

A Sustainability Studies program at Islesboro Central School.

Prepared for: ICS School Committee

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December 14, 2015

(A slide show will accompany this proposal at the time of presentation)

Executive Summary

Objective

To expand the curriculum framework of the Horticulture program, with the support of the ICS school committee, to provide a visionary educational pathway expressly focused on sustainability and the creation of stronger linkages to interdisciplinary content studies grades K-12.

Background

Over the past four years (and largely due to the relentless support of this school's community, administration, and staff) the Horticulture program has grown to become a statewide leader in agricultural education. Author Mary Quinn Doyle recently featured our program in her new book, "Unique Maine Farms," highlighting our robust program as likely "one of the top Farm-to-School programs in the nation." She joins the growing body of professionals in Maine who recognize our innovative program statewide.

In house - we've seen enrollment sharply increase from 3 students during the 2011 - 2012 school year (the year before the program changed leadership) to 21 students during the 2014 - 2015 school year; a clear and direct response to the numerous opportunities the program has come to provide. Students are excited to engage with a rigorous, relevant, standards-aligned curriculum which is the only K-12 program in the state to provide a Master Gardener Certification, experience on a robust certified-organic farm, and the only in-house opportunity for students to receive college credit for their efforts. The program's impact extends far beyond that of the classroom, a force directly addressing island food insecurity by providing thousands of pounds of fresh fruits and vegetables to our school lunch program and community annually. This calendar year alone, the program has received 5 separate federal and statewide grants (from such organizations as the *Island Institute and Johnny's Selected Seeds*) appropriating well over \$55,000 dollars towards expanded facilities, equipment, and student summer employment.

Expanded Programmatic mission - "Sustainability Studies"

A Sustainability Studies program wouldn't be unique to Islesboro - it follows the growing trend of educational institutions K - post secondary developing broad frameworks that seek to leverage an insightful, innovative, and multi-disciplinary curriculum towards improved student outcomes; all while pursuing facilities and practices that reduce their campus's environmental footprint. The University of Maine system recently joined the growing list of schools nationally and internationally working towards the widespread integration of sustainability on-campus, recognizing it as an opportunity to improve public relations, foster civic-minded and environmentally conscious students, and reduce costs through resource conservation efforts. In the past decade, they've added several degree programs, a research facility, and several campus wide initiatives that reflect this effort.

Sustainability Studies

At Islesboro Central School, a Sustainability Studies program's curricular charter would meet student needs and interests by offering dynamic, multi-disciplinary courses that encourage students to think critically about the constructs of local and global communities from an environmental, social, and economic perspective.

Program Framework:

- Courses offered within the Horticulture program would be housed under a broader and more expansive curriculum framework, joining new multidisciplinary courses geared towards program education objectives and existing departmental learning standards.
- School wide (K-12) integration of program learning objectives through co-teaching, multigrade projects, staff development by fostering explicit connections to school wide thematic instruction.
- Administrative coordination of the adoption of sustainable practices and facilities institution-wide through a targeted approach that addresses our campus's environmental footprint by carefully examining waste management, energy, sourcing, and other significant parameters.

Outcomes to school culture and vision:

The emergence of a sustainability studies program at ICS wouldn't just represent a progressive and innovative expansion of student programming; it would seek to leverage a dramatic and lasting impact on school culture and values.

- A sustainability studies program would be, if marketed properly, and important draw for magnet families considering enrollment at Islesboro Central School.
- The program would be a centralizing force and foundational partner in the emerging focus/discussions regarding instruction K-12; providing an important vehicle by which interdisciplinary, community focused, project-based learning could take place.
- Lastly, the program would seek to address elements of our schools vision which speaks to sustainability, civic-mindedness, and environmental liberal arts on the whole.

Learning Objectives:

- I. Demonstrate an understanding of comprehensive systemic analysis across both physical and behavioral dimensions involving society, the environment, and the economy.
- II. Define sustainability and assess the ways that sustainability topics are approached by a diversity of academic disciplines.
- III. Identify how globalized processes impact socioecological systems.
- IV. Analyze the role of environmental sustainability in the promotion of comprehensive justice and equity.
- V. Apply critical thinking skills to provide sustainable solutions and build resilient communities.

- VI. Utilize the appropriate methodological tools to analyze and address specific research questions.
- VII. Articulate a comprehensive world view that integrates diverse approaches to sustainability.
- VIII. Understand the basic theoretical concepts and methodologies of both the physical and social sciences.
- IX. Learn how to solve large-scale problems using a multitude of tools and approaches.
- X. Understand the basic sustainability concepts of homeostasis, carrying-capacity, cradle-to-grave recycling, evolutionary processes, inter-generational debt, socio-political adaptation, climate change, ecosystem services, and environmental justice—and understand the relationships between them.

Potential Course Offerings: 2016 - 2017

Introduction to Horticulture: An introduction to the science of plants and plant production; this course exposes students to a variety of applicable vocational practices and theories under the broad umbrella of plant, soil, and crop science. Moreover, students should anticipate spending a great deal of time working outdoors in our garden and orchard producing products for our school lunch program and spring/summer farmers market.

***Students are eligible for a Master Gardener Certification at the conclusion of the course.

Sustainable Culinary Arts and Sciences: An exploration of the art and science of food handling, processing and preparation; this course empowers students to make a lifetime of sound consumer choices. Topics to be covered will range from nutrition and product labeling to canning, dehydration, smoking, baking, and basic culinary practice; a course which will conclude with a lively practicum where students plan and serve a community meal.

Aquaponics (Fall): This is a comprehensive course covering all aspects of aquaponic food production. We'll cover the topics ranging from aquaponic methods and applications, water quality, daily operation and growing techniques, greenhouses and environmental control, fish biology and feeds, plant care and health, system start up, economics and business considerations. ***Students are eligible for three college credits upon conclusion of the course.

Senior Project in Sustainability (Spring): This course will function as both a seminar and project-based learning experience. We'll begin with a critical and in-depth look at the plausibility of Sustainability in-practice in school and on island setting, through the context of student led readings and discussions. We'll conclude with individual and/or group projects specifically geared towards the adoption of sustainability practices and technologies in on-campus/in-community in such areas as energy, resource-management, and conservation.

Island Natural Resource Management (8th Grade, Spring): This course provides an overview of the principles of sustainable natural resource management; a set of principles and practices that organize and trade-off the use of resources for human consumption in a manner that does not compromise the ability of the managed environment to provide other essential services. This class focuses on the ecological, social, and economic components of sustainable management of natural resources, primarily biological resources, found here on Islesboro; from forests and fisheries to recreation and more.

Potential topics to be covered through inclusion:

Local and Global Citizenship, An Islanders Perspective

Sustainable Economics and Policy

Climate Change: Connections and Solutions

Fueling Our Future: Exploring Sustainable Energy Use

The Dynamics of Systems and Change

Anticipated Costs FY 2017 - 2018:

3 Teacher at step 4, w/ Masters	Projected Costs
Salary	\$13,108.00
Benefits	\$3,630.00
Total	\$16,781.00