

The logo for ENVIRO-STEWARDS features a green circular icon with a white lowercase 'e' inside, positioned above the text 'ENVIRO-STEWARDS' which is written in a white, sans-serif font.

ENVIRO-STEWARDS

# Why Save Water?

Building a Business Case for Water Conservation

## Enviro-Stewards.

- We cultivate resilient businesses and
- improve lives in extraordinary ways



# Water conservation.

## Economic factors



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KITCHENER | News

### Higher water costs proposed in 2022 for Waterloo Region



REGIONAL MUNICIPALITY OF WATERLOO

CANADA

### Guelph proposing 2.6 per cent increase to water bills in 2020



By Matt Carty · CJOY

Posted October 18, 2019 6:46 pm



York Region

HEALTH TRANSPORTATION ENVIRONMENT RECREATION BUSINESS SUPPORT NE

Report A Problem

HOME > NEWSROOM

### A 3.3% INCREASE TO REGIONAL WATER AND WASTEWATER RATES EXPECTED TO ADD \$21 TO AVERAGE RESIDENTIAL BILL IN 2022

September 28, 2021



## **Water conservation.**

Environmental & social factors

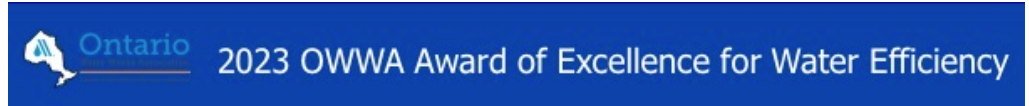
- Consumer demand for proven results
- Corporate ESG (environmental, social, & governance) goals
- Conservation targets
- Competitors are doing it



## Water conservation.

Environmental & social factors

- Recognition opportunities



### Water Efficiency Awards

Each year for more than 10 years the OWWA Water Efficiency Committee has recognized outstanding initiatives in water efficiency in both the public and private sector.

#### *Awards Of Excellence In Water Efficiency*

- Public Sector & Utilities Award
- Private Sector Award

#### **2021 Recipients**

- Public Sector, The Regional Municipality of York
- Private Sector, Longo Brothers Fruit Market Inc.
- Public Education and Awareness, The City of Guelph



# Arla foods.

## 2018 OWWA Private Sector Award

**WATER SAVING:**  
**>37,000 m<sup>3</sup>/year**

**TOTAL OPERATIONAL SAVINGS: \$285,000**

**Payback: Less than 6 months**

\*Payback period includes water incentives, energy and operational savings.



## Approach.

Assessment flow



## Approach.

### Assessment flow



- Review utility data
- Discuss facility goals
- Highlight target areas
- Pending projects



- Overview of water-consuming processes and equipment
- Discuss facility areas of focus
- Find key potential conservation opportunities





## Approach.

### Assessment flow



- Install meters (non-intrusive) on key processes for 7 days
- Manual measurements
- Machine/process specifications



- Pick up meters
- Analyze data
- Identify & quantify conservation opportunities



## Approach.

Assessment flow



- Summarize findings in report
- Quantified savings (m<sup>3</sup>/year, \$/year)
- Report reviewed by Peel & submitted to facility

# Approach.

## Measuring consumption



Case studies.

## Case study. Super-Pufft

- Snack manufacturer
- 60 years in business
- Participated in water conservation assessment

**SuperPufft** HOME ABOUT US PRODUCTS

# INNOVATION AT ITS FINEST

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**Canister Crisps**  
  
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**Popcorn**  
  
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**Extruded & Fried Pellet Snacks**  
  
[LEARN MORE](#)

**Pop Chips**  
  
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## Case study.

### Super-Pufft

- Main water consumers were measured & quantified
  1. Slicers
  2. Potato receiving jets
  3. Auger (de-stoner)



## Case study.

### Super-Pufft

- Savings opportunities were identified & quantified



### Overall Water Savings

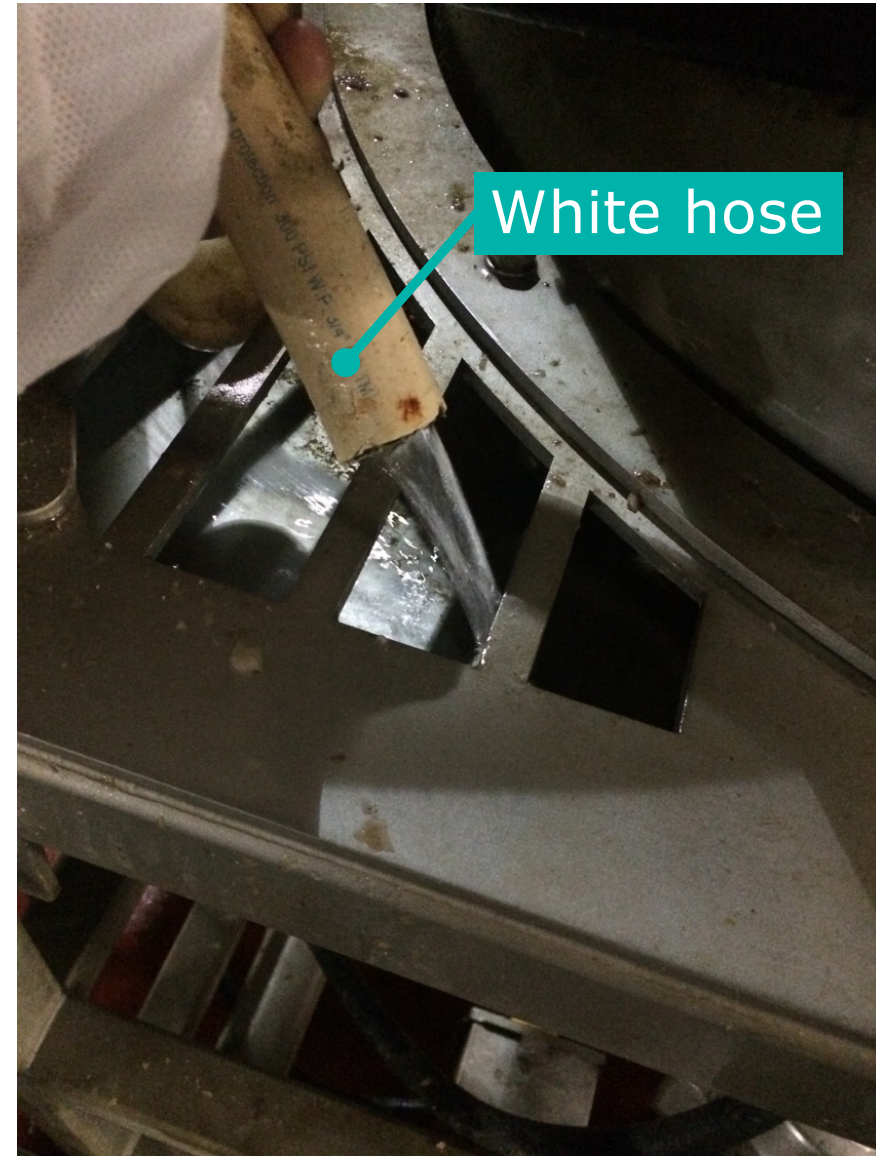
- 123,000 m<sup>3</sup>/year
- \$320,000/year
- 0.2-year payback (~2 months)

## Case study.

### Super-Pufft

#### The White Hose

- Water discharge from a white hose was observed
- 40 liters/min





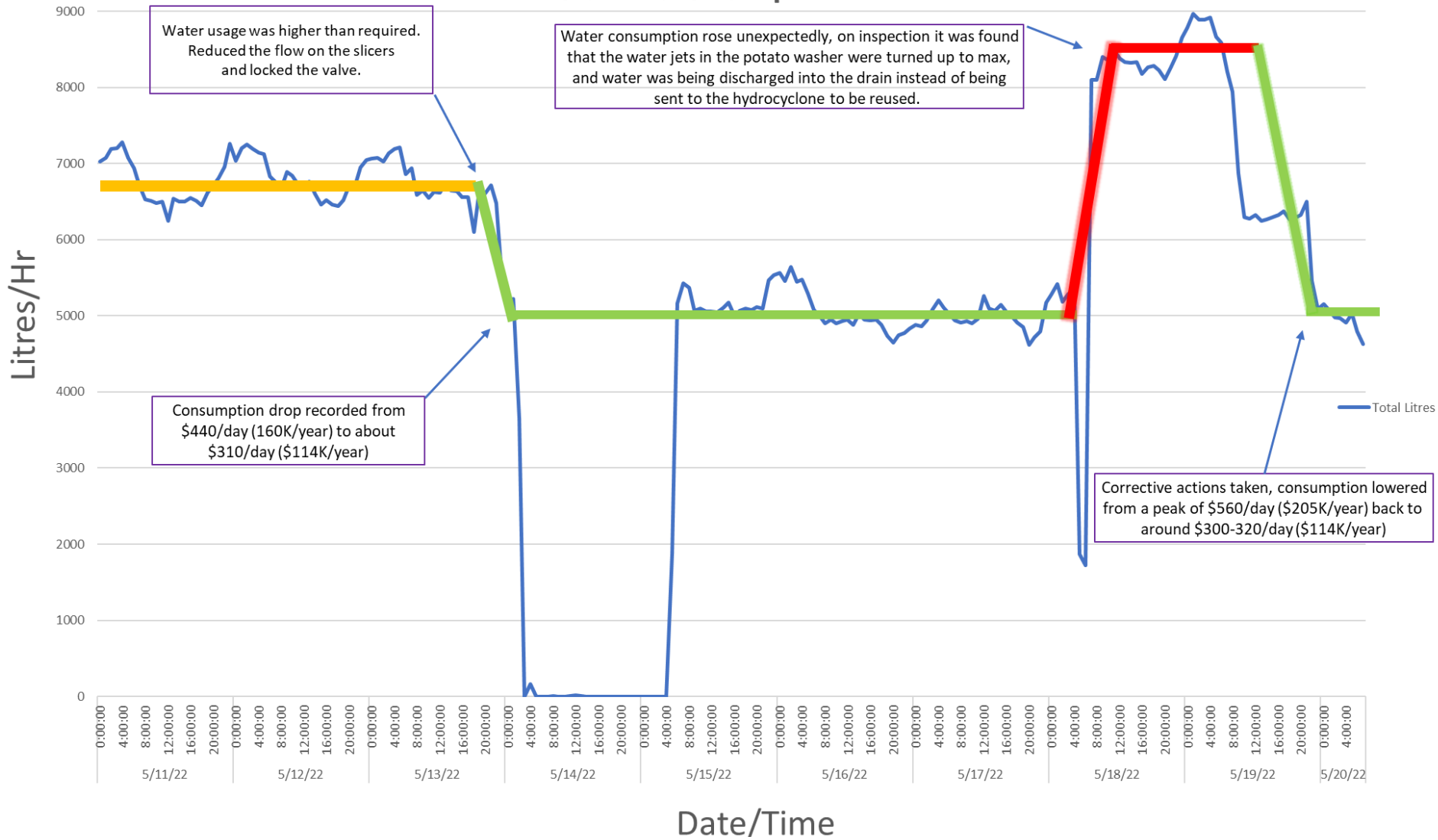
## Case study.

### Super-Pufft

- Immediate savings



### PC 26 Water Consumption



## Case study.

### Super-Pufft

#### Reuse

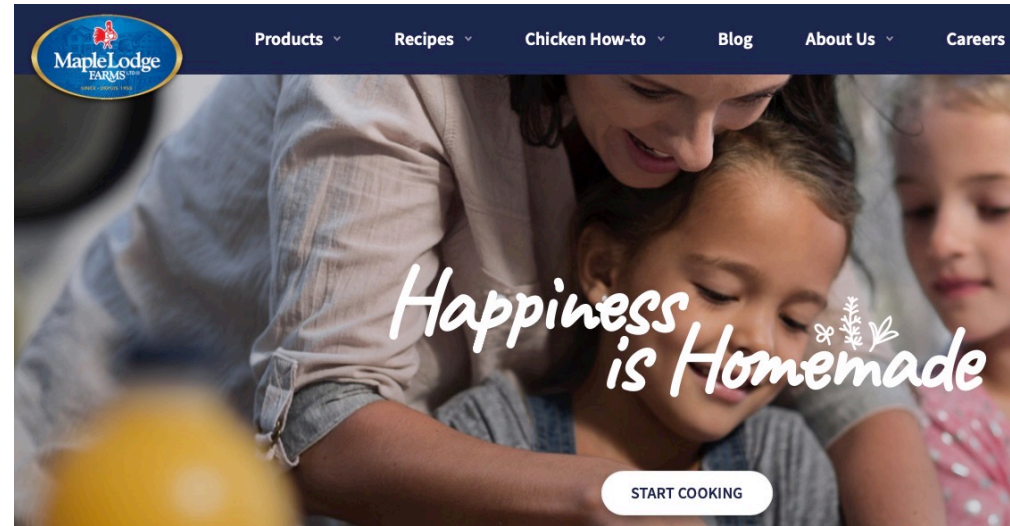
- Reuse water from centrifuge (removes starch) for first rock removal (potato washing)
- ~1/3 of water potential savings
- Piping completed, infrastructure ready



## Case study.

### Maple Lodge Farms

- Family business started in 1834 outside of Brampton
- Make a variety of chicken products



Fresh From The Farm – Bone-In Chicken Thighs – Ontario



Fresh From The Farm – Boneless, Skinless Chicken Thighs – Ontario



Fresh From The Farm – Boneless, Skinless Chicken Breasts – Ontario



Smoked Chicken Breast Roast Sliced



Cajun Chicken Breast Roast Sliced



Extra Lean Ground Chicken



## Case study.

### Maple Lodge Farms

- Measured & quantified primary water consumers:
  1. Assessed all business units
  2. Municipal water
  3. Filtered water (internally generated)



## Case study.

### Maple Lodge Farms

- 19% reduction in water
- 37% reduction in filtered water
- Implementation commenced one month from assessment
- \$3.44 million/yr total savings identified (including water)
- Average payback under 2 years



# Case study.

## Maple Lodge Farms

- Clean50 award



## A Sustainable Nest Egg

Maple Lodge Farms and Enviro-Stewards collaborate on seamless opportunity assessment & implementation for rapid savings

### Problem

- As Canada's largest chicken processor, Maple Lodge Farms needs to continuously improve to remain competitive
- Opportunity assessments are a great way to identify lucrative energy & water conservation measures; however, these recommendations often sit on the shelf for years or decades

### Solution

- Maple Lodge Farms retained Enviro-Stewards to identify water & energy conservation opportunities in each of its units (primary processing, deli, wieners, and rendering)
- The contract also included engineering services to fast track project implementation

### Results

- In December 2017, Enviro-Stewards completed the opportunity assessments of each business unit at Maple Lodge Farms' Mississauga facility. The study found opportunity to save:
  - \$3.44 million/yr with under 2-year payback
  - 6,735 tonnes/yr of GHG
- The very next month (January 2018) an Assess, Implement, Monitor (AIM team) composed of Maple Lodge and Enviro-Stewards staff commenced implementation tasked with implementing 100% of the measures over 3 years
- Since January 2018, 6 conservation projects have been implemented with savings of \$65,000/year and 35 tonnes/yr GHG reduction (payback of 28 days)
- Other projects being implemented in 2018 are expected to result in savings of \$775,000/year and 400 tonnes/year of GHG emissions

ENVIRO-STEWARDS



engineering  
change

# Case study.

## Maple Lodge Farms



**Clean50**  
Outstanding Contributors to Clean Capitalism

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### Maple Lodge Farms & Enviro-Stewards: Conservation Assessment in the Poultry Industry

**Projects Sponsor**

The logo for Delta Management, featuring a stylized mountain peak and the text "DELTA MANAGEMENT".

*Corporate Sustainability & Clean Tech Search*

Delta Management Group is the leading sustainability, ESG and clean tech focused search firm in Canada. Delta is proud to have founded the Canada's Clean50 Award program, and has been the primary sponsor for the past 10 years.

Engaging the services of a consultant can seem like a risky investment for a business. Paying for ideas is seldom an attractive prospect, especially when there are nuts and bolts projects calling out for cash. However, as the example set by Enviro-Stewards and Maple Lodge Farms demonstrates, investing in the right ideas, and seeing them through to fruition, can provide significant returns. In the case of a conservation assessment those returns can leave a company with more funds for nuts and bolts and a stake in the world's sustainable future.

Maple Lodge Farms learned about Enviro-Stewards' work in the poultry industry and reached out to them about pursuing a conservation assessment. Lowering operating costs, improving profitability, and reducing Maple Lodge's environmental impact were all priorities embraced by senior management. Without that kind of top level support, sustainability projects, which often require behaviour and process change, can easily stall.

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*engineering*  
*change*

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