

Newburyport in the Pleistocene

The following are David Hall's spoken words from the Hillside Center for Sustainable Living groundbreaking on May 18, 2018. Note the attempt at humor to explain the length of time it took to obtain permits. It in no way reflects the abilities of the Planning Board, rather the deeply complex efforts necessary to develop a project that challenges traditional construction, engineering, food systems, and sense of community. It uses imagination to put into perspective earth's magnificent, long, and slow systems that have been severely interrupted by human activity and begs us to reimagine our sense of place.

Although I am a member of the Hall and Moskow real estate development team, I am going to share a few quick thoughts wearing a hat as an invertebrate zoology undergrad from UNH with a liberal arts imagination. Yes, there has been a wee bit of mission drift from that college degree; thank you Mom and Dad for that free range education.

The story I will be sharing is about the time it has taken to bring this project through permitting and the unique geologic time scale that makes Hillside Center for Sustainable Living's carbon diet goals through food cultivation, transportation, and housing so urgent.

The Hillside Project story goes back a long time. In fact I have to take you back to Newburyport in the Carboniferous period: 300 Million years ago. Real estate values were a lot lower and the tax rate was two clam shells per thousand. This is when we started the permitting process before the Newburyport Zoning Board of Appeals. Dinosaurs lumbered about the Merrimack Valley and pterodactyls filled the skies. Perhaps I am exaggerating about the pterodactyls, there were not that many. The important thing to know is that Jim McCarthy, former Planning Board Chair, Ed Ramsdell the Zoning Board Chair, and Mayor Holaday and I were around back then.

The Merrimack River was more than half a mile wide and boiled with migrating salmon and sturgeon upwards of 20 feet on a typical May day. Surrounding the very spot we stand were ferns 20 and 30 feet tall. These fern forests, as the mayor and I recall, were even taller and denser around Pennsylvania and Kentucky. Texas had even more. Mushrooms with stems two feet in diameter. Terrible humidity. The average tide ran up alongside Washington Street in the North End and Prospect Street in the South End. Plum Island at that time had not even been formed. It often rained two inches a day. It never seemed to end. The warm ocean brimmed with amazing creatures: sharks as long as school buses preyed on ten ton herbivores grazing in the water along Cashman Park. There were massive dragonflies with ten foot wingspans that often carried kids away from the Kelly School playground at recess. Boy would that make Mayor Holaday's phone ring. Greenheads are nothing compared to those dragonflies.

Then came the Pleistocene Era in Newburyport 2.6 million years ago. A meteor strike shook things up and glaciers crept into Newburyport from the north. Hillside managed to

move onto hearings before the Planning Board by this time. Woolly Mammoths and Sabre-Tooth Tigers were common during those icy years. City Hall was getting bombarded with angry residents who had lost a pet to any variety of vicious carnivores that roamed the ice pack. Some of you might remember it. Carol Laroche was put in charge of Animal Control after Woolly Mammoths crashed through the front doors of City Hall on a bitterly cold New Years Eve to try to warm up.

Fascinating time. If I recall correctly, exactly where we are standing was the floor of a massive ice crevasse: ice covered most of this region and extended out to Georges Bank. The stuff was thick, like a mile thick in Worcester and Springfield. Mass Highway was having a hell of a time keeping enough road salt on hand. Standing here, you could make out a slot of blue sky 800 feet up the walls of this crevasse. It was a testament to Newburyport DPS crackerjack snow removal.

The Merrimack River was one of dozens that drained the the under belly of this massive ice sheet. The water in these rivers transported very fine ground up bits of the White Mountains and deposited it in all the low spots: the industrial park and under our feet here at the Hillside Project. For those who were into winter sports, Sunday River Ski Area had an awesome 12 month ski pass. Temperatures hovered around 20 below in winter and reached above freezing for a week or two in July. Parking bans around Newburyport never let up. That damn blue light stayed on day in and day out for years. I have to remind Mayor Holaday that the winter of 2014 was nothing compared to the Pleistocene.

A century, or two, or 10,000 later, we arrive around 1900. We received contingent approval from the Planning Board that was subject to peer review of Morin Cameron's civil engineering work. Scott Cameron is still around from those days I think. Scott you out there? Thank you for hanging in there with us. The Merrimack River in 1900 was at that time repository for manufacturing by-products and sewage. Slaughterhouses, Tanneries, and mills up and down the banks of the Merrimack found the river to be a great transporter of "the unwanted" to a place out of sight and out of mind (or thought to be anyway). Not a good place to swim. The river had been dammed up in dozens of places so the salmon and sturgeon got confused about where to spawn. Joppa Flats clamming had to be shut down.

Turns out all those really dense, 50ft tall fern forests I mentioned earlier down South and out West in the Carboniferous Period had transformed and been rediscovered by a few oil companies. The prospectors figured that the ferns had decomposed, mixed with dinosaur scat, and turned into coal and oil. In North America, we perfected how to pull both out of the ground with brutal efficiency halfway through the peer review of the Hillside project. We humans managed to nearly double the amount of CO₂ in the atmosphere.

So the calendar system we use today distorts our concept of time savagely. It allows people to think that this planetary journey is only a couple thousand years old. Having

been through this permitting process in the Carboniferous and Pleistocene periods with the mayor, the Planning Board, and the Zoning Board, I can tell you way more happened before us than our Christian calendar encourages us to believe.

The concentrated energy in your gas tank is really a legacy of millions of years of geological processes and plant and animal life cycles in the making.

To concentrate that much energy in a liquid form, it took thousands of acres of fern forests millions of years to accumulate on the floor of a vast rainforest, then to be buried over the course of millions of years through floods and droughts with bits of ground up mountains, then deprived of oxygen for another millenia, until an oil company pulls it out of the ground and brands it a Premium Blend. Rex Tillerson has great business timing on a geologic scale. That guy figured out how to make it look like producing a gallon of high test is no big deal and burning it up is a natural thing to do.

Unfortunately for humans, exhuming it and burning it is directly and indirectly injecting trillions of kilojoules of energy into the atmosphere and is going to put human life in the hot seat. Our Noreasters, downpours, and snow storms are going to get more interesting with each passing year here in Newburyport.

Now, I don't mean to pick on Mr. Tillerson, there are a few other players involved: like everyone of us here today.

Unfortunately, eating and keeping your house warm or cool is fossil fuel intensive. The billions of pounds of fertilizers we use today to grow food are derived from those forests of dead ferns, as are the systems of distribution, refrigeration, etc.

So, when you pull up to the gas station, purchase some London Broil, or adjust the thermostat at home, think of the geologic time scale involved.

The mission of the Hillside Project is to cultivate a lifestyle that aligns with the geological time scale by severely reducing our carbon emissions to dramatically slow down humans' impact on earth.