



Farming the Floodplain: Farm Incubation in Burlington's Intervale

The Intervale Center

The Intervale Center is an agriculture and food systems non-profit in Burlington, Vermont. Founded in 1987 as a composting operation, its programs have expanded to include onsite farming, a farm incubator, business planning support for farms, a multi-farm Community-Supported Agriculture (CSA) program, and a food gleaning program. Today, the Intervale Center is seen as a national example of a successful, financially self-sustaining business incubator.

The location and mission of the Intervale Center closely connect it to the themes of urban nature and city design. The Center sits on the floodplain of the Winooski River and strictly practices organic agriculture. The Intervale offers an example of an ecologically sensitive reuse of undevelopable land. As an entrepreneurial program, the Intervale addresses many of the same issues that new urban farmers must confront. Its innovative land tenure arrangement and focus on eliminating common barriers for new farmers provide relevant models for other, larger cities.



The Intervale



Lying in the towns of Burlington, Winooski, and Colchester, the Intervale comprises more than 900 acres in the floodplain of the Winooski River. It includes many acres of wetlands, several private farms, and the 350 acres of “bottomland” now owned by the Intervale Center. The Intervale Center’s lands lie within Burlington, a city of 42,000 along the eastern shore of Lake Champlain. The Intervale is within walking distance of both the University of Vermont and downtown Burlington.

Prior to construction of an upriver dam in 1938, the Intervale experienced regular flooding and a river course that meandered through the valley, sometimes shifting considerable distances. While the dam moderated seasonal floods, severe storm events still push the river beyond its banks. Floodwaters have increased soil fertility but made more intensive development and construction difficult.

The Intervale in Burlington



Within the city of Burlington, the Intervale consists of a mix of conserved open space, agricultural land, and a small number of specially allowed land uses. The Intervale Center owns 350 acres, about one-third of which are farmed. The Gardener's Supply Company, a retail garden store whose founder created the Intervale Center, is also located in the Intervale. Nearby, the McNeil Generating Station converts wood fuel and other biomass to electricity, providing most of Burlington's energy supply. Formerly, the Intervale Center hosted a large-scale commercial composting facility as well.

Burlington has zoned the Intervale to promote conservation and agriculture. Since 1987, the city zoning code has forbidden residential and commercial development in the area. Current zoning establishes conservation overlays and allows only agriculture and energy generation.

The Intervale - History

Through much of the 20th century, the Intervale served as a dump. Beginning in 1944, Burlington operated an official refuse dump in the area. Even after the closing of the official dump in the 1970s, informal trash disposal continued. Illicit users burned trash and abandoned old cars, but the city rarely enforced restrictions.

By the 1970s, city residents looked to take advantage of the resources the Intervale could offer. Community gardens began to emerge. In 1985, Will Raap located the headquarters and retail storefront of his successful mail-order Gardener's Supply Company in the Intervale. Raap had a vision of the Intervale as the center of a thriving food system that could provide 10% of Burlington's fresh food. Raap began a community cleanup effort on the site. In 1987, he acquired the first pieces of land that would grow to become the Intervale Center from the city.

Attracted to the idea of a community food system and especially to the Intervale's proposed composting operation, Mayor Bernie Sanders agreed to a discounted price for the land. Raap established the composting facility for leaf and yard waste and incorporated the Intervale Foundation as a non-profit organization. The Foundation would eventually become the Intervale Center, and acquired the remaining land in the Intervale over the course of the 1990s.



The Intervale Center

The Intervale's programs reflect its broad approach to food systems, incorporating not just food production, but distribution, entrepreneurship, and social justice. Programs have included:

Farms Program	Farm incubator
Food Hub	Multi-Farm Community-Supported Agriculture
Success on Farms	Business Planning Assistance for Farmers
Gleaning/Food Rescue	Post-harvest food surplus collection for the needy through Free Food Share.
Composting (Discontinued)	Accepted city's organic wastes and sold resulting compost and topsoil commercially

Organized as a non-profit, the Intervale Center employs fourteen staff and sustains itself through equal parts program revenues and grants. In years when its composting operation was active, the Intervale had annual revenues of more than \$2 million (Shuman et al 2009). The organization has successfully leveraged its higher-value activities such as composting to subsidize low- or zero-revenue programs such as Food Rescue.

The Intervale Center's non-profit status was politically advantageous when Will Raap first sought land. The city of Burlington likely would have had difficulty justifying a steeply discounted land transfer to a for-profit corporation, but could point to the Intervale Center's commitment to the community, environmental stewardship, and non-profit status (Shuman et al 2009).



The Farms Program: A Farm Business Incubator



The Farms Program is the Intervale Center's farm incubator. The program aims to reduce start-up barriers for new farmers, namely access to affordable land, access to markets, the need for knowledge of farm management and equipment, and the isolation of rural agriculture. By leasing land that lies within the Intervale, the program offers farmers the benefits of clustering, as knowledge spills over from one farm to its neighbors. Of the several dozen farms currently leasing land from the Intervale Center, eleven are new farms enrolled in the Farms Program.

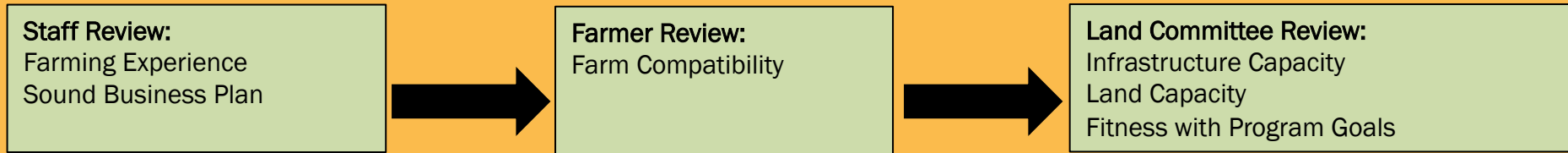
Since its founding in 1990, the Farms Program has given more than 40 farms their start. The farms follow accepted practices of organic agriculture and produce fruits, vegetables, and small livestock. In addition to providing farmers with fertile land near the biggest consumer market in Vermont, the Intervale offers equipment, greenhouses, and water at a discounted rate for new farmers. While the farms receive assistance from the Intervale Center, they operate as independent businesses with the expectation that they become financially self-sustaining.

Farms in the incubator program receive numerous benefits. While access to discounted land stands as the most significant feature of the program, the Intervale Center offers more than physical resources. Throughout a farmer's membership in the program, he or she can draw on the expertise and experience of Intervale staff and other farmers at the Center for business planning and farming practices. Due its location in Burlington, the Intervale also offers its tenants access to a large consumer base with farmers' markets, restaurants, and local groceries. Through the Intervale Food Hub, the Center allows farms to utilize the CSA model even if they are too small to support one on their own.

The Farms Program: Process

Application

The Intervale Center sets a goal of having one-third of its land in the incubator program and two-thirds leased to established mentor farms. The Farms Program aims to accept between one and three new farms each year through a biannual application process. The review takes approximately three months and goes through three levels of review by three committees. Farmers initiate the process by submitting an application and business plan to the Intervale Center.



Intervale Center staff conduct the first phase of review. They make sure applicants have 1-3 years of experience, but have never owned a farm. They also look for familiarity with organic practices and a viable business plan.

Upon staff recommendation, a committee of current Intervale farmers reviews the application. The Farmer Review considers whether a proposed farm is compatible with existing farms and that the applicant would be a “good neighbor.”

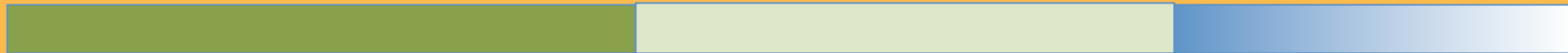
The Land Committee conducts the final review, considering whether the Intervale has the land and equipment capacity to support the new farm. The Land Committee also ensures a farm is consistent with the mission of promoting a sustainable local food system.

Program Timeline

Start-Up

Year 3

Year 5



Phase:

Incubator

Enterprise

Mentor

The incubator phase of the Farms Program comprises the first three years of enrollment. Farms lease land, water, and equipment at 80% of the full rate. The Intervale conducts annual reviews of the farms' business performance and offer support in achieving their business plans' goals.

After three years, farms graduate to enterprise status. The Intervale continues to provide business planning support and performance reviews, but farms pay full rates for land and equipment.

While the Farms Program lasts for five years, some farms continue leasing land in the Intervale. As mentor farms, they contribute many of the clustering benefits to program participants.

The Farms Program: Successes

In the 22 years since its inception, the Farms Program has grown into a remarkable success. It has successfully given many farmers their start; of the approximately 40 farmers who have graduated from the program, at least 25 now independently in Vermont (Intervale Center 2012b).

The Intervale has reached populations that are traditionally underrepresented in Vermont agriculture. The Intervale has provided land to East African refugees, over 1,000 of whom live in the Burlington area. The Farms Program has effectively offered agricultural opportunities to women as well; 50% of Intervale Center farmers are women compared to only 11% statewide (Intervale Center 2012b).

A major element of the program's success has been in assisting farms to generate substantial revenue from their own produce. In 2010, the eleven small farms in the incubator grossed more than \$1 million (Intervale Center 2012b).

With its combination of financial sustainability, productive organic agriculture, and program resilience, the Intervale Center's Farms Program stands as a successful model of farm business incubation in a peri-urban setting.



Farms at the Intervale: Examples

Between the incubator and mentor farms, land at the Intervale Center supports orchards, vegetable farms, apiaries, and chickens.



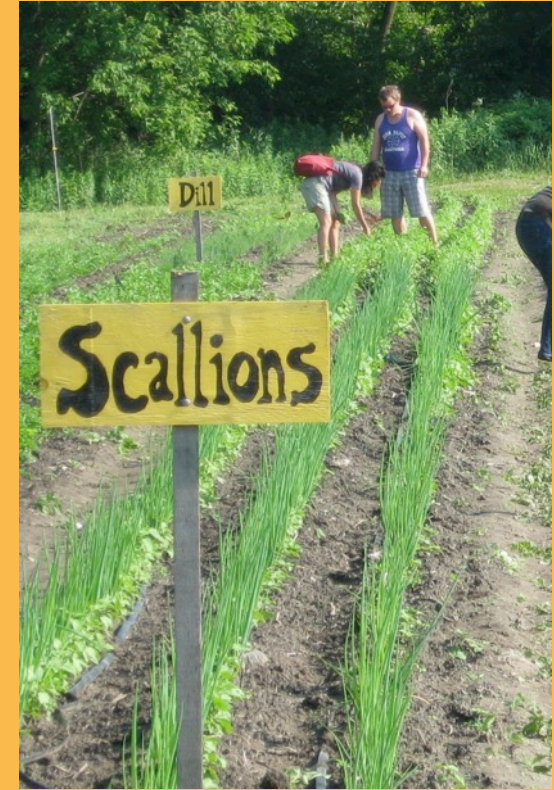
Half-Pint Farm

Since 2003, Half-Pint Farm has operated on two acres at the Intervale Center, growing a variety of vegetables and herbs. They sell through farmers' markets, a local grocer, and distribute food to 100 area senior citizens through a Senior Farm Share.



Adam's Berry Farm

Adam's Berry Farm grows a variety of grapes, strawberries, blueberries, and raspberries. They sell all their fruit within a ten-mile radius of the farm, including through pick-your-own. They have farmed at the Intervale for ten seasons.



Intervale Community Farm

Begun by three Intervale community gardeners, ICF now farms 44 acres and serves 500 households through its CSA. Each subscriber to the CSA is a part owner of ICF, which is structured as a CSA cooperative. They have farmed at the Intervale for 21 seasons.

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Flooding in the Intervale: Hurricane Irene



While impoundments have made severe flooding in the Intervale relatively rare, major storms still result in significant damage. In August, 2011, Hurricane Irene resulted in as much as fifteen inches of rain in Vermont. As rivers carried stormwater from the Green Mountains into the state's

valleys, tremendously damaging floods occurred.

As a floodplain, the Intervale offers fertile soil and a large amount of undevelopable land. During Hurricane Irene, the Intervale's location and ecological function showed its

vulnerability. The Winooski River spilled over its banks, flooding most of the Intervale's farms. Any crops exposed to floodwater had to be discarded. The waters destroyed over \$750,000 in crops and equipment.

Lessons from the Intervale Center

Key Components

Presence of Vacant Land: The Intervale Center can credit its origins to the presence in Burlington of a large amount of undevelopable vacant land within city limits. Because it is often illegal and unwise to build, floodplains offer the opportunity for more extensive agriculture than do typical vacant parcels in cities. An aboveground floodplain additionally offers exceptionally fertile soil. Particularly when organic standards are enforced, agriculture can be an ecologically sensitive adaptation to a city's natural landscape.

Formal Relationship with City: While some contemporary urban agriculture "squats" on land, the Intervale entered into formal agreements with Burlington. While formalizing creates costs, it can offer sizable benefits. By incorporating as a nonprofit, offering a composting service the city desired, and negotiating with the city, the Intervale Center secured a discount on acquiring land and initiated a positive relationship with local government that continues today.

Prominence of Food Systems in City: The unique characteristics of Burlington extend beyond the physical presence of floodplain land. The city's interest in food systems contributed both to the government's willingness to work with the Intervale Center and to the community's eagerness to support its farms and CSAs. Years after the Intervale Center's founding, the city offered a similarly generous lease of a city-owned downtown lot to a food co-op.

Emphasis on Financial Sustainability: Despite the Intervale Center's non-profit status, it has always sought to create financially self-sustaining businesses. The emphasis on business planning begins with the application process, making it more likely that Farms Program alumni will successfully move on to independent farms.



Image Source: flickr user katherine_martinelli

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Lessons from the Intervale Center

Roadblocks

Politics: The perception that it had close allies with the Progressive Party that led Burlington may have contributed to later conflicts with the state Republican administration (Totten 2008). In 2007, state officials designated the Intervale an area of archaeological significance, complicating the process of applying for state permits for the Intervale Center's composting operation. Eventually, the Chittenden County Solid Waste District took over the Intervale's Composting operation and moved it offsite. The Intervale lost one of its biggest sources of revenue and spent over \$300,000 coming into compliance with state regulations (Shuman et al 2009).

Flooding: While the Intervale offers empty land and fertile soil, the possibility of destructive flooding looms large over farming operations in the wake of Hurricane Irene. Even plants that are not destroyed must be discarded following a flood, and farmers operating on narrow margins must find a way to make up for lost revenue and pay for damages to land and equipment. If climate change increases the frequency of what was once considered a hundred-year flood, the Intervale will become an increasingly difficult place to farm.

Adaptation to a Denser Urban Setting: While the Intervale Center sits within Burlington's city limits, it is outside the dense urban core. The relative isolation allowed the Intervale to avoid conflict with neighbors over perceived nuisances. An attempt to convert parkland in Philadelphia's Roxborough neighborhood to an incubator of ten half-acre plots met with strong community opposition. The City Council responded by creating a conservation district that forbade farming. Converting vacant urban land rather than parks may be more palatable to neighbors, but an incubator on scattered sites may lose the clustering benefits that help the Intervale's farms succeed.



Image Source: Intervale Community Farm
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Additional Resources

Other Farm Incubators

Agriculture and Land-Based Training Association (ALBA)

- Salinas, CA
- <http://www.albafarmers.org/>

New Entry Sustainable Farming Project (NESFP)

- Tufts University Friedman School of Nutrition, Boston, MA
- <http://www.nesfp.org/>

Viva Farms

- Washington State University Extension and GrowFood.org, Skagit Valley, WA
- <http://www.vivafarms.org/>

Elma C. Lomax Incubator Farm

- NC Cooperative Extension, Cabarrus County, NC
- <http://www.cabarruscounty.us/government/departments/sustainability/local%20food/Pages/Elma-C.-Lomax-Incubator-Farm.aspx>

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