



# the porto protocol

## SOLUTIONS TEMPLATE

**TITLE:** Wetland restoration and bio-filters and woodland preservation

**KEYWORDS:** (biodiversity, wetlands, reduce bird pests, bio-filters)

**APPLIED TO:** (Winery farm land)

**INFORMATION SOURCE:** Henry of Pelham. Henry of Pelham is an estate winery, owned and operated by the Speck family since 1982 (6th generation on the land). We are strong believers in the importance of sustainability from soil to shelf. Henry of Pelham is proud to be one of the first wineries in Ontario to have had both our winery and vineyards certified by Sustainable Winemaking Ontario

Address: n/a

Website: henryofpelham.com

Email contact: n/a

Date: n/a

**COUNTRY:** Canada, Ontario

**REGION** *(If applicable):*

**EXECUTIVE SUMMARY:**

Through existing underdrainage of the vineyard, erosion from ground water is reduced and this water is measurably improved in quality using bio-filters. Reforestation has enhanced biodiversity on the property and led to the establishment of wildlife corridors. These have encouraged raptors, which contribute to a reduction on bird pests during the grape harvest.

**SDG (SUSTAINABLE DEVELOPMENT GOAL):**



### Water restoration and bio-filters

- Improve the quality of ground water that both enters and leaves the Henry of Pelham winery property through the implementation of bio-filters
- Create cleaner water leaving the property and entering the Great Lakes
- Measurably ensure that all water used in the production facilities is purified after its use.



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### Woodland preservation

- Through reforestation and acres of wetland available, well-travelled corridors for wildlife have been created
- Maintain woodland preservation via natural resources available for raptors to perch, therefore reducing the amount of grape eating birds during harvest season

### **REASON WHY/MOTIVATION/BACKGROUND:**

The motivation was to ultimately alleviate excess water and prevent soil erosion. Bio-filters are easy to install, as the winery already has the underdrainage to catch the water.

The natural preservation of the woodland initiative was a smart, easy and efficient way to help reduce the bird pests affecting a successful harvest season.

### **PROJECT DESCRIPTION:**

There are two aspects to this project:

#### **1) Wetland Restoration and Bio-filters**

The bulk of the land at the winery is the catchment area for a much larger watershed. To help with excess water and to prevent soil erosion, the entire vineyard is underdrained. This provides a unique opportunity to improve the quality of ground water that both enters and leaves the property. By adding bio-filters to the ponds, the water that leaves the property is cleaner than when it came in.

While this initiative required a bit of work on the headlands, the Niagara Peninsula Conservation Authorities helped with the overall implementation strategy.

#### **2) Woodland Preservation**

Part of the land has reforested over time. By leaving these stands of trees we have preserved more than 11% of our total acreage as forest. Combined with the many acres of wetlands on the property, we have been able to create very well-travelled wildlife corridors that run between our forests and the Short Hills Provincial Park. We also make it a practice to leave dead trees standing for raptors to perch, a side benefit being that the hawks scare off grape eating birds which are a pest at harvest.

From wetland restoration and bio-filtration to reforestation and water conservation, our efforts will ensure that plants, helpful insects, animals and people—including wine makers—continue to thrive on this land another six generations from now!



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The woodland preservation initiative works in concert with the wetland restoration initiative, thus creating wildlife corridors, raptor perches/minimizing wildlife in opposition and ultimately producing healthier crops.

### **BENEFITS/ACHIEVEMENTS:**

Water leaves the property cleaner than it enters the property. Through natural woodland preservation, there is less animal/bird pressure on the crops.

### **LESSONS LEARNED:**

It is negligibly more expensive to invest in these projects than not to do them, yet these initiatives have a huge impact on reducing our water and carbon footprint.

### **NEXT STEPS:**

To look at ways at evolving these current initiatives based on best practices learned to date and investing in similar initiatives that will benefit the winery, vineyards and the environment. Also encouraging our neighbours/growers to adopt similar practices.

### **POTENTIAL FOR REPLICATION:**

Depends on the property and location as each locale needs a tailored approach. In general, viticulture in Niagara/Ontario lends itself to these practices.

### **SOURCES OF INFORMATION/SUPPORT:**

Niagara Peninsula Conservation Authority

### **ADDITIONAL COMMENTS:**

#### **INDEPENDENT COMMENTS (WC, RS)**

This is a great initiative that could be extended to other situations. Someone wanting to adopt a similar approach my want more details on what the “underdrainage” consisted of and how it was achieved and exactly what the bio-filters were and how they have been established. Regardless, the principal could likely be adapted and developed in other situations. Water quality is measurably improved, although we do not know which measurements are used in this case. The reduction in pest birds by encouraging raptors such as hawks is a great additional benefit of the reforestation, and this reforestation will also offset some carbon emissions.