 2 and 3 feet of sea level rise. Streets and houses are indicated.



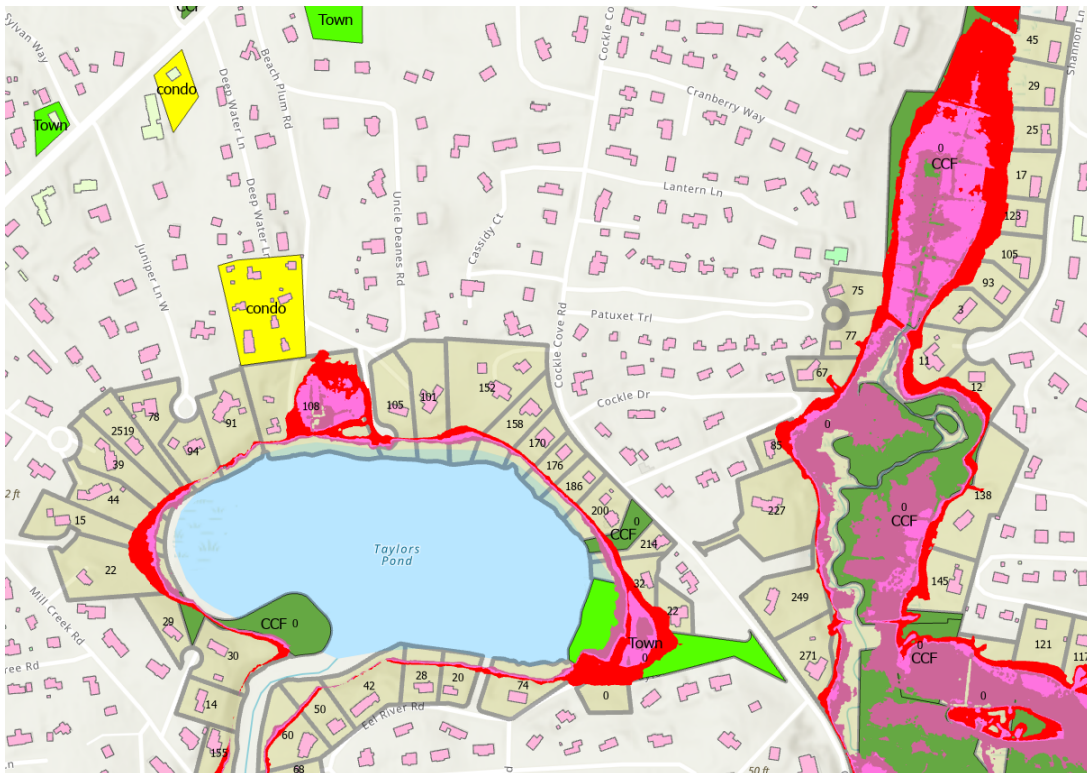
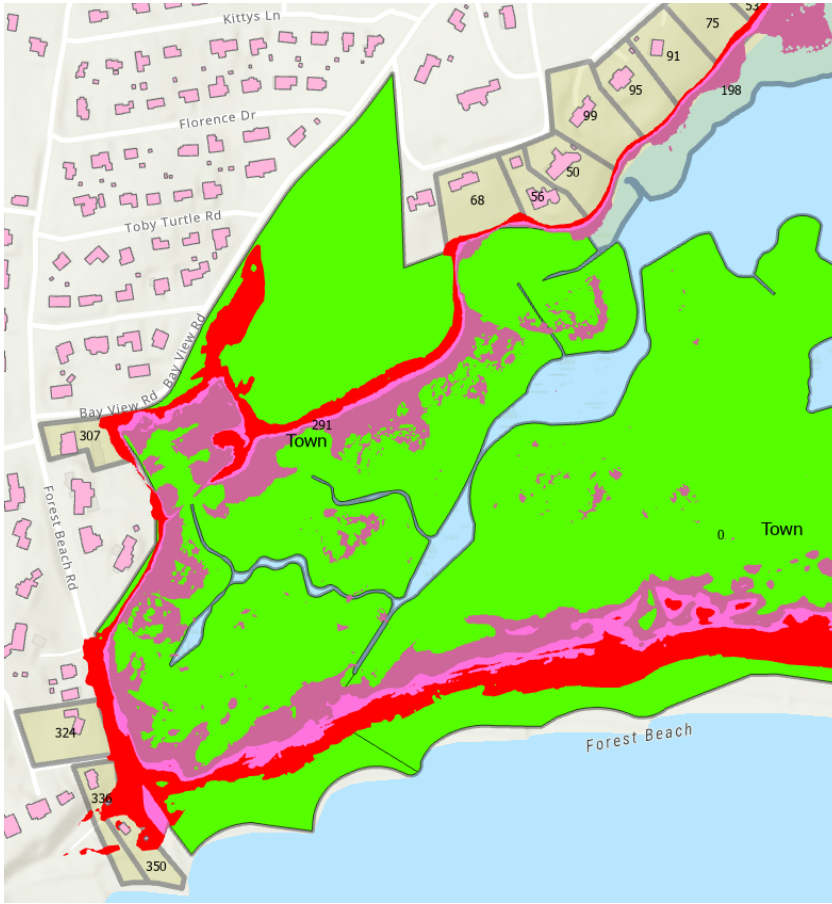
The next two maps zoom in to this area at a scale of 10,000:1, showing South Chatham and then West Chatham. The tan properties are those parcels that include potential marsh migration areas. Their street numbers are shown.

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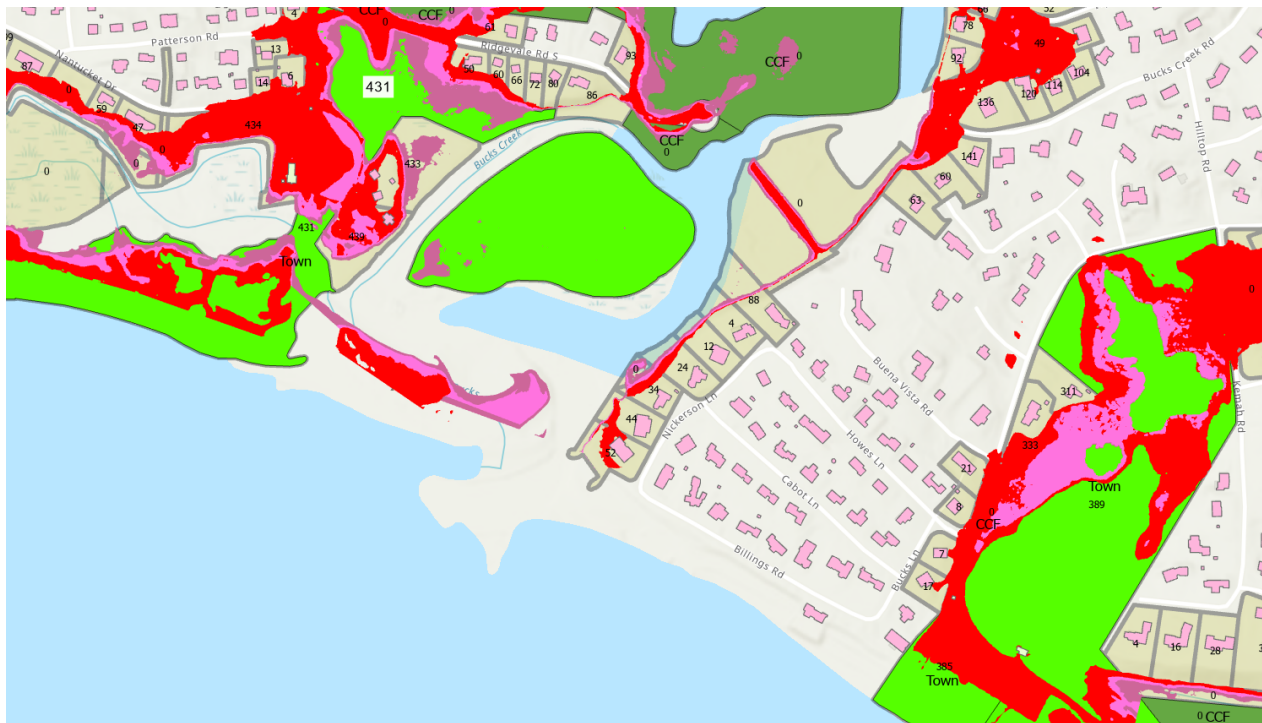
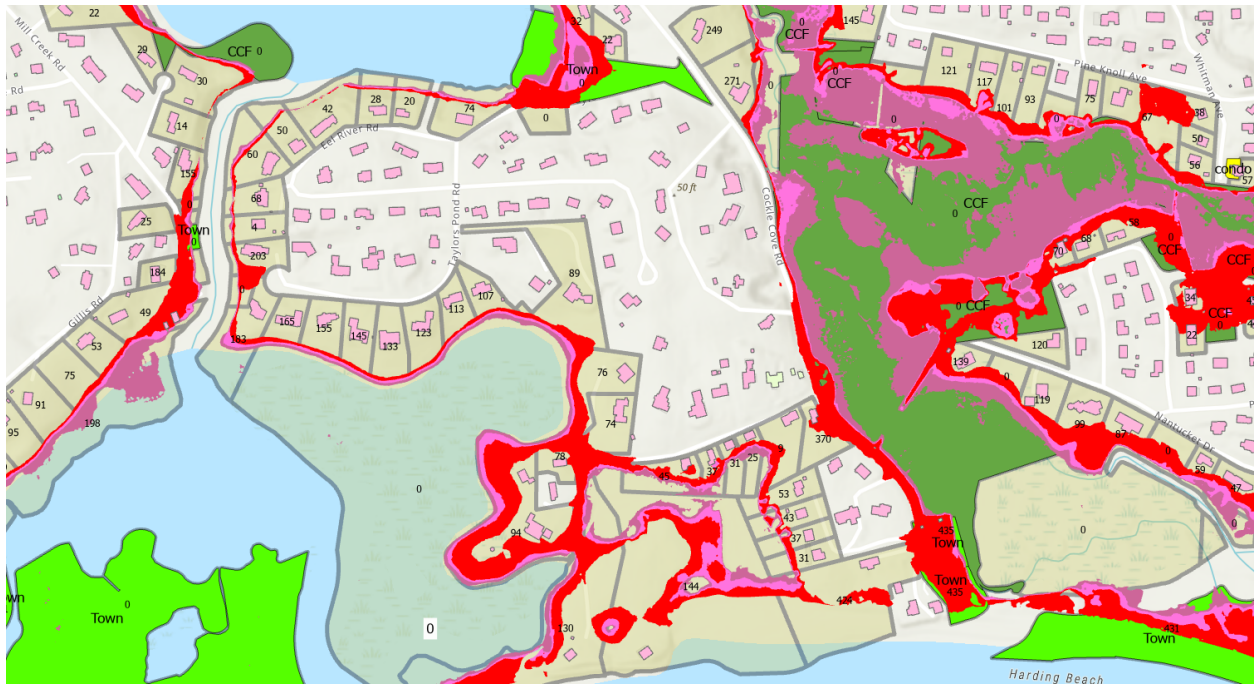


Next, these maps are zoomed in for a series of 7 close-up maps at a scale of 5,000:1, moving from west to east. Here, one can see how the migration areas are situated with respect to the houses on each parcel.

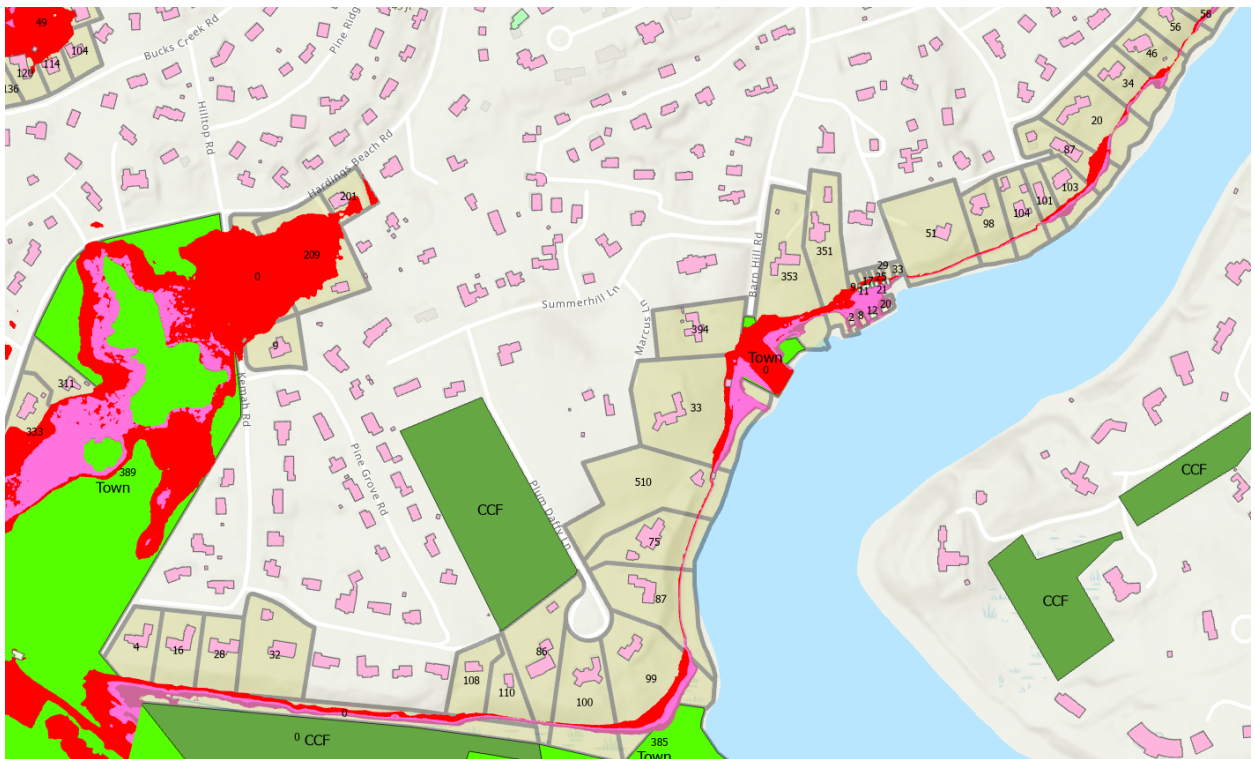
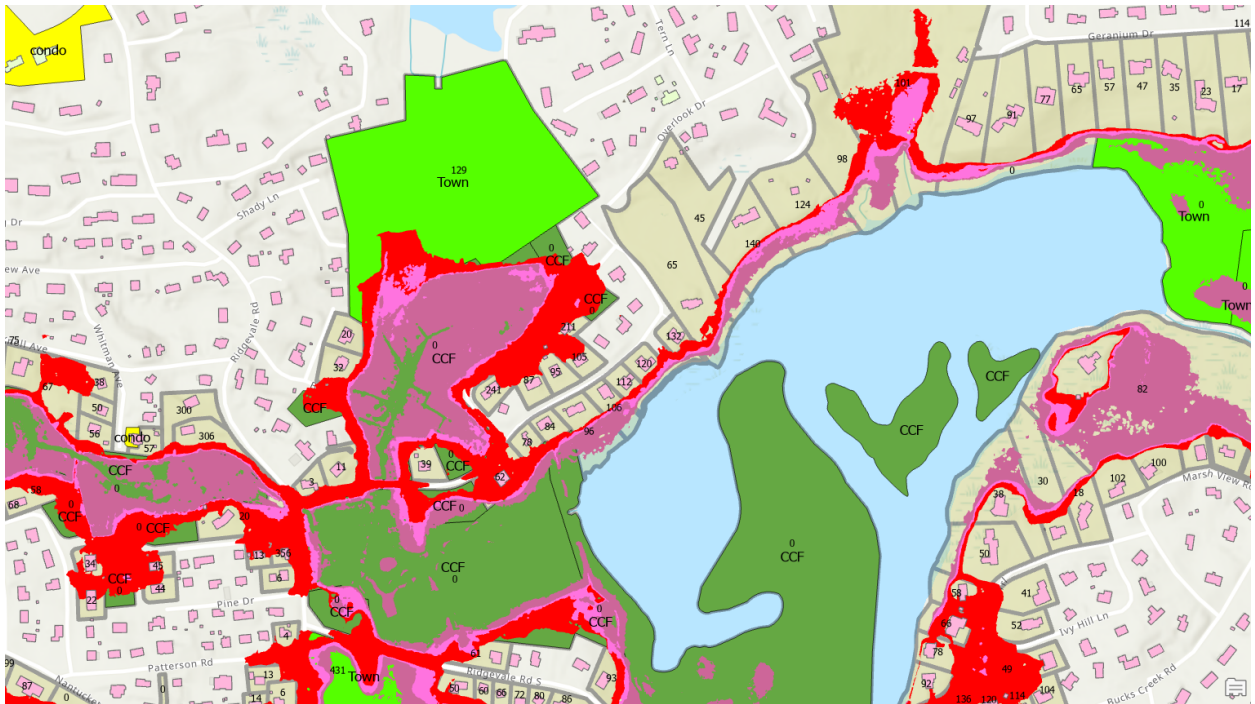
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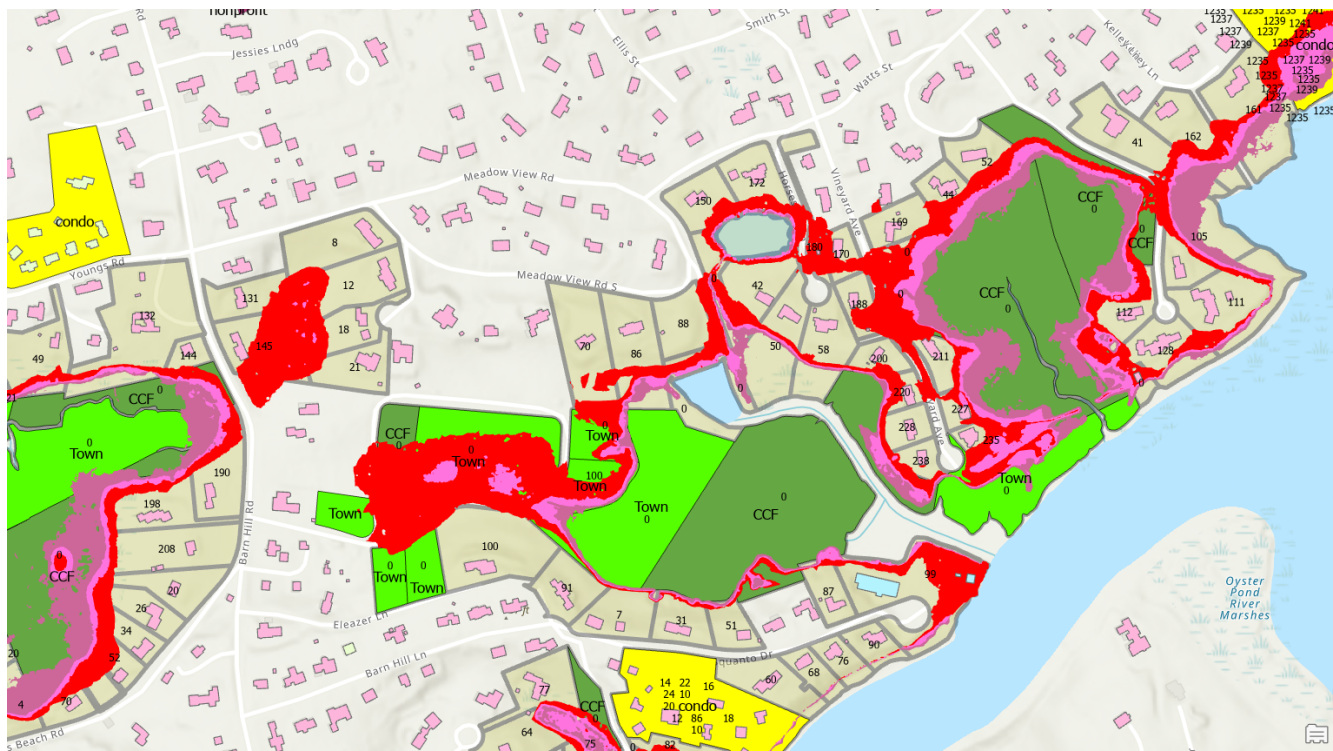
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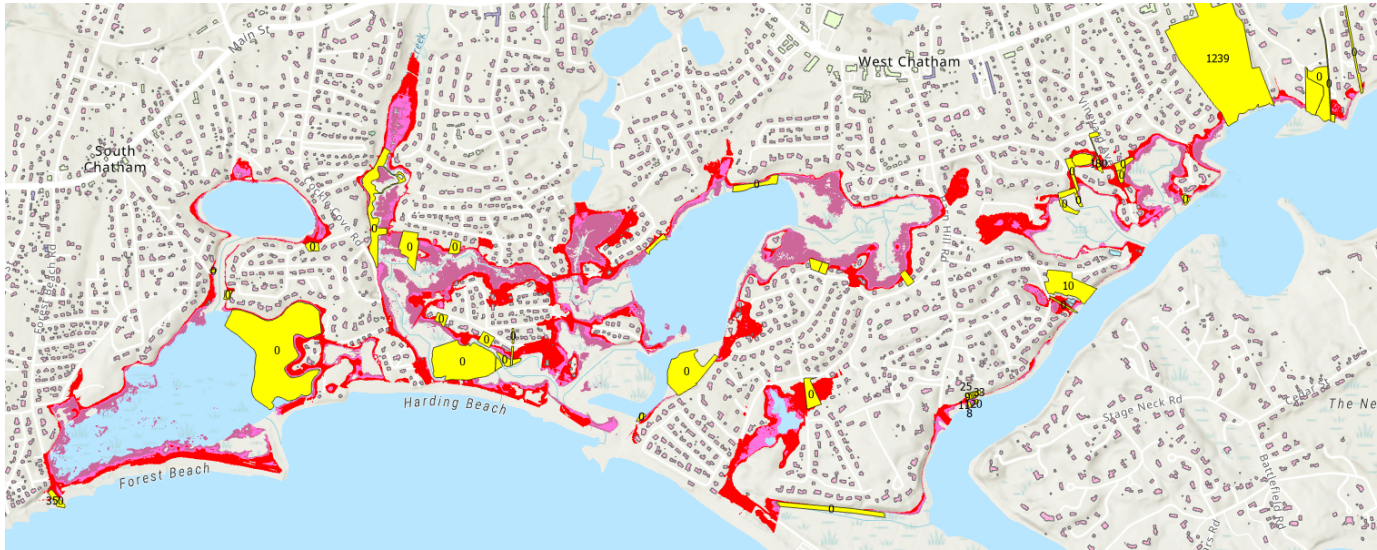
Managed Retreat from Chatham's Marshes



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Finally, an overview map shows those parcels that overlap potential marsh migration areas, but have no buildings on them. These parcels may be easier to acquire or negotiate CRs.



Here is a list of the addresses of these 37 parcels. Note that a number of them are owned by organizations of local residents who use the parcels for recreational access to the marshes.

Address	billing acres	2027 land assessment	# of buildings	owner in Chatham?
0 BUCKS CREEK RD	4.25	\$66,600	0	yes
0 BUFFER STRIP	1.34	\$22,400	0	yes

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0 COCKLE COVE RD	1.01	\$9,200	0	yes
350 FOREST BEACH RD	0.20	\$216,500	0	yes
0 GERANIUM DR	0.61	\$6,700	0	yes
0 LIME HILL RD	0.50	\$52,300	0	yes
0 MEADOW VIEW RD	0.41	\$20,600	0	yes
0 MEADOW VIEW RD	0.25	\$3,700	0	yes
180 MEADOW VIEW RD	0.18	\$9,100	0	yes
0 MILL CREEK - MARSH	13.00	\$163,000	0	yes
0 MILL CREEK RD	0.08	\$2,000	0	yes
0 NANTUCKET DR	1.87	\$48,900	0	yes
0 PINE KNOLL AVE	0.27	\$1,000	0	yes
8 SHANTY ROW	0.04	\$222,000	0	yes
9 SHANTY ROW	0.04	\$214,500	0	yes
11 SHANTY ROW	0.03	\$133,900	0	yes
17 SHANTY ROW	0.02	\$71,300	0	yes
0 TAYLORS POND RD	0.36	\$13,000	0	yes
0 TAYLORS POND RD	0.11	\$2,900	0	yes
0 VINEYARD AVE	0.50	\$6,500	0	yes
0 VINEYARD AVE	0.24	\$3,100	0	yes
0 BUCKS CREEK RD	0.12	\$6,000	0	no
0 CHRISTOPHER HARDING LN	0.35	\$9,100	0	no
0 JERICHO LN	0.17	\$20,800	0	no
0 KEMAH RD	0.95	\$276,100	0	no
0 MEADOW VIEW RD SO	0.03	\$300	0	no
0 NANTUCKET DR	0.43	\$11,200	0	no
0 NANTUCKET DR	0.60	\$15,700	0	no
0 NANTUCKET DR	5.70	\$59,600	0	no
0 NANTUCKET DR	0.05	\$5,200	0	no
0 PINE KNOLL AVE	0.80	\$12,500	0	no
21 SHANTY ROW	0.02	\$99,800	0	no
25 SHANTY ROW	0.02	\$98,700	0	no
29 SHANTY ROW	0.03	\$132,900	0	no
33 SHANTY ROW	0.06	\$2,200	0	no
0 UNCLE ALBERTS DR EXT	1.03	\$1,664,400	0	no
0 WOOD CARVER KNOLL	0.19	\$19,400	0	no

Summary information on the 419 parcels that overlap the potential marsh migration is given in the associated spreadsheet. Combined with the maps, this should provide a starting point for considering which properties in the marsh migration paths should be pursued first with site visits and further research. The spreadsheet list is sorted by the number of buildings on the parcel and whether or not the owner of record is located in Chatham. The number of parcels in each category is summarized in this chart:

acreage	# of parcels	land assessment	# buildings	ownership
25.3	21	\$1,289,200	no buildings	Chatham owner
10.6	16	\$2,433,900	no buildings	out of Chatham owner
95.5	125	\$127,375,700	1 building	Chatham owner
121.5	240	\$220,176,500	1 building	out of Chatham owner
14.3	10	\$18,003,900	2 buildings	Chatham owner
15.7	7	\$12,137,300	2 buildings	out of Chatham owner
282.8	419	\$381,416,500	total	
0.7		\$910,302	average	

Possible Priority Parcels

Here are some tentative examples of parcels that could be considered for prioritizing in the ECAC Effort. None of them have houses and most are key areas of salt marshes ECAC is studying and are adjacent to current open-space parcels:

#1

Location: 0 MILL CREEK - MARSH

Owner: MILL CREEK MARSH CORP

165 TAYLORS POND RD

S. Chatham, MA 02659

Acreage: 13.00

Assessmt: \$124,800.00

#2

Location: 0 COCKLE COVE RD

Owner: PETER & CAROL KOLB REVOCABLE TRUST

271 COCKLE COVE RD

S. Chatham, MA 02659

Acreage 1.01

Assessmt: \$7,100.00

#3

Location: PINE KNOLL AVE

Owner: SMITH JEFFRETY & SARAH B

54 HEARTHSTONE DR

Medfield, MA 02052

Acreage: 0.80

Assessmt: \$9,600.00

#4

Location: NANTUCKET DR

Owner: HEAVEY JOHN J & TERESA M

225 FREEMAN PARKWAY

PROVIDENCE, RI 02906

Acreage: 5.70

Assessmt: \$45,600.00

#5

Location: CAPTAIN SEARS WAY

Owner: 22 CAPTAIN SEARS WAY REALTY TRUST

DEMPZE NANCY E TRUSTEE

22 IRVING ST

BROOKLINE, MA 02445

Acreage: 0.53

Assessmt: \$51,300.00

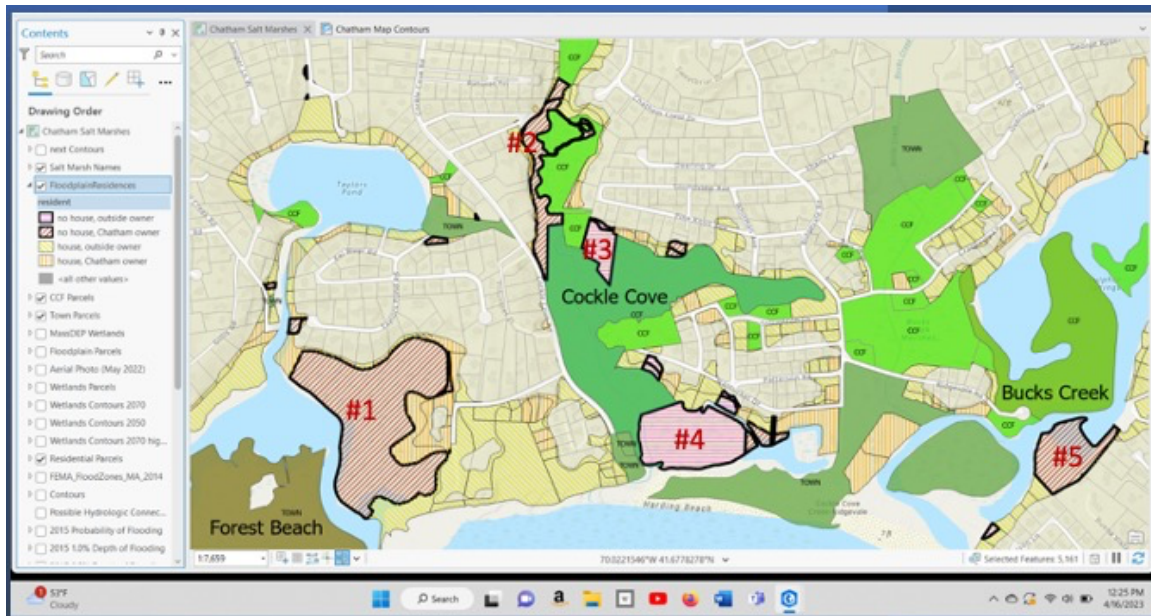


Figure 6. Map showing location of several potential priority parcels. Note parcels already owned by the land trust (light and dark green) or the Town (grey green).

Recommendation 5. Target modification of low-lying roads

Due to the marshes extending North from the Nantucket Sound along creeks, all access to certain populated areas near the coast are accessed by single Town roads, such as Cockle Cove Rd, Ridgevale Rd and Hardings Beach Rd. During a major flood, low-lying sections of these roads would be flooded along with the neighborhoods they serve. Given expected sea-level rise, flooding predicted by MC-FRM could isolate about 650 homes served by these three roads. While homeowners could be endangered, access by emergency services would be blocked and homeowners isolated. Fixing these low-lying road segments could prevent major emergency incidents in this populated area.

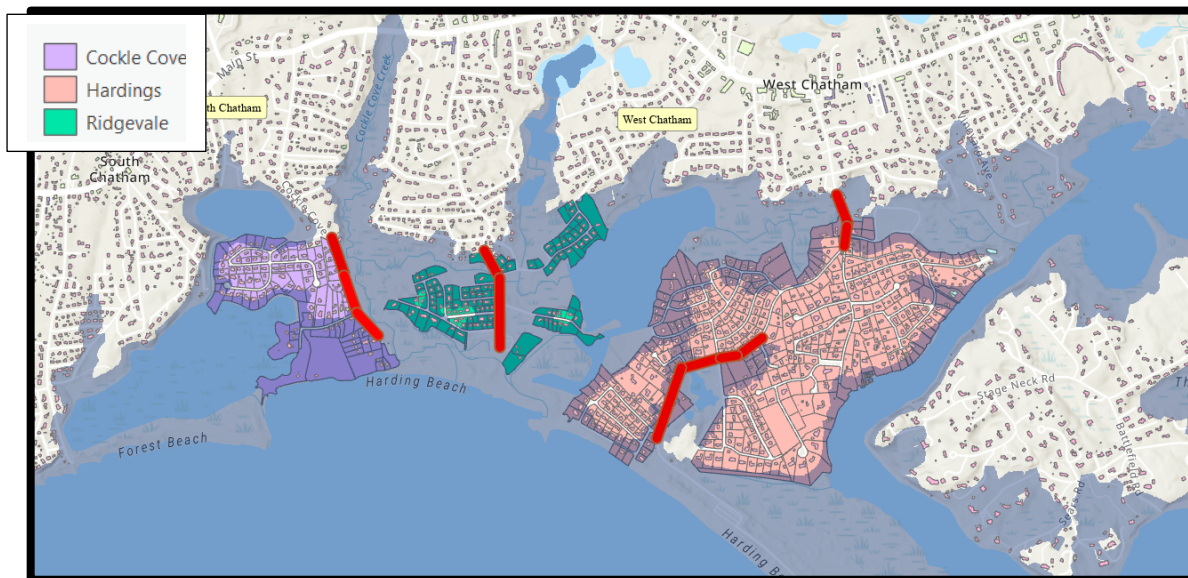


Figure 7. Low-lying roads: Cockle Cove Road, Ridgevale Road, Hardings Beach Road during a 2050 hundred-year flood. Flooded road sections in bright red.

Recommendation 6. Facilitate tidal flow throughout the marsh

The low-lying road sections generally occur near marshes. While raising these roads, culverts could be installed to link marshes on the two sides of the road in order to facilitate flood runoff. Additional culverts could further link these marshes together to improve tidal flushing. This could improve the long-term health of the marshes as well as speed the draining of flood waters from the surrounding neighborhoods. In some cases, the proposed culverts would re-open connections that have closed over time. The possibility of linking marshes together to improve tidal flushing and draining is timely because during construction to raise low-lying road segments, culverts could be installed to link adjoining marshes in order to facilitate flood runoff. Increased tidal flow would bring in sand so that sedimentation could better keep pace with sea level rise.

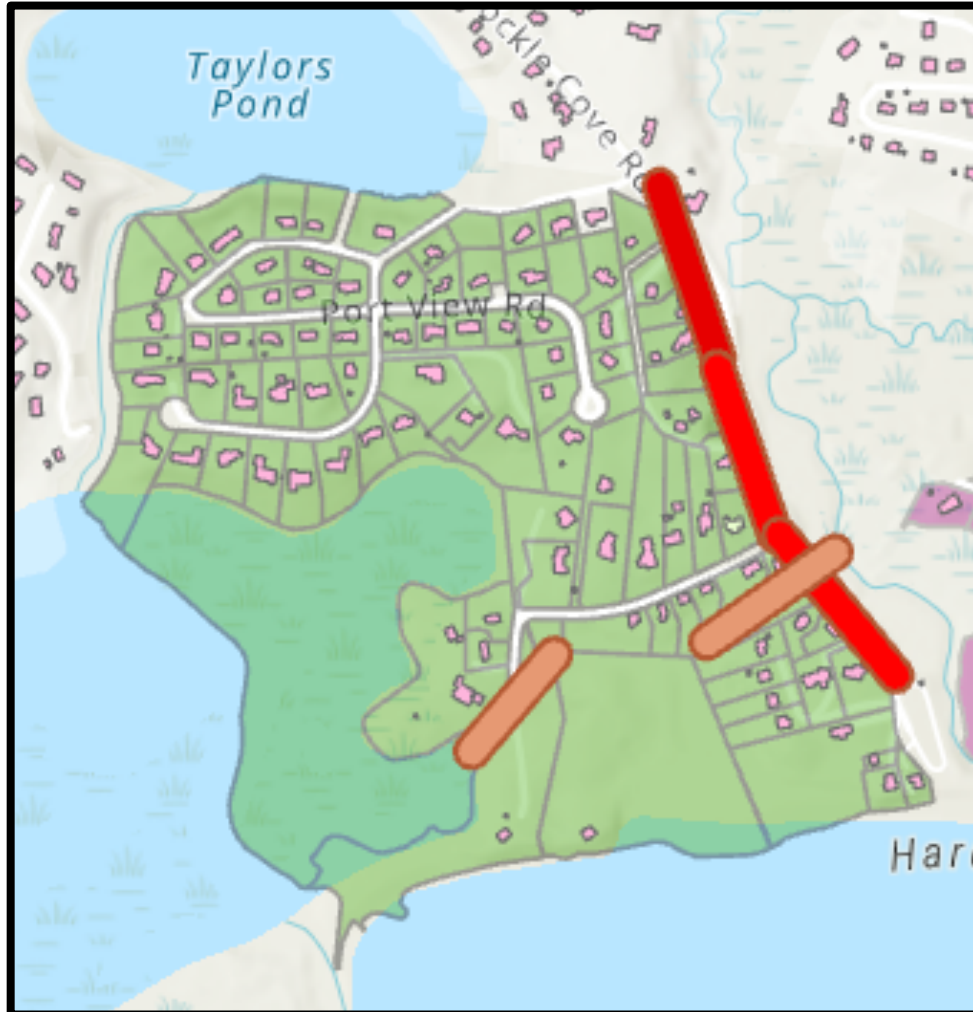


Figure 8. Approximately 97 properties (in green) isolated by a flooded Cockle Cove Road (in red). Note proposed culverts in brown.

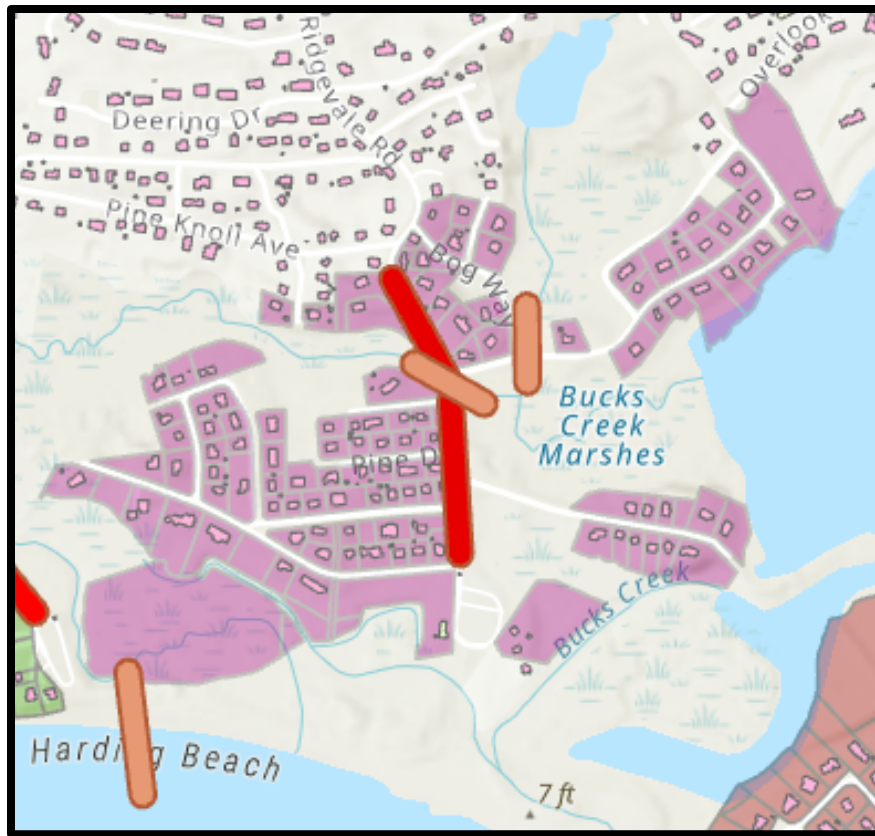


Figure 9. Approximately 122 properties (in purple) isolated by a flooded Ridgevale Road (in red). Note proposed culverts in brown.



Figure 10. Approximately 423 properties (in dark brown) isolated by a flooded Hardings Beach Road (in red). Note proposed culverts in brown.