Annie Hayes to the Planning Board- The Hidden TrailsEnvironment.

Developers prefer a norrow lens- focussing on the letter of the laws that approve their best land use steered by business. Some transcend that and do what is best for future people living in a living watered earth with all other species.as well as their bottom line.

That goal is supported by Warereham's Conservation by-laws, by Planning Board by-laws and by Cluster Development by-Laws. Written for the health and protection of Wareham ecosystems and thereby its people. Written for the surrounding environmental health of Wareham's increasingly vulnerable ground water, Rivers and Buzzards Bay. Tearing up this ecosystem for a dense construction of 56 houses with individual septic systems,approximately 224 people and likely over a hundred cars will devastate what currently exists. As the elevation is lowered for building, and with the trees removed, the floodplain becomes a greater potential hazard for flooding from the AE Zone rivers and the quarry water. As you look at the maps and elevations please note the dwindling upland forest that buffers in all ways the resilience and safety of Wareham from the insistent rising seas and resultant floods.

Two differentf Warehams- a coastal town with or without upland forests for all that we know they do to protect water, air, maintain soils, animal life and habitat, wildlife corridors for species to flourish, to contain of zoonotic diseases, prevent erosion, lessen flooding, cool the environment, sequester carbon and water.. The list keeps growing with our science and understanding horrible mistakes of relentless destruction of the natural world. Since the 1600's, half of the US wetlands have been drained and converted to other uses. After legislation to halt and reverse some, the non scientists SCOTUS has legislated to create far greater harm. Google Sackett Vs. U.S. to find the best science country -wide outraged.

From the Epa's THREATS TO WETLANDS "Hydrological alterations- common alterations in wetland areas include addition of impervious surfaces in the watershed, thereby increasing wtter and pollutant runoff into wetlands."

Separate these phrases into arti clees descriptors. **QUATION**

Bridge to Troubled Waters: US Supreme Court Guts Wetlands Protections

June 6, 2023 | 3:09 pm





Derrick Z. Jackson

Fellow

The US Supreme Court's recent undermining of wetlands protections in *Sackett v. EPA* could not have come at a worse time for our streams, rivers, and lakes. Now, only a week after the high court removed tens of millions of acres of wetlands from federal protection, a major study in the journal *Nature* found that human activities on Earth are breaching ecological limits for a host of vital systems.

One key system is water.

According to the study by more than 40 researchers for the Earth Commission, less than half the world's population now benefits from easy access to free flowing rivers that sustain biodiversity and nourish healthy fisheries, which in turn support local economies. That is because too many rivers are altered by dams and development. Only 23 percent of the world's large rivers (more than 620 miles in length) flow uninterrupted into the ocean.

Under the Earth's surface, groundwater levels in nearly half the world's basins are in decline from overuse. Invisible from above, groundwater is a critical source of drinking water, providing the base flow for rivers and, as the study said, "directly sustain[ing] wetlands and terrestrial vegetation."

Compounding that are unsustainable levels of nitrogen and phosphorous runoff into rivers, lakes, and coastline estuaries from fertilizers. The runoff can trigger a tragic process known as "eutrophication," leading to major fish kills and aquatic dead zones.

While much of the concern about climate change is understandably centered on staying beneath a threshold of temperatures that will unleash catastrophic climate impacts, the study is a reminder that there is much more to the preservation of the planet. A lead author, Joyeeta Gupta, told the media that if Earth was undergoing a medical exam, "Our doctor would say the Earth is really quite sick right now, in many areas."

Earth Commission co-chair Johan Rockström added in a press release, "Unless a timely transformation occurs, it is most likely that irreversible tipping points and widespread impacts on human well-being will be unavoidable."

Earth's sickness lost on the Supreme Court

None of that appeared to be on the mind of the Supreme Court in *Sackett v. EPA*. The case involved an Idaho couple who wanted to develop over a wetland on their property near a lake; all nine justices on the high court concurred that the EPA went too far in regulating the particular wetland on the couple's property.

But a razor-thin 5-4 majority, led by Justice Samuel Alito, seized on the case to gut a key portion of the 1972 Clean Water Act itself, ruling that the Environmental Protection Agency (EPA) can enforce environmental laws under the Clean Water Act only if a wetland is "indistinguishable" from larger bodies of water, with a "continuous surface connection" that has "no clear demarcation."

The ruling by Alito and fellow Justices John Roberts, Clarence Thomas, Neil Gorsuch, and Amy Coney Barrett willfully ignored the overwhelming scientific evidence showing the connections between wetlands and downstream waters, and the fact that wetlands play an outsized role in biodiversity, despite covering only 5.5 percent of land in the contiguous 48 states.

The ruling ignored findings by the EPA that our own waters mirror the state of those around the world: they are quite sick right now. According to the EPA's 2017 National Water Quality Inventory Report issued to Congress, nearly a third of wetlands and nearly half of the nation's river and streams are in "poor biological condition." More than 30 years ago, the US Fish and Wildlife Service reported to Congress that the nation has lost more than half of the wetlands that existed in colonial times in the contiguous 48 states.

The Supreme Court's ruling was sadly predictable given that Alito wrote long ago that, as far as he was concerned, the EPA can step in to protect water only "when a pollutant is discharged directly from a point source to navigable waters."

Also ridiculously predictable was who applauded the ruling most loudly and lined up to drive over the bridge to troubled waters: fossil fuel, mining, road building and agricultural polluters and commercial and residential developers who desire minimal regulation when plowing over the landscape. In its friend of the court brief in the Idaho case, the American Petroleum Association, the American Gas Association, and the Association for Oil Pipelines complained that the Clean Water Act led to a permitting system so "onerous" that the failure to obtain a permit after years of waiting "can be ruinous."

Wetland connectivity proven long ago

Actually, polluters want to leave science-based permitting in ruins. The EPA under both the George W. Bush and Barack Obama administrations determined that wetlands are critically connected to the quality of drinking water and to the quality of larger bodies of water, even when one cannot see the connections on the surface. In a 2015 report based on 1,200 peer-reviewed publications, the EPA cited "ample evidence" that many wetlands that lacked surface water connections still "provide physical, chemical, and biological functions that could affect the integrity of downstream waters." The functions, such as filtering pollutants, absorbing storm surges, slowing floods, preventing erosion and being protective nurseries for fish, add up to being almost priceless. Wetlands saved the 12 states ravaged by Hurricane Sandy from an additional \$625 million in damage, according to a study by researchers from the University of California Santa Cruz and the Nature Conservancy. More than half of the nation's \$5.6 billion commercial seafood bounty in 2018 came from fish (such as salmon) and shellfish (such as crabs and shrimp) which spend part of their lifecycle in wetlands, according to NOAA.

Most people understand this. Two-thirds of respondents told the Pew Research Center in 2020 that the federal government is doing too little to protect the water quality of lakes, rivers and streams.

Accelerating wetland losses

In making its ruling in *Sackett v EPA*, the Supreme Court was oblivious to the fact that the world has lost a third of its wetlands since 1970. Wetlands are disappearing faster than forests, according to the Ramsar Convention on Wetlands. The high court has set the stage for the United States to lose tens of millions of acres more. Environmental groups say the ruling in *Sackett v EPA* is so sweeping, that the result may be even worse than when the Trump administration tried to gut the Clean Water Act in 2019.

At that time, nearly four dozen current and former federal scientists filed a complaint with the EPA's inspector general, warning that 40 million acres of wetlands, equivalent to the size of Wisconsin, would be removed from protection—a massive chunk of the nation's 110 million acres of wetlands in the contiguous 48 states.

It appears that this slim Supreme Court majority wants to open the floodgates to polluters even as we continue to learn more about just how connected wetlands are to bigger bodies of water and also to our entire way of life. A Canadian study two decades ago found that degraded water from human land use could be detected in wetlands up to two and a half miles away. That study concluded: "Effective wetland conservation will not be achieved merely through the creation of narrow buffer zones between wetlands and more intensive land-uses. Rather, sustaining high wetland water quality will require maintaining a heterogeneous regional landscape containing relatively large areas of natural forest and wetlands."

In this latest case, the high court didn't even bother with narrow buffer zones. Paired with last year's ruling curtailing the EPA's powers to curb the carbon emissions fueling global warming, Alito and his majority are further disconnecting our nation from the science that could help us heal the planet.

The evidence could not be clearer that the Earth really is quite sick. Rather than aiding its recovery, this US Supreme Court seems intent on scurrying around the hospital, ward by ward, bed by bed, unplugging every life-support system and vital-signs monitor it can.

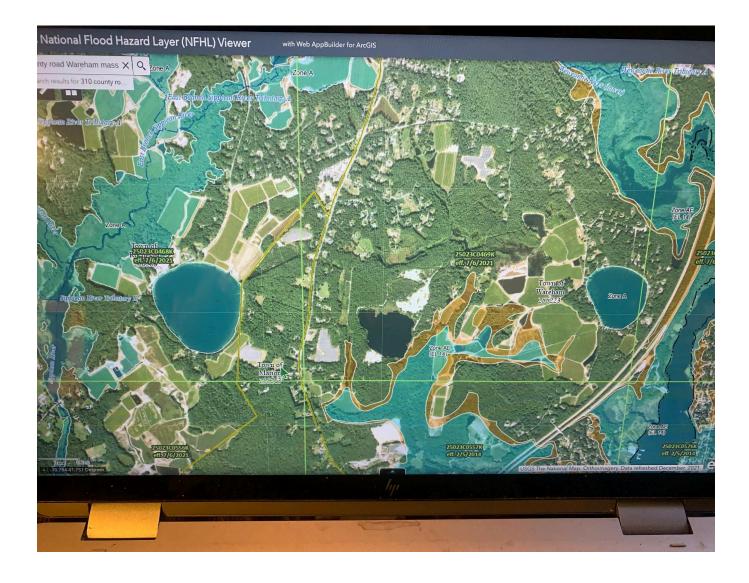
Posted in: Science and Democracy

Tags: Clean Water Act, EPA, Sackett v EPA, wetlands

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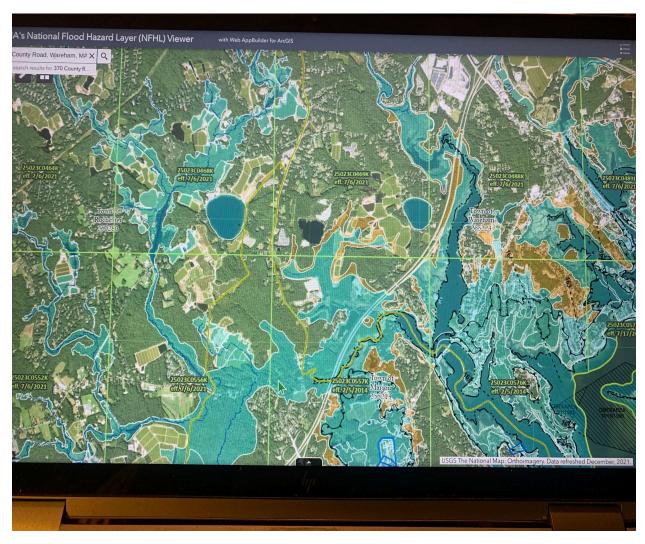
21-454 Sackett v. EPA (05/25/2023)

ZONING OR PROTECTIVE BY-LAWS pp. 68-72 Cluster development



Hidden Trails development property is mid-way between the Sippican (left) and Weweantic (right) Rivers. The land is an important rich eco-system, of upland forest in the area between the rivers which continues to be stripped of upland forest for housing, solar, bogs.. The important Cohacket Brook runs into the Sippican from this area. Runoff from a densely packed development into the surrounding wetlands is a concern.

Downstream these Rivers continue to be ones of pollution concern well documented in water closures



The New Bedfore Light reports federal /state closure of 90,000 acres of oyster beds in Southcoast, mentioning the pollution in Wareham as well. This, as the Select board recently permitted the oyster seeding business in the Weweantic, that likely provides some of these closures oyster farms. This is said to be a high risk for the viability of the oyster growers for all Massachusetts. <u>Environmental reporter Adam Goldstein digs into the details.</u>

South Coast oyster growers say sewage-related restrictions will hurt

State officials say the change is a public health concern and a necessary concession to the federal government. Oyster growers want further study.



Hidden Trails is adjacent to a designated an AE Flood Zone(FEMA 2021) with a large aquifer fed water body in the center of the property. We know that flood elevations will continue to rise and FEMA may have already updated this mapping.

In this flood plain situation, reason would hold that if flood plain water reaches this close to the Hidden Trails development, it could breach the water body and thereby endanger the housing development further.

What is an AE Flood Zone?

AMICA Insurance



Determine your home's flood risk

Potential for flood related costs

Flooding is one of the most destructive and costly hazards homeowners need to look out for, yet many people are unsure whether their property is truly at risk. According to the Federal Emergency Management Agency (FEMA), just one inch of water can cause as much as \$25,000 worth of damage to your home. For homes located in or near flood zones, the potential for loss is greater. But what is an AE flood zone and how can you determine if your home is in a flood-prone area?

A brief overview of flood zone maps

FEMA regularly publishes detailed flood maps for over 20,000 communities across the U.S. to help homeowners, government officials and insurance companies keep track of flood hazards. Using these maps, homeowners can determine if their property is located in a high-risk area and whether they should get flood insurance. Since flood risks change over time due to shifting weather patterns, land development projects and natural erosion, it's important to pay attention to all updates to FEMA's flood maps to stay informed.

Flood zones are geographic areas that face heightened risks of flooding, most of which are located near bodies of water. Every zone is classified according to its level of risk and the potential severity of flood events. The most hazardous flood zones

(opens in new window)

begin with the letters A or V, according to the National Flood Insurance Program (NFIP), and homeowners living in these areas are required to purchase flood insurance.

- Zone A: Low-lying areas that are in close proximity to lakes, ponds and other large bodies of water.
- Zone V: Coastal regions that experience annual flash flooding, hurricanes and other weather-related hazards.

Reading a flood map can be difficult if you're unfamiliar with how FEMA classifies certain hazards and the terminology used to explain topographic features in your area. For example, many flood zones are designated as "high risk" because of their low elevation. To understand your community's flood map, it's important to define some key terms:

- Base flood elevation (BFE): This figure refers to the elevation that floodwaters are expected to rise to during a base flood event (floods with a 1% chance of occurring in any given year). An area's BFE helps local officials set minimum requirements for the elevation of structures and flood-proofing features. It's also used to calculate flood insurance premiums, as regions with higher BFEs are more likely to suffer severe flooding.
- Floodplains: A flat area of land next to a body of water that regularly experiences seasonal flooding. In many cases, building in floodplains is restricted or limited to prevent avoidable damage to private and public structures.
- Floodways: River channels and adjacent land areas that are used to control the flow of floodwaters to stop the surface elevation from increasing. Without a floodway, some communities would be inundated with floodwaters due to higher upstream flood elevations.

Now that we've covered the basics, it may be useful to dive a bit deeper into one of the most high-risk flood zone types that FEMA monitors: Zone AE. Unlike other regions, AE flood zones have a lot of available data concerning BFEs, floodways and flood insurance requirements. But what is an AE flood zone and how does it differ from other at-risk districts?

Defining AE flood zones

AE flood zones are areas that present a 1% annual chance of flooding

(opens in new window)

and a 26% chance over the life of a 30-year mortgage, according to FEMA. These regions are clearly defined in Flood Insurance Rate Maps and are paired with detailed information about base flood elevations. Most AE flood zones are located in close proximity to floodplains, rivers and lakes, though low-lying regions without large bodies of water may also be classified under this designation. Since these areas are prone to flooding, homeowners with mortgages from federally regulated lenders are required to purchase flood insurance through the NFIP.

No two AE flood zones are completely identical, as each region has its own anticipated BFE and sources of flooding. For example, AE flood zones located near the Great Lakes are at risk when high water levels are combined with extreme winds that push waves onshore, according to research from FEMA. In contrast, AE flood zones along the eastern coast of the U.S. are most concerned with flash flooding and hurricanes. Regardless of the region-specific conditions, building in one of these high-risk zones comes with numerous regulations laid out by the American Society of Civil Engineers:

1. The elevation of the lowest floor in a structure must be at or above the zone's base flood elevation.

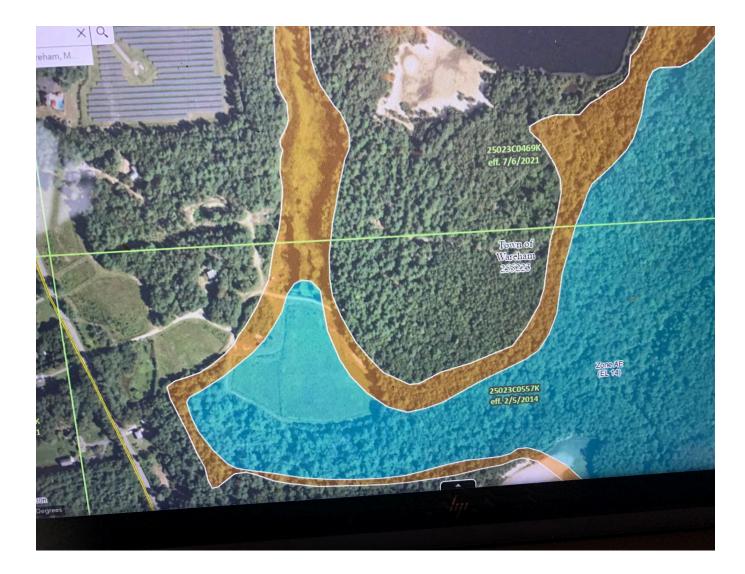
2. Enclosed areas below the BFE or lowest floor cannot be used as living spaces.

3. All electrical, plumbing and HVAC equipment must be elevated to or above the area's BFE.

Whether you're looking to buy a new home, renovate your existing property or enhance your water damage protection, consulting FEMA's flood maps is essential for warding off potential losses. If you live in an AE flood zone or other high-risk area, purchasing flood insurance may be required







To the left of the AE loop is the 370 County road land of Stolen Tree Farm owned by Mrs Zimmer- a proposed destruction of 18 forested acres for solar. This will further eliminate the buffering of upland forest. The bigger picture is always there regardless of whether we see it and respond. It will make itself clear.

Understanding Floodplain Resources

What Are Floodplain Natural Resources?

The term "natural resources" often brings to mind products, such as timber or fossil fuels that may be extracted from their natural environments and sold as commodities for profit. But the natural values of floodplains are different; their value lies not in their removal and sale, but in the functions that they perform within the floodplain environment. Floodplain natural resources include the soils, nutrients, water quality and quantity, and diverse species of plants and animals that exist in the areas between the water's edge and the higher ground adjoining flood-prone areas. These can be considered as natural "infrastructure." But what is it about these resources that make a naturally functioning floodplain so valuable? We will begin the discussion with some basic information about how floodplains are formed.

Rivers Shape the Landscape - The formation of a floodplain is intimately tied to the adjacent river or stream, which over long periods of time carves out the surface geology of the landscape and deposits sand, silt, and other material (these deposits are referred to as alluvium) that form rich soils. A typical river corridor has several features that result from the geological and hydrological processes that form these landscapes (Figure 4). The **river channel** meanders through the landscape, carving through the terrain and depositing sediment as it goes. Sediment deposits and depressions around the water's edge may result in the formation of **wetlands**, areas that are always or periodically inundated with water.

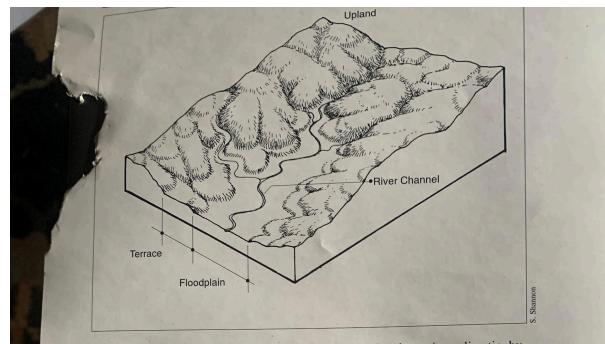
The level areas bordering river channels are known as **floodplains**. These portions of river valleys are frequently defined in terms of the likelihood of flooding in a given year. Hence, the "100-year" flood is the flood having a 1% chance of occurring during any given year. (Similar definitions can be made for the 25- or 50-year floods.) As the river cuts downward it may leave **terraces**, formed from a time when the river flowed at higher elevations. These landforms are a part of the larger river corridor, and are extremely important to the functioning of the floodplain ecosystem.

Watersheds - While the floodplain and its resources are the centerpiece of discussion for this guidebook, watersheds are central to the understanding and management of resources in floodplains. A **watershed** includes the area of land that is drained by a river and its tributaries. Different watersheds are separated from each other by ridges

Protecting Floodplains resources A guidebook for Communities

The Federal Interagency Floodplain Management Task Force





or divides. Like floodplains, watersheds are formed over time by various climatic, hydrological and geological processes. But a watershed is much bigger than a floodplain and can therefore be more difficult to manage, since large land areas are usually covered by a number of separate municipalities with different governments and land-use strategies. It is important to understand, however, that upstream uses of land and water within a river's watershed are likely to have adverse impacts downstream including the potential for increased flooding.

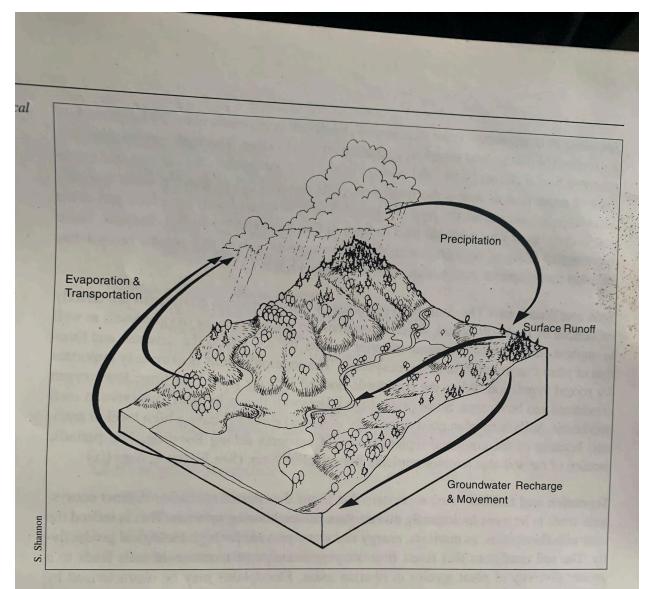
Natural Resources and Ecosystems - Both the hydrological and the geological characteristics of the landscape play an extremely important role in determining what vegetation will inhabit the area. Many of the plant species that grow in floodplains are adapted to thrive in the specific conditions created by the soil types and water flow cycles that characterize river corridors. In turn, this vegetation plays an important role in determining how water flows across the land, and is a major factor in controlling erosion and sediment deposits that can change the face of the landscape.

In a mutually supportive cycle, the living and nonliving parts of natural floodplains interact with each other to create dynamic systems in which each component helps to maintain the characteristics of the environment that supports it. These systems of interacting parts of the physical and biological worlds are called **ecosystems**. Together, these parts of the floodplain ecosystem function to store and convey floodwaters, protect water quality, prevent erosion, and maintain rich habitats for fish and wildlife. In recognizing the relationships between the hydrological, geological and biological features of these systems, we can begin to understand how changes to one feature can alter the entire system in significant ways. This was dramatically demonstrated during the Great Midwest Flood of 1993 when the Mississippi River reclaimed much of its floodplain. The flood reconnected the river to traditional spawning areas, resulting in a significant increase in fish populations. Figure 5 - Coa geologically dynam sands, shifting inlets, Coastal salt marship productive ecosystem link in both comme fishing.



Natural Communities - Throughout a floodplain and its adjacent landforms there may be a number of different ecological communities, groups of plant and animal species

6



that coexist in a certain area. The various plant species within an ecological community may share the need for a certain soil type or level of soil moisture that is available only in a particular portion of the floodplain. Wet meadows, bottomland hardwood forests, and riparian shrub wetlands are examples of such communities. The boundaries of these ecological communities can be identified by the landform, soil, and plant types that cover a portion of the floodplain.

Summary - This section has introduced floodplain natural resources with an explanation of floodplains, watersheds, ecosystems and natural communities. The basic characteristics of floodplains and their natural resources function in ways that make them so valuable to humans and to wildlife. This is the subject of the next section.

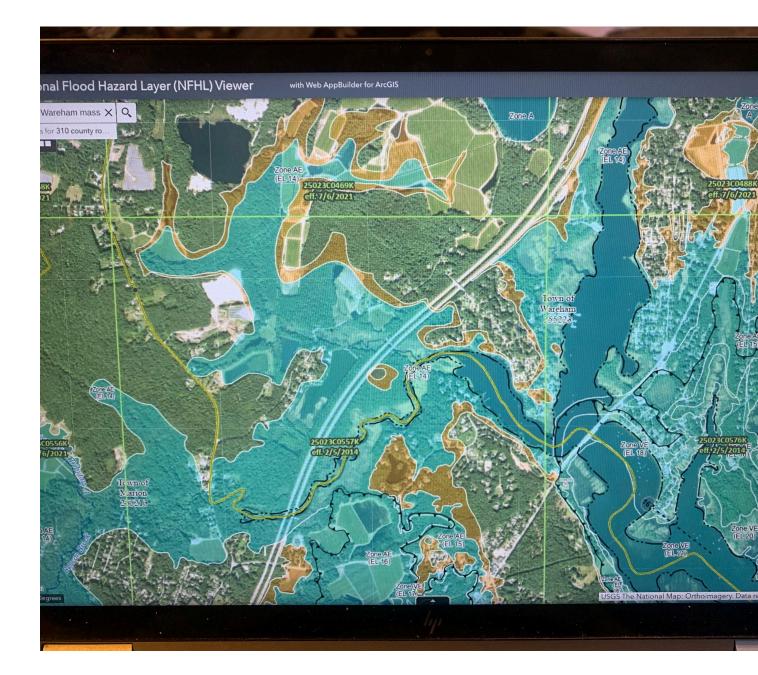
DIVISION VI ARTICLE I WAREHAM WETLAND PROTECTIVE BY-LAW

I. Purpose

The purpose of this bylaw is to protect the wetlands, water resources, and adjoining land areas in Wareham by controlling activities deemed by the Conservation Commission likely to have a significant or cumulative effect upon resource area values, including but not limited to the following: public or private water supply, groundwater, flood control, erosion and sedimentation control, storm damage prevention including coastal storm flowage, water quality, water pollution control, fisheries, shellfish, land containing shellfish, wildlife habitat, rare species habitat including rare plant species, aesthetics, agriculture, aquaculture, and recreation values, deemed important to the community (collectively, the "resource area values protected by this bylaw"). This bylaw is intended to utilize the Home Rule authority of this municipality to protect additional resource areas, for additional standards and procedures stricter than those of the Wetlands Protection Act (G.L.Ch. 131, §40) and Regulations thereunder (310 CMR 10.00)

II. Jurisdiction

Except as permitted by the Conservation Commission or as provided in this bylaw, no person shall commence to remove, fill, dredge, build upon, degrade, discharge into, or otherwise alter the following resource areas: any freshwater or coastal wetlands; marshes; wet meadows; bogs; swamps; vernal pools; banks; reservoirs; lakes; ponds of any size; intermittent streams; creeks; beaches; dunes; estuaries; the ocean; lands under water bodies; lands containing shellfish; lands

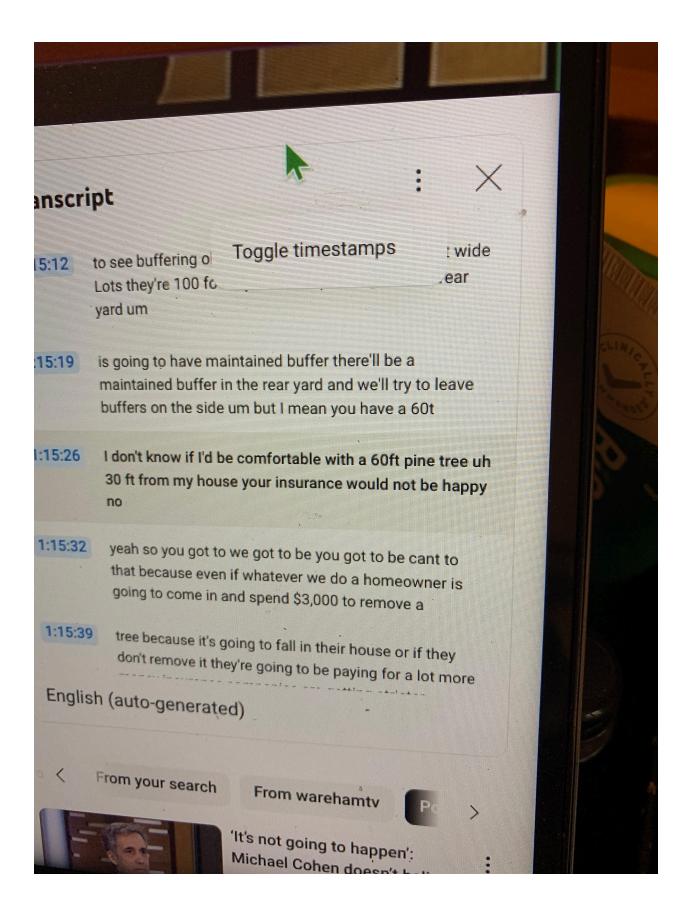


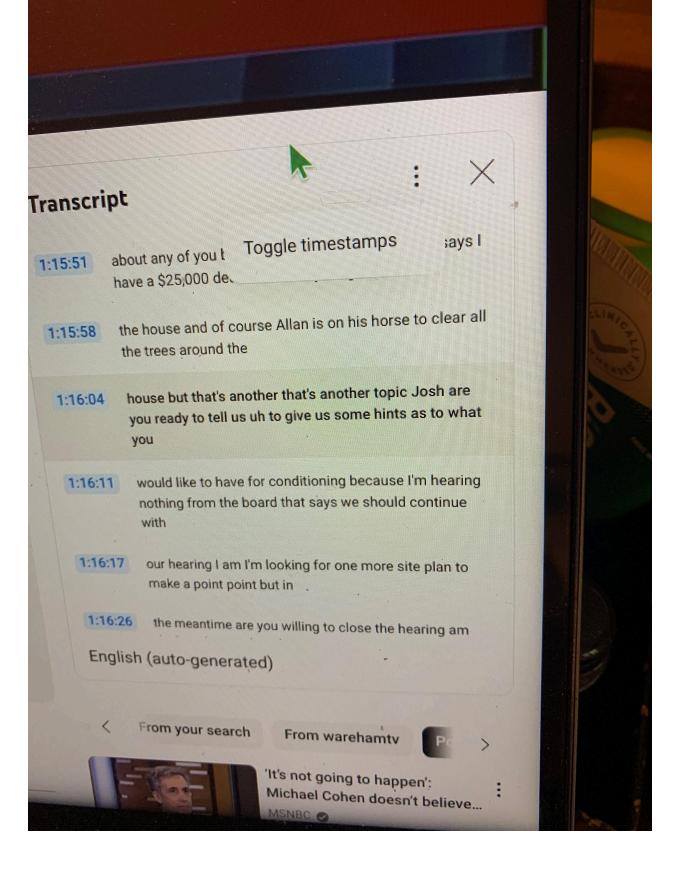
Hidden Trails can be damaged by the two rivers and the two rivers' watersheds and their plant and animal inhabitants willbe harmed by the project of 56 homes on 36+ acres. Except for mandated vegetated buffers along the quarry edge, the development looks to be clear cut. Leaving the once protective forested upland mostly barren.

When asked about selected treesww to save by Sandra Slaven, the developer John Churchill responded in the following transcript.

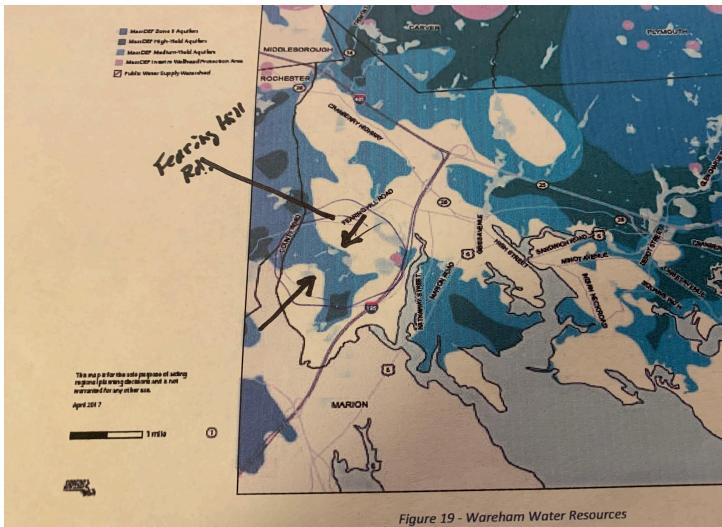
anscri	ipt i ×	
4:32	there this question Toggle timestamps	
14:39	area where all these homes are going to be put are you going to pick and choose which trees come down I know it's	
:14:45	outside of conservation but um I have to ask this is no absolutely it's a great	
1:14:50	question so basically what what we do is 40t around the home and you know 20 feet	
1:14:55	around the septic driveway they're you know they're 15,000 square foot lot so it's hard you be put you'll be putting	
1:15:01	in the roads Y and when will you start clearing the Lots once they're sold no	
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anscri	ipt : ×	
14:50	question so basic Toggle timestamps and the home and you kno.	
:14:55	around the septic driveway they're you know they're 15,000 square foot lot so it's hard you be put you'll be putting	
1:15:01	in the roads Y and when will you start clearing the Lots once they're sold no	
1:15:06	basically what we do is we cut the roads in first and then we look then we can kind of see where the lots are and if there's anything um buffering we'd like	
1:15:12	to see buffering obviously but they're only 100 foot wide Lots they're 100 foot by 200t Deep um so the the rear yard um	
Englis	sh (auto-generated)	
~ <	From your search From warehamty Po	





In addition to many harms brought by destroyed forest, this forested land is mapped over high yield aquifer according to Wareham's Master Plan p.85 by the Center for Eco Technologies CET.



ARTICLE 8: Alternative Residential Site Development 810 RESIDENTIAL CLUSTER DEVELOPMENT 811 PURPOSE To

1." The number of dwellings which could be constructed by means of a conventional development plan, considering the whole tract, exclusive of water bodies and land prohibited from development by legally enforceable restrictions, easements or covenants. Areas such as: a) Any bank, freshwater wetland, coastal wetland, beach, dune, flat marsh, or swamp bordering on the ocean, any estuary, creek, river, stream, pond or lake; b) Land under any of the water bodies listed above;

d) Land subject to coastal storm flowage Land subject to tidal action or slopes in excess of fifteen (15) percent are not to be counted in figuring the number of permissible units of conventional development. 2. An analysis of the site, including wetlands, slopes, soil conditions, areas within the 100 year flood,

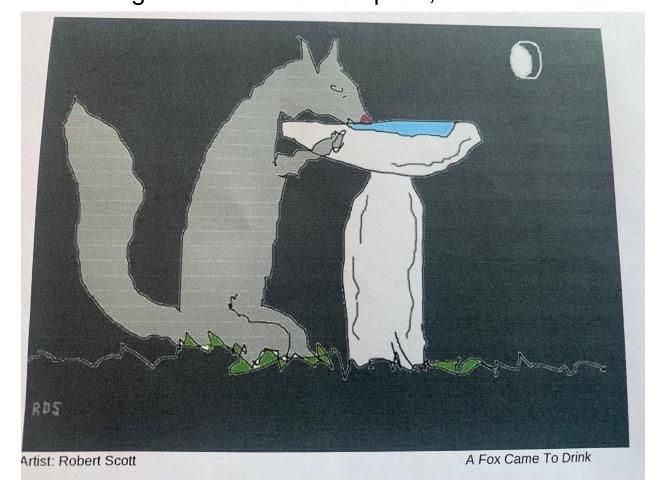
trees over 5 inches DBH and such other natural features as the Planning Board may request 69 814.3

An environmental impact assessment report relating to the proposed plan and a copy of the environmental impact report if otherwise required. Such reports to be conducted by a party mutually agreed upon by the Planning Board and the prospective developer.

814.4 A description of the neighborhood in which the tract lies, proposed within the cluster, with respect to size, shape, location, natural resource value, and accessibility by residents of the Town or of the cluster. 814.6 Traffic report describing existing and future traffic patterns within and adjacent to the proposed development including utilities, schools, road conditions and other public facilities, and the impact of the proposed plan upon them. 814.5 Evaluation of the open land p814.7 List of abutters, certified by Board of Assessors', 814.8 Review of Other Boards, Before acting upon the application, the Board shall submit it with the plan to the following boards, which may review it jointly or separately: Board of Health, Town Engineer, Conservation Commission, Water Department, Sewer Commissioners, Police Department, Fire Department, Municipal Maintenance Department, and Building Inspector. applicant has demonstrated the following: That the Cluster Plan will be in harmony with the

general purpose of this By-Law and the requirements of General Laws, Chapter 40A and the long-range plan of the Town;

that it will not have a detrimental impact on the neighborhood, will be designed with due consideration for health and safety, and is superior to a conventional plan in preserving open space, minimizing environmental disruption, "



From Wareham Open Space Report 2019-2024