

School Nominee Presentation Form

ELIGIBILITY CERTIFICATIONS

School and District's Certifications

The signatures of the school principal and district superintendent (or equivalents) on the next page certify that each of the statements below concerning the school's eligibility and compliance with the following requirements is true and correct to the best of their knowledge. *In no case is a private school required to make any certification with regard to the public school district in which it is located.*

1. The school has some configuration that includes grades early learning to 12.
2. The school has been evaluated and selected from among schools within the Nominating Authority's jurisdiction, based on high achievement in the three ED-GRS Pillars: 1) reduced environmental impact and costs; 2) improved health and wellness; and 3) effective environmental and sustainability education.
3. Neither the nominated public school nor its public school district is refusing the U.S. Department of Education Office of Civil Rights (OCR) access to information necessary to investigate a civil rights complaint or to conduct a district wide compliance review. The Department of Defense Education Activity (DoDEA) is not subject to the jurisdiction of OCR. The nominated DoDEA schools, however, are subject to and in compliance with statutory and regulatory requirements to comply with Federal civil rights laws.
4. OCR has not issued a violation letter of findings to the public school district concluding that the nominated public school or the public school district as a whole has violated one or more of the civil rights statutes. A violation letter of findings will not be considered outstanding if OCR has accepted a corrective action plan to remedy the violation.
5. The U.S. Department of Justice does not have a pending suit alleging that the public school or the public school district as a whole has violated one or more of the civil rights statutes or the Constitution's equal protection clause.
6. There are no findings of violations of the Individuals with Disabilities Education Act in a U.S. Department of Education monitoring report that apply to the public school or public school district in question; or if there are such findings, the state or public school district has corrected, or agreed to correct, the findings.
7. The school meets all applicable federal, state, local and tribal health, environmental and safety requirements in law, regulations and policy and is willing to undergo EPA on-site verification.

U.S. Department of Education Green Ribbon Schools

Public Charter Title I Magnet Private Independent Rural

Name of Principal: Dr. Shawn Carlson

Official School Name: Camden Hills Regional High School

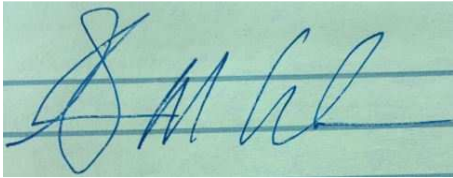
Official School Name Mailing Address: 25 Keelson Dr., Rockport, ME 04856

County: Knox State School Code Number: 1066

Telephone: 207-236-7800 Fax: 207-236-7813

Web site/URL: <https://chrhs.fivetowns.net> E-mail: shawn.carlson@fivetowns.net

I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate.



Date: 2/14/2020

(Principal's Signature)

Name of Superintendent: Ms. Maria Libby

District Name: Five Town CSD

I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate.



Date: 2/14/2020

(Superintendent's Signature)

Nominating Authority's Certifications

The signature by the Nominating Authority on this page certifies that each of the statements below concerning the school's eligibility and compliance with the following requirements is true and correct to the best of the Authority's knowledge.

1. The school has some configuration that includes grades Pre-K-12.
2. The school is one of those overseen by the Nominating Authority which is highest achieving in the three ED-GRS Pillars: 1) reduced environmental impact and costs; 2) improved health and wellness; and 3) effective environmental and sustainability education.
3. The school meets all applicable federal civil rights and federal, state, local and tribal health, environmental and safety requirements in law, regulations and policy and is willing to undergo EPA on-site verification.

Name of Nominating Agency: Maine Department of Education

Name of Nominating Authority: Ms. Shari Templeton

I have reviewed the information in this application and certify to the best of my knowledge that the school meets the provisions above.

Shari A. Templeton

Date: 2/14/2020

(Nominating Authority's Signature)

SUBMISSION

The nomination package, including the signed certifications, narrative summary, documentation of evaluation in the three Pillars, and photos should be submitted online according to the instructions in the Nominee Submission Procedure.

OMB Control Number: 1860-0509

Expiration Date: March 31, 2021

Public Burden Statement

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. The valid OMB control number for this information collection is 1860-0509. Public reporting burden for this collection of information is estimated to average 37 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. The obligation to respond to this collection is required to obtain or retain benefit P.L. 107-110, Sec. 501, Innovative Programs and Parental Choice Provisions. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the U.S. Department of Education, 400 Maryland Ave., SW, Washington, DC 20202-4536 or email ICDocketMgr@ed.gov and reference the OMB Control Number 1860-0509. Note: Please do not return the completed ED-Green Ribbon Schools application to this address.

Summary Narrative: An Overview of CHRHS Work Encompassing All Three Pillars

Camden Hills Regional High School (CHRHS) is a public high school located in coastal Rockport Maine, serving 720 students in grades 9 through 12. Our school population represents the diversity of our region with low ethnic diversity but great economic diversity. We have a student body that is 6% minority, and 21% qualify for free and reduced lunch. We are an academically strong school that routinely scores among the top 10 high schools in the state. We have a high school graduation rate of over 90% with almost 70% pursuing post-secondary degree programs. Although we take great pride in who we are academically it is how we have allocated resources to respond to an ever-changing world for students that makes us unique. We want all our students to be resilient and hopeful about their future. The policies, budgeting and people throughout the system all work to ensure that we are building systems that will promote and support healthy students, a healthy school and a healthy planet.

CHRHS serves as a beacon of sustainability throughout the midcoast. Our vision, our programs,

and our staff all support continuously evaluating what we currently do and where we can improve. We do this to be the best possible environmental stewards and to be fiscally responsible. Our 100 kw wind turbine and the installation of more than 150kw of solar power with plans for a much larger solar farm have modeled to neighboring school districts how they can also move towards a carbon neutral campus and also save money.

Our student sustainability group, Windplanners, with overwhelming support from district administration and the community has worked to reduce the environmental impact of our school. Several of their initiatives include a major study and capital campaign to install the 100kw wind turbine, working through one of the first power purchase agreements for high school installations for a 159kw solar array. These result in 30% of our current electricity coming from renewables. Working with the facilities director, students have helped initiate several energy efficiency projects that have reduced our demand by another 20%. Projects include full retrofitting of lighting indoors and out to LED, installing a manual switch for a high load transformer and taking several transformers off-line. The facilities director and district leadership have worked quickly to enter into an agreement to build a solar farm that will move our school and two other schools in the district to be 100% renewable before the end of the year.

Our newest initiative involves several staff members and the Windplanners in building an entire organic waste management system. Our goal is to compost 100% of our school organic waste and, eventually, two other schools close by. We currently produce about 75 yards of compost/yr and anticipate this to increase to about 150 yds/yr. This will reduce our solid waste by at least 25% at the high school and create a high value product. We have students that serve as compost managers and every freshman has a turn at compost duty. Additionally we also have systems in place for recycling in every classroom and we have shifted from plastic silverware to reusable silverware.

Our school is a place where all students are supported to be healthy, active and hopeful. We have made several significant efforts to focus on the health and wellness of students at Camden Hills. Students have access to people and resources that support their emotional growth and well-being. We have school-wide conversations related to mental, sexual and physical health, which take place in homeroom groups, as full school assemblies and through special events. Camden Hills actively works to create a safe and open space for its students. This year we have had a focus on sexual consent in the context of sexual assault and mental illness. Students have been involved in presentations and conversations that shed a light on understanding these very relevant topics. Student voice and leadership are always part of planning and implementation of these challenging topics. We also listen to what students feel will help them in managing stress and pressure. Our library is very responsive to providing a wide variety of activities and stress relieving resources which is likely why it is one of the most popular places in the school. The library has become a wellness area providing resources like massage chairs, therapy dogs, and board games.

The school's cafeteria is open everyday for breakfast and lunch, with many healthy options. Whenever possible food is locally sourced, or even comes from the school garden. We have vegetarian options, and have worked to implement a meatless Monday initiative. The home-cooking station is usually the most popular with fun and different food options daily. Our cooks

often draw inspiration for meals off of cuisine from other countries as a way to integrate different cultures into the school. In addition to the school food program we try to address food insecurity through an available snack pantry available to all students during and right after school. The pantry offers lots of healthy choices. We also provide support to families in need through food, heating and general assistance. Funds to support this have come through our community. Nature trails surrounding the school are open to students and the public for use.

Our building is only 20 years old having been built without lead pipes and asbestos insulation. We have a facilities manager that is highly skilled in monitoring, maintaining, retrofitting and envisioning a highly sustainable and healthy school building. Building controls remotely monitor temperature, humidity and CO2. This allows us to proactively see if we have moisture issues arising. There are regular visual inspections with periodic external evaluations of moisture penetration. Any issues that arise are addressed. We are currently working to address water leaks in the aging heating system. We are on the public water supply that is fortunate to have almost 90% of the watershed in protected land status. The supply is regularly tested and meets all safe drinking water standards.

We have curriculum focused on teaching climate science, sustainability, problem-solving, citizenship, health and wellness. Our curriculum adapts to respond to the social and emotional well-being of our students and to support being active participants in imagining a future full of opportunities and hope. Teachers across disciplines incorporate aspects of sustainability into their curriculum. Students have a wide variety of course options to support their learning. Examples include climate science in the freshman science course, AP environmental science, Maine Outdoors to name a few. Non-teaching staff (facilities and maintenance, school nurse, librarians, food service, counselors and groundskeepers) actively contribute to continuous improvement as a sustainable and healthy school community.

We are a school that models environmental responsibility for students and our community. It is a source of great pride and support because there have also been significant cost savings through our actions. We are an example for our greater region and we often are sought for advice on how to help other schools and communities. We believe that we are a model green school for both our midcoast region and for schools throughout the state. Receiving a Green Ribbon designation will add recognition so we can continue to share what we do and why with schools across our state to help move more Maine schools towards becoming greener, healthier and more sustainable.

Nominee Information

Camden Hills Regional High School (CHRHS)

Public, rural 9-12 high school

Address: 25 Keelson Dr., Rockport, Maine, 04856

Website: <https://chrhs.fivetowns.net>

Facebook: <https://www.facebook.com/camden.hills.regional.hs/>

Top official: Dr. Shawn Carlson, Principal

Email: shawn.carlson@fivetowns.net Phone: 207-236-7800

Lead Applicant: Ms. Margo Murphy

Position/Role: Teacher and sustainability club (Windplanners) advisor

Email: margo.murphy@fivetowns.net Phone: 207-236-7800

Provide percentages, if any are relevant to your school, district, or institution:

Free and Reduced-Price Lunch: **21%**

Minority: **6%**

Limited English Proficient: **17%**

Special Education: **16%**

Graduation Rate: **91.57%**

Attendance Rate: **93.9%**

Provide the following:

Total Enrolled: **720** Number of Schools: **1** Buildings: **1** Campuses: **1**

Pillar I: Your Efforts to Reduce Environmental Impact and Costs

Camden Hills Regional High School values being a sustainable, low carbon, energy-efficient school campus that is continually striving for improvement. We demonstrate these values and improvement goals through our policies and strategic planning, through our budgets, with the people that work throughout the school system and by supporting student involvement in all aspects of sustainability plans and practices.

Policies and Strategic Plan

District energy policy focuses on efficiencies, renewable energy and student involvement. We also implement a district wide no-idling policy so vehicles must turn off when waiting. We are ready to update this policy to be a more comprehensive sustainability policy. Our strategic plan has a specific outcome to be an environmental leader in regards to resource management.

School Staff

Our administration, facilities director, groundskeeper, school nurse, head of maintenance, head custodian, food service director, a large number of teachers and several other key building personnel actively train and continuously seek to implement any idea that will improve energy efficiency, reduce carbon emissions and move us in a direction that makes us a model of sustainability for our community. Decisions are made with a long-term vision rather than the cheapest, fastest options. This means we understand that at times we have to invest in order to see the benefit over time from that investment. Several examples below.

Students

Our students have the opportunity to be involved in all aspects of our school to help drive the vision and how we focus our personnel and financial resources. We have a student organization focused on sustainability, Windplanners. Students also serve on our school board and on the strategic planning team. Several examples are embedded throughout.

Reducing environmental impact and costs by reducing or eliminating greenhouse gas emissions:

Our school was built in 2000 and initially consumed close to 2.5 million kWh of electricity. First actions included: Installing motion sensor lights and reduction of the fluorescent lights by removing $\frac{1}{3}$ of the lights. In 2003, students began to explore the possibility of generating our own renewable source of electricity. We evaluated solar and wind options. At that time, wind was considerably cheaper. We analyzed the wind resource by working with UMass Wind Research lab, then addressed community concerns and began fundraising. Nine years later, in 2012, with \$500,000 raised by the student group Windplanners, a 100kw wind turbine was installed on campus. This turbine produces about 10% of our current energy demands with annual savings of around \$9000. We know that this turbine would have had a very long payback which is why we chose to fundraise and own it outright despite the long and committed effort. Having the wind turbine placed directly next to our playing fields has changed many people's perception of wind energy. Thousands of people a year coming to school sporting events watch it make energy with no negative impact. It has provided education for the wider community.

In 2010, we installed a small solar array (8kw) that we were able to purchase with an Efficiency Maine grant (\$50,000) and some district funding (\$10,000). This project had a payback of 6.37 yrs and we now receive an average of \$1569 in savings each year. Also in 2012, we joined a project through the Island Institute, *Energy 4 ME*, that trained students and staff in a variety of ways to monitor and assess home and school energy data. This included installing a robust monitoring system on our circuits that we still use today to assess where energy is being used and how our renewable sources are performing. Students and staff have access to this data where it is used to help identify where to focus resources for energy efficiencies and for classroom curricular goals. As an example how we use this data; we were able to identify with our eMonitor a heavy load transformer that was only used during some big productions in our auditorium. To access this transformer meant climbing a very tall ladder into a little room and manually switching the transformer on and off. Needless to say, it stayed on most of the time. We installed a disconnect in an easily accessible space and determined the payback on the \$4000 installation of the switch was less than 2 years.

In 2013, we began the process of retrofitting all our fluorescent and high-pressure sodium lights to LED. We are 95% complete for all indoor and outdoor lighting. This project had a total cost of \$114,700 but we received an Efficiency Maine rebate of \$45,600. The cost to taxpayers was \$69,147 with a payback of 3.76 yrs and a return on investment of 26.6%. This has had an overall reduction in our usage of about 43% for our lighting load and a savings of about \$23,400/yr. In 2014, we began the process of exploring a large solar installation using a power purchase agreement model. The analysis showed that this project made sense. We installed the 159 kw system in late 2015 which provides annual savings of \$10,500 and meets an additional 20-25% of our load. We have the option to purchase the system in 2022 for \$170,000. Annual savings at that point would be around \$31,500/yr with a payback of 5.39% and a return on investment of 18.57%. As a result of our renewable energy installations, we have had several moments over the last few years where we were running on 100% of our own renewable energy.

In the last two years we have reconfigured parts of the school's electrical system to pull several transformers offline. When the school was built the electrical system was designed to be able to power multiple computer labs filled with large CRT monitors and power consuming desktop computers. With nearly all computing now being done on laptops or iPads, the need for this power has been greatly reduced. Rerouting wires and reducing the vast number of step-down transformers has also had a positive impact on reducing our load.

Most recently, December 2019, as a result of changing legislation, we signed an additional power purchase agreement, for a solar farm that would produce enough power to meet all the electrical needs of our high school plus the needs of our elementary and middle school in Camden/Rockport. This will mean our school and other schools in the district will be using 100% renewable energy before the end of this school year.

Other energy projects have included conversion from heating oil to propane, significantly reducing our carbon footprint. Our facilities manager uses Energy Star Portfolio manager to track energy use in our school. We qualify for Energy Star status as a school building. Our hope is to hire an engineer that can certify us for the Energy Star standard.

Describe how your school, is improving water quality, efficiency, and conservation;

The school was built in 2000 with lead-free pipes, low-flow toilets and auto-off sinks. The water supply is public. A nearby lake, Mirror Lake, serves as the primary source. It is continually monitored and meets all safe-drinking water standards. As a result of news highlighting water quality concerns around the country, we independently tested our water about 5 years ago. This confirmed that nothing internal in our building is impacting water quality.

The public water supply is chlorinated. We have installed 5 water bottle filling stations throughout the school and these all have filters that remove chlorine from the water. Filters are regularly changed.

We are a large campus with many sports fields that are managed organically (described in other section). An automatic irrigation system was found to be inefficient. It is now manually managed and has resulted in a big reduction in water use.

Describe how your school is reducing waste production;

Windplanners have been the key players in helping to build systems at our school to reduce our solid waste stream. We have standardized containers in each classroom that allow students to easily identify where to put paper and cardboard for recycling (blue bins), returnables (tan bin), and general trash (black bins). This standardization of bins has made it easier for students and staff to participate in recycling paper/cardboard waste and returnables. Custodians are responsible for collecting and moving paper/cardboard waste to the recycling containers for pick-up. Our life skills students pick up returnables, sort and return to the supplier for income that supports special events they participate in, like Special Olympics.

An area that we are trying to address, in a systemic way, is how to more effectively deal with the amount of plastic and metal waste generated by students and staff from daily activities (yogurt containers, packing materials, etc.). These smaller materials that typically are trash but are recyclable is an area of focus we will be addressing in the coming months.

Windplanners successfully eliminated plastic utensils in our cafeteria. The group purchased utensil washing bins several years ago. They held a silverware drive in the community 2 years in a row and received a few thousand knives, forks and spoons. The kitchen budget supplies any additional utensils needed now. The increase in water usage for washing is minimal because of our very water efficient dishwasher yet there has been a big decrease in the cost of plastic utensils needed to be purchased and the amount of plastic waste generated.

Our most innovative and large-scale waste reduction effort is our school-wide organic waste composting effort. We start by collecting compostable material from the kitchen side of the cafeteria and doing a layered system in some compost bins. We knew we wanted to expand this effort. Three years ago our groundskeeper attended the Maine Compost School. We spent some time determining how to set up a system that got students involved and could be managed without creating a huge increase in workload. We received a grant from EcoMaine two years ago to support the purchase of some key pieces of equipment (shredder, bins, materials to build a covered shed, etc.).

Our composting system starts with students sorting their waste at the compost station. Custodians

bring the compostable material outside to the compost sorting station. We have several students that serve as compost managers each semester. They go through all the waste, pull out any contaminants or utensils, and then shred the material. They work independently. With this system we are able to include paper products. The shredded material is then picked up by a freshman team that is responsible for burying the material in our horse manure pile. Every freshman does 1 shift of composting. We use horse manure because it is very biologically active and the pile doesn't freeze up in the winter. In 2017, one of our teachers won the National Environmental Educator of the year award. With some of the money received, we purchased a 6-ton dump trailer. With the trailer and relationships with several horse farms we are able to procure as much manure as we need. Last year we produced more than 75 yards of high-quality compost. We expect this to grow to as much as 150 yds/yr as we work all the kinks out of our system and add the other schools in our district to our system. We know our compost is high quality based on independent lab results from the University of Maine soil labs and from the people that have raved about the gardens they had this past summer using our compost. Last year we used 20+ yards on school gardens and fields and sold the rest. A team of students designed the business and marketing plan for our first batch of compost, raising over \$700.

The compost has been a big bonus to our school garden. Eight years ago, with the help of some community members and money raised during an annual plant sale, we installed a terraced garden on some marginal land that was considered a mowing hazard. Each year design and plant the school garden with the goal of the harvest maturing when school begins in the Fall. We also have an orchard and asparagus patch that produce when school is in session. Both of these initiatives have been focused on helping increase the amount of local produce that supplies our school cafeteria. The school garden efforts supplement the larger school-to-farm program we are a part of. We are connected to many local farms that provide fresh produce to our food program. Our kitchen staff prepare and freeze some of this for use later in the school year. The focus on fresh, healthy food has made our cafeteria lauded for being among the best in the state. Lunch always includes a vegetarian dish and a salad bar with many options; a new initiative includes increasing vegan meals.

We reduced the number of single use plastic bottles purchased at school. The five stations are a combination of water fountain and bottle refilling, so students can either carry a reusable water bottle with them or just stop to take a drink whenever they want. Each station has a counter that keeps track of when a bottle is filled. We reduce single-use bottles by more than 5000 each year.

Identify your energy-efficient facilities and practices, ecologically beneficial uses of grounds, and methods of disposal for solid and hazardous wastes.

Campus and Grounds Management

Our school grounds are not certified organic but we manage all aspects of our campus as if they were. Our groundskeeper is trained in organic turf management. He focuses heavily on soil biology to care for the school playing fields. Almost all of our outdoor areas would qualify for organic certification. We have had one occasion in the last 10 years where we used a non-organic herbicide to reduce broadleaf plants from a playing field because they were posing an injury hazard to student athletes when the fields were wet. The staff is always looking to innovative practices that can solve problems, improve environmental quality, and involve students. One example we are currently researching is to bring goats in that could help manage plant growth in

areas that are challenging to keep up with or are low priority for the workload of the groundskeeper. This would provide an opportunity to develop STEM curriculum for students to be involved in the care and handling of animals and be able to monitor and evaluate if goats are working to solve the problem. We have already begun conversations to partner with our local technical school and community college to use our campus as a field site for the sustainable agriculture and landscape management program. Another area we are currently researching is the installation of an artificial turf on our main playing field. There are several green options available. We are assessing whether the reduction in water usage from not needing to irrigate makes both economic and environmental sense. Also we are factoring in not needing fertilizer or weed control, even if organic, because it can pose some a risk to the tributaries of the Goose River that surround our school.

Hazardous Waste Management

Classrooms (art, science, etc) that use any potentially hazardous materials are required to be trained in the use and storage of the materials. All materials are stored according to the MSDS classification. Students do not have access to these materials. In the art program they have taken measures to reduce (volatile materials, etc.) or eliminate (lead-based glazes, etc.) many of the materials they had used in the past. The materials that remain are used in specialized circumstances with adequate ventilation and safety protection. In the science classrooms many of the labs that required hazardous materials have been replaced with safer chemicals or been reduced to micro-scale application. Any hazardous material gets collected and every year there is a pick-up of these materials for appropriate disposal. We have an annual community hazardous material collection date that we regularly participate in but the reality is we generate very little hazardous waste compared to a decade ago.

The most hazardous material used by the custodial staff is floor stripper. That is only used in circumstances where the water and abrasive pad do not remove the floor wax. Cleaning products are all certified healthy and green. We no longer have fluorescent bulbs but when we did they were disposed of through the proper mercury collection at our transfer station. All unusable electronics are stockpiled until the annual collection where these materials are recycled.

Transportation

We are a rural school district with students that come from at least seven surrounding communities. Ridership on school buses for those students that live the farthest is much higher, 80% or better, than the ridership for students that live closer to the school. This is noticed by the fact that buses arriving from those communities are usually full. Each year attention is given to increasing the efficiency of the bus routes by surveying families to determine who will be riding the bus and clumping pick-up locations that are centrally located .

An area that Windplanners will be working on is to analyze the full impact of our transportation system and how we might improve efficiencies. This is a huge challenge in a large district where public transportation options do not exist. Many students have after school jobs and extracurricular activities so the dependency on cars becomes greater. We have a student-built sensor that lets us track traffic in and out of the school. We know that this is an area we need to address. We have staff members that will carpool but the far bigger population are students that drive to school or have parents that drop them off. A CHRHS teacher and student serve on the

Camden/Rockport pathways committee whose focus is to create walkable and rideable communities. The dream is that we will have safe bike paths for anyone that lives within 3 miles of school to use rather than their personal vehicles.

We have a no-idling policy so people cannot leave their vehicles running while waiting. We are in the process of upgrading two of the buses in our fleet through the VW settlement that provides funds to schools. These new buses will be considerably more efficient than those in the current fleet. A state bill has been introduced to move Maine's school buses to electric. Electric buses are very expensive and we have yet to determine if the support exists. Windplanners do play a role in lobbying their legislators and this will be an area of interest.

Student Leadership

Windplanners is open to all students and faculty to participate in. We meet weekly after school to discuss green initiatives for our school and in our community. A recent focus has been the writing of this Green Ribbon School application. For many years Windplanners has sponsored a week-long "Green Week" in April to engage the whole school community. Daily 'themes' are based on different initiatives that students and faculty can take in their own lives to reduce their carbon footprint including electricity, heating, waste and transportation. On transportation day, everyone is encouraged to carpool, ride the bus, walk or ride instead of driving by themselves in their cars. Through an independent STEM project, a Windplanner-built a sensor that allows us to monitor traffic in and out of the school. Green Week inspires people to think and act differently and we have had years where more than 100 students participate in some form of alternative transportation. The week ends with a summary of our collective impact. Some years it has been a school assembly and other years a televised broadcast.

Windplanners has been an important student voice in the work that has taken place over the years in our efforts to be the most sustainable school possible. This student group has received many prestigious awards. In 2013 we received the President's Environmental Youth Award from the Environmental Protection Agency. Later that year, Windplanners was selected among many student groups working on sustainability to represent North America in the Volvo Adventure International Final in Goteborg, Sweden. This competition brought together youth sustainability work from the 10 UNESCO sites to present their work in a TED-type competition. Our students came in third in the world. In addition to an all-expense-paid trip for 5 students and 2 adults to Sweden, we also were awarded \$4000 to fund several sustainability projects. Most recently, in 2016, Windplanners was recognized by the *Portland Press Herald* with their SCION award. This award recognizes youth that are passionate about sustainability.

A recently released film shows some of the recent work of our students and staff.

<https://pinetreewatch.org/sea-change-a-steep-climb-for-solar-generation-and-ev-use-in-maine/>

Pillar 2: Your Efforts to Improve the Health and Wellness of Students and Staff

Use 1-3 pages to describe how your school, district, or postsecondary institution improves the health and wellness of students and staff by integrating an environmental health program and promoting sound health and wellness practices. You should discuss contaminant, moisture, and asthma control, air quality, thermal comfort, pest management, water quality, and procurement, as well as nutrition and outdoor physical activity. Other components you may include are: health

education, health services, counseling, psychological and social services, sun safety, staff health promotion, and family and community involvement. Incorporate metrics when possible.

Health and wellness of students and staff

Health and Wellness are crucial tenets at CHRHS. As part of the comprehensive school counseling program, counselors and professionals work individually and in groups with students on a variety of personal issues. They also work collaboratively with outside providers and agencies to make sure students have access to necessary support and resources. For example in October 2019, the National Alliance on Mental Illness Maine gave students, staff, and community members a presentation on Ending the Silence. Students heard a personal story from a presenter who has lived with mental illness, learning how to be a resource to those around them with a mental health need. They also learned to recognize the symptoms and indicators of mental illness, with ideas and resources to help those around them. Posters and fliers promoting mental health practices are present in bathrooms, hallways, and classrooms. The school nurse is a member of the Leadership, Child Find, and Crisis Response teams and serves as a health liaison between school, home, and community. To further support teen sexual health, an outreach educator is available periodically to discuss topics such as relationships, problem solving, abstinence, pregnancy, condom education, sexually transmitted infections, emergency contraception, birth control options, and reproductive health with students. Free condoms are available to students in the library and One Less Worry provides free tampons and pads in all girls' bathrooms. All students are receiving education aimed at understanding healthy relationships and sexual consent. This is in the form of presenters, break out discussion groups, and forums.

The school cafeteria, the Wave Cafe, opens at 7:30 am for breakfast and is open during break and lunch. After school, free snacks are also provided for students. All offerings are in accordance with the National School Lunch Program guidelines. The Wave Cafe is a Farm-To-School cafe, purchasing and utilizing as much locally produced food as possible. Both the Breakfast and Lunch Meal Deals consist of at least one serving of fruit and vegetables. The Wave Cafe also has homemade vegetarian options, made daily along with specials. Additionally, CHRHS introduced initiatives to provide assistance to students and families in need. This school year, students eligible for student meal fees receive free meals as the school board is subsidizing the difference in fees. Other equality initiatives include backpacks with school supplies, a snack pantry, the backpack meal program, seasonal needs like winter clothing or athletic gear, heating fuel assistance, mental health services and assistance with emergencies. Already, \$15,000 has been designated for these initiatives. The snack pantry is available to any student and is specific food and heating assistance has been given to dozens of families so far this year and this support is ongoing.

Furthermore, the library emphasizes mental well-being through stress relief. The library has ergonomic and massage chairs, couches, and beanbags. The space is open and well lit, and it is an ideal place to study quietly or relax with friends. During midterm and final exams, the library has a variety of stress-relieving activities set up, including animal cams to view nature in action, an advice board, puzzles, adult coloring pages, and other easy games. In the last few years, therapy dogs have been available on certain days for students to visit before the exams.

The 57 acre school campus also provides opportunities for students to maintain both physical and mental health through our nature trails and our outdoor classroom. The outdoor classroom has stone benches under a canopy of trees and is heavily utilized by teachers during the warmer months. The .75 mile nature trails follow the circumference of the CHRHS campus and allow students and staff to go on walks and enjoy the beautiful woods on the campus while unplugging from the stress of school and getting exercise. Due to the well-studied benefit of outdoor activity on mental health, our school actively encourages students to utilize the outdoors as a de-stressing method. The Nordic ski team, mountain bike team, and cross-country team all utilize the trails for practice or competition.

Recently our school has incorporated a period called 'flex time' at the end of the school day. Flex time replaces a typical homeroom period and allows students to seek extra help from teachers. This program is especially beneficial for underclassmen students learning how to effectively manage their homework load and students who play sports and may not have time to stay after school and get support. If students or teachers are unavailable during flex time, before or after school is always an option. Along with having a homeroom group that stays constant through all four years of high school, the school has just started a program that aims to integrate upper- and older-classmen into "pods." Each pod is made up of four homeroom groups, one from each grade. Pods sit together at assemblies and do small activities together to build relationships. The program is great for allowing freshman students to meet with older students.

All students are required to take one semester of health. This course is very experiential and allows students opportunities to engage in many of the health issues that are so important to students today: managing anxiety, depression, healthy food, balancing the digital world with connection to nature, friends, exercise, as well as many other aspects of physical, mental, social, spiritual, intellectual, and environmental health.

Staff wellness has been a big focus in years past where we have had exercise, yoga and meditation classes sponsored by the wellness team. This year we started a new tradition of breakfast potlucks for all staff before workshop days. The first session of the morning after breakfast has been a wellness activity. This has included opportunities to hike, walk, ski, knit, practice yoga, read, meditate led by staff members based on staff interests.

Healthy Building

CHRHS works hard to make all aspects of school healthy for students. We use the EPA Tools for Schools Best Practice to address any moisture, hazardous materials or other potential sick building issues. Our building is monitored and managed in a variety of ways. Thermostats built into every classroom give a reading on occupancy, signaling air handlers. Great care is given to make sure that filtration is clean. The building is continuously monitored for temperature, humidity and CO2. If an issue arises with concerns of health we can look at historical trends for changes in any of these factors and therefore hone in on addressing the issue.

Our building is 20 years old. Asbestos, lead paint and other old building issues are not a problem for us. This year, as our heating system ages there have been some leaks around several of the vitriolic couplings. We have budgeted to begin addressing this this year when the heat is no

longer needed. We also are planning upgrades in our ventilation system to be more energy efficient. We hope to build in some heat recapture and classroom-based management of the air handling. These should both reduce our heating load considerably.

All of our custodians go through professional development each year related to healthy buildings and their own health and safety. Specific topics have included moisture control, air quality assessment, integrated pest management, physical safety, and general energy efficiency standards. The custodial team does a great job identifying potential issues so they can be addressed early. They thoroughly clean classrooms to reduce the spread of infections, reduce dust and allergens and general tidiness. All cleaning supplies are made with the lowest toxicity (green rated) materials possible.

As part of our IPM practices, pesticides are a last resort. We have rarely used any chemicals that have to be recorded in our greenhouse or orchard, managing with beneficial insects, compost, and human labor instead. We have applied a copper sulfate 2 times in the last 7 years on our peach trees. This is a certified organic chemical but does require reporting for our IPM protocol. We are a nearly 100% organically managed school. One exception happened this past Spring when an herbicide was applied on one of our practice fields for the safety of athletes because the tenacious broadleaf weeds were dangerous when wet and no other method was working. We use fire, insects, nematodes, milky spore, vinegar and are contemplating goats for the management of our school grounds rather than traditional chemical applications.

Roofs tend to be a source of moisture getting into buildings. As a preventative we do an annual roof inspection each summer and have it professionally inspected every 5-6 years. This has allowed us to stay on top of any leaks. We know of one part of the building that rain will penetrate if the wind is blowing in a certain direction. Residing and resealing windows is inevitable but expensive and can be managed during the occasional storms when it is an issue while the more pressing issue of the heating system leaking gets addressed.

Use 1-3 pages to describe how your school, district, or postsecondary institution ensures effective environmental and sustainability education throughout the curriculum. Provide examples of interdisciplinary learning about the key relationships between dynamic environmental, energy, and human systems. Demonstrate how your institution uses the environment and sustainability to develop STEM content, knowledge, and thinking skills, and teach all subjects in context. You should discuss how your school, district, or postsecondary institution develops and applies civic knowledge and skills to environmental and sustainability education. All STEM and civics work should be described as it relates to environmental and sustainability learning. Detail any environmental or sustainability literacy standards, show how these concepts are integrated into assessments, and describe environmental and sustainability literacy professional development. Include co-curricular opportunities such as field trips, study abroad, clubs, and service learning. This section should describe hands-on, place-based, project-based, authentic learning across the curriculum, not limited to one subject, such as science courses.

Pillar 3: Your Efforts to Ensure Effective Environmental and Sustainability Education

CHRHS offers a wide assortment of environmental and sustainability-centered opportunities across the curriculum. A survey conducted by the Windplanners, the environmental student group, showed that over 77% of teachers had some aspect of sustainability education in the courses they taught. Courses range from college level science to humanities-based classes that cover topics like sustainability and peaceful resolution. Most courses are offered within single disciplines, but teachers have put growing emphasis on the power of interdisciplinary connections, piloting several unit-length and quarter-length experiences to deepen students' awareness of sustainability education. In addition, due to our varied campus environment, we attempt to maximize the value of the grounds as a classroom of its own.

Most Grade 9 students are enrolled in Global Science. All Global Science courses cover climate science and sustainability. In this class, about half the course is spent understanding the nature of climate change, including the greenhouse effect, sustainable energy, and even an activity in which students engineer sustainable solutions to problems around the town. Students learn about the science of climate change and the factors that cause and affect it. Students are taught how to calculate their carbon footprint, investigate how carbon dioxide behaves to trap heat, investigate sources of carbon dioxide, learn the chemistry of ocean acidification, and study current NOAA data sets and peer-reviewed consensus studies through collaboration with TUVa Labs. Labs revolve around environment topics; some examples include testing solar home prototypes and testing the effects of ocean acidification on marine shells. Based on a desire to maximize students' awareness of environmental stewardship and ability to act in the face of the climate crisis, the honors level of this course along with Honors English 9 have recently been redesigned to offer one half of the year as a collaborative experience with a focused investigation into climate. Connecting to information gained from their science studies, Honors English 9 students analyze authors' use of technique as it relates to climate fiction (cli-fi); write their own cli-fi stories to communicate their understanding, fears, and hopes about current sustainable practices; and practice debating skills with the focus on creating policy aimed at reducing carbon emissions. Students part of this interdisciplinary collaboration conclude the partnership with a shared climate action project designed to strengthen their ability to educate others about sustainability or advocating for community shifts in environmental perception and policy.

Upper grades students have a variety of different science options that emphasize education about our immediate local environment. AP Environmental Science (APES) directly addresses sustainability in a number of different ways, helping students identify and analyze human-induced environmental problems. This enables them to learn how to assess the risks associated with these problems and evaluate alternative solutions for resolving and preventing them. Class labs are designed around investigation of the quality of air and water within our campus. Students gather water samples at various sites before returning to the classroom and running this water through a series of tests to determine its quality, providing helpful data for the campus Facilities Director. Additionally, APES students gather data for storm surge research through a probe in Rockport Harbor which is then used in research by the University of Maine. These place-based activities bring awareness to how environmental issues shape our immediate location, as the Gulf of Maine has warmed faster than 99% of the global ocean. Gardening and Horticulture is an entirely experiential option with topics including germination, pest and disease management, propagation, and soil amendments. Students plant and maintain vegetable and ornamental seedlings in the school greenhouse which adjoins the school for a student-run plant

sale in late May and for planting in the school gardens for use in the school's lunch program. Students learn to maintain the fruit trees in a student-designed and created orchard next to the playing field.

Students interested more in texts associated with the environment can choose senior English electives that focus on the interaction between humans and the natural world. *Humans in the Environment* uses readings on the environment from the past and the present to teach students about the complex choices humans have in how we affect our environment. Texts include literature, documentary films, poetry, art, and current events sources. Activities include discussions and challenges related to specific environmental problems and possible solutions. Topics covered include the operating systems of the earth, the presence of chemicals in the environment, food production, energy, and climate. *Outdoor Literature* examines the transcendental mindset of philosophic literature (including prose, poetry, fiction, biography and professional writing) to answer questions regarding human roles in the wilderness, whether it should be conserved, preserved, exploited, or used for recreation. Students meet outdoor professionals who talk about their vocations and why reading and writing is an important part of their jobs. Often students enroll concurrently in environmentally-focused science and English electives to amplify their awareness of the many facets of environmental concerns.

Outside the Science and English classrooms, environmental and sustainability-based concepts are integrated into the Social Studies curriculum, which especially emphasizes a variety of pathways for civic activism. For example, in both US History and Active Citizenship, students study environmental crises and activist movements in response to them and design their own acts of citizenship, such as letter writing to, or meetings with, legislators. One recent student letter to our local US House Representative triggered her to change her official website to reflect her position on climate change. Global Studies includes a unit about plastics and other harmful waste. They examine the historical, technological, cultural, economic, and health issues, and create solutions and responses in visual form. AP Human Geography introduces students to the study of patterns of movement and use of the Earth by humans, covering material such as refugees/asylum-seekers, agriculture, sustainability, and history in certain important geographic locations. Students involved get to learn a great amount about culture, food consumption, and environmental practices. Currently a group of AP Human Geography students is arranging the logistics for a school-based climate conference that approximately 20% of the school will participate in, including panel discussions with local organizations taking concrete action on climate, the En-ROADS climate solutions simulation, and action-based workshops.

As an extension of their studies, students can elect to complete rigorous Graduation Endorsements to acknowledge their pursuit of integrated deeper learning. One student seeking a STEM endorsement organized monitoring for turbidity, pH, and dissolved oxygen in local ponds to establish baseline data to assist in local mitigation for run-off, while another seeking a Global Competency endorsement lobbied the local town government to ban single-use plastic bags, a step it took in advance of the state-wide imposed ban based on her advocacy.

In addition to the previously mentioned examples, CHRHS offers additional ways to integrate the outdoors into the school day. In pleasant weather, teachers and students are able to use a designated outdoor classroom (Doc's Classroom) as an alternative learning environment. Classes

like Gardening and Horticulture and AP Environmental Science, along with the kitchen staff, utilize the school gardens and greenhouse. Students from the school's day treatment program make use of the orchard at various times in the year, including making cider from the harvested apples in a fall harvest celebration. All freshman science students perform outdoor composting duties to process kitchen and cafeteria waste, teaching the principles of waste management. In the physical education course Maine Outdoor Experience, students are outside every class to explore the Maine wilderness and the lifelong fitness and recreation opportunities that it offers. Students engage in activities including hiking, sea kayaking, snowshoeing, and wilderness camping with an emphasis on "leave no trace" ethics.

Besides utilizing the school campus, students take field trips pertinent to curricular study or as extensions of environmental learning. One of the largest field trips is to the Common Ground Fair in Unity, Maine, which promotes local, organic, and sustainable lifestyles and practices. Students in AP Environmental Studies are joined by exchange students, transitional life skills students, and others with curricular ties to the event in a collaborative celebration of rural life and sustainable communities. Students can choose more long-term courses or trips rooted in place-based experiences beyond our immediate community. Tropical Marine Biology Seminar is centrally designed around an 11-day summer visit to the Island School/Cape Eleuthera Institute in Eleuthera, Bahamas where students work in teams to investigate a selected place-based research opportunity. Advanced Marine Ecology is a college-level class that partners with the University of Maine Machias to teach students about the intertidal species of the Gulf of Maine and the research process. Students conduct environmentally-centered research in Machias, Maine during the summer with a college professor. This year's class studied how the commercially and ecologically important soft-shelled clam was affected by the invasive green crab. In the fall, students conduct their own independent research. An example of student research was examining the shell strength of both the soft-shelled clam and blue mussel in different ocean pH solutions in order to make predictions about the ecological and commercial impact of ocean acidification on the Gulf of Maine. During April vacation, the Colorado Service Trip takes students on a rugged camping and rafting experience that includes an immersive service project with a Navajo family living in a sustainable way on a reservation. These experiences offer students ways to compare their local environment to other parts of the world to gain an appreciation of our systems and innovate new approaches to situations based on direct observations.