

Tracing the Roots: Drainage Statute's Role in Ontario's Development

From Early Settlements to Modern Ontario

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January 2025

Drainage Superintendents Association of Ontario Conference



The Hidden Story of Ontario's Growth

Before Ontario could grow, its lands had to dry.



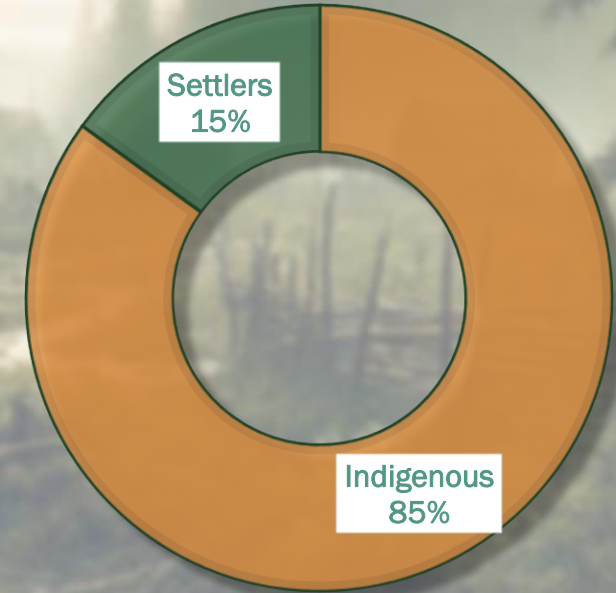
From Quebec to Upper Canada

Early Settlement Foundations



Boundaries of Quebec, 1774 (Post-Royal Proclamation)

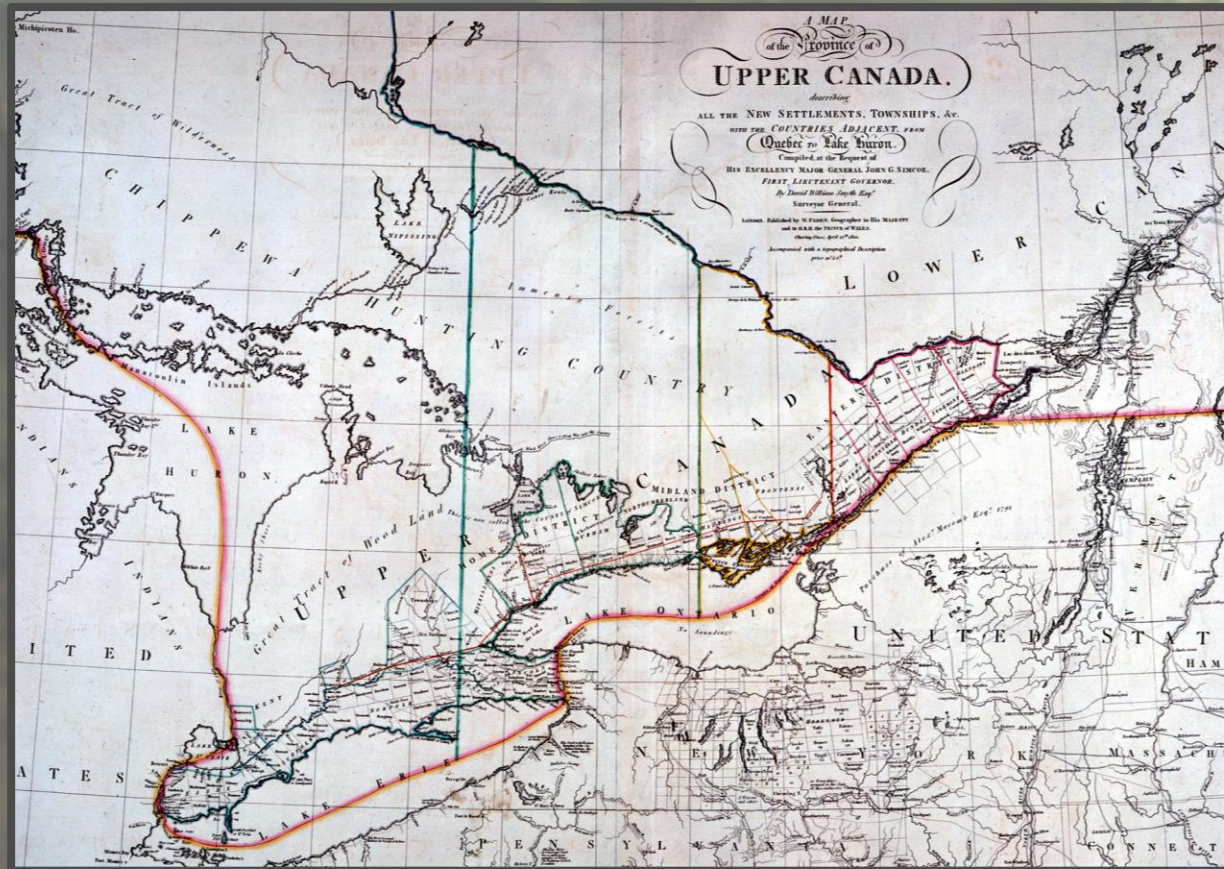
1774 DEMOGRAPHICS OF ONTARIO



Total Population: Approx.
10,000

Formation of Upper Canada: Governance Takes Shape

The Emergence of Legal and Political Foundations

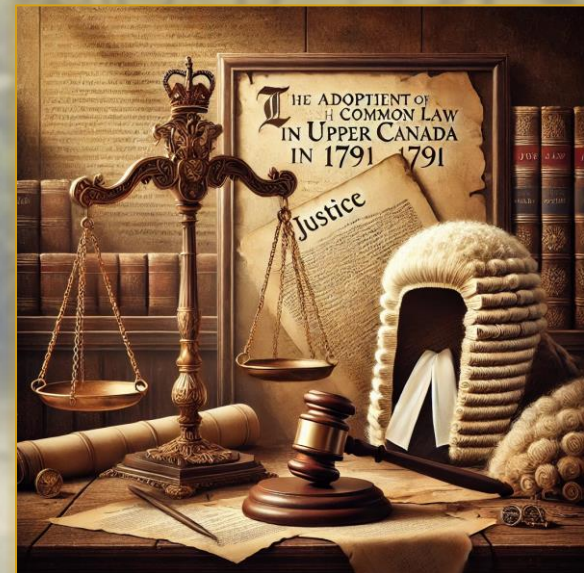


Map of Upper Canada, 1800 (Constitutional Act of 1791)



In 1791, Upper Canada was formed, to cater to the needs of British settlers.

The region adopted English Common Law, establishing property and legal rights still in use today.



Settlement Expansion: 1774–1812

Settlement Expansion in Upper Canada

1812

1790

1800

1810

1820

1830

1840

1850

1860

1870

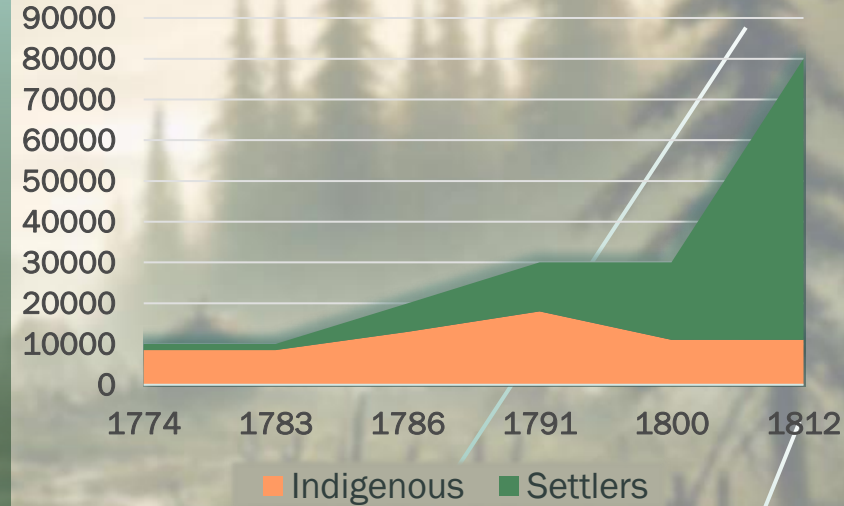
1880

1890

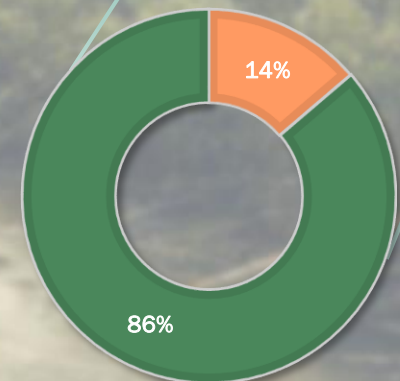
1900

Kingston 1788

Population Growth and Demographics



1812 DEMOGRAPHICS OF UPPER CANADA



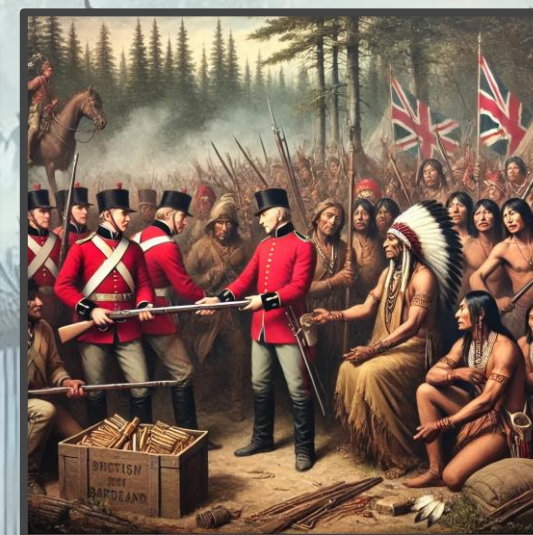
Settlement Progress, 1788 - 1812

Conflict and Transformation: The War of 1812 and Its Legacy

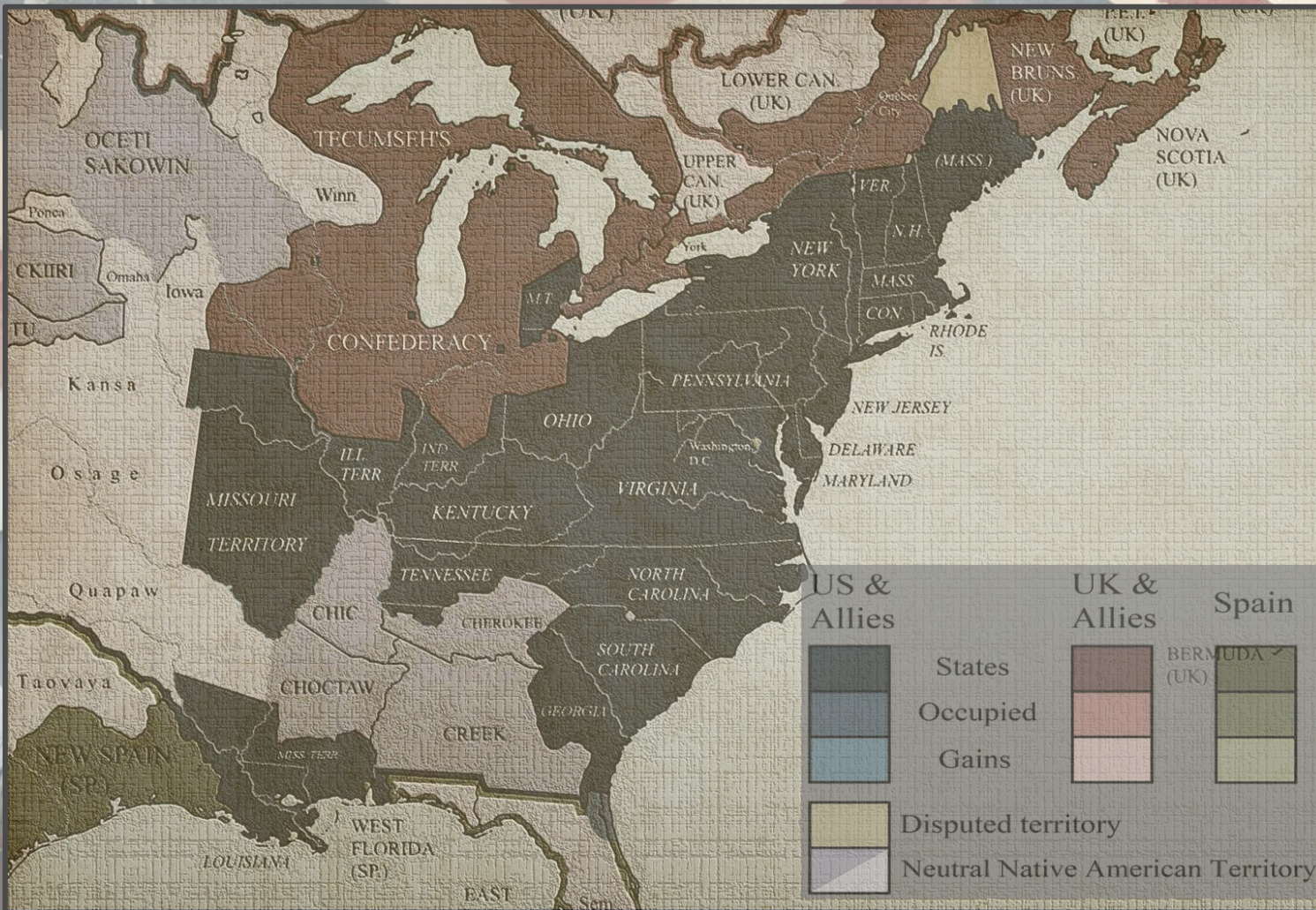


Rising Tensions: The Path to Conflict

British Naval Blockade: Cutting off American trade and supplies.



British Support: Arming Indigenous allies to resist American expansion.



America and British North America in 1812

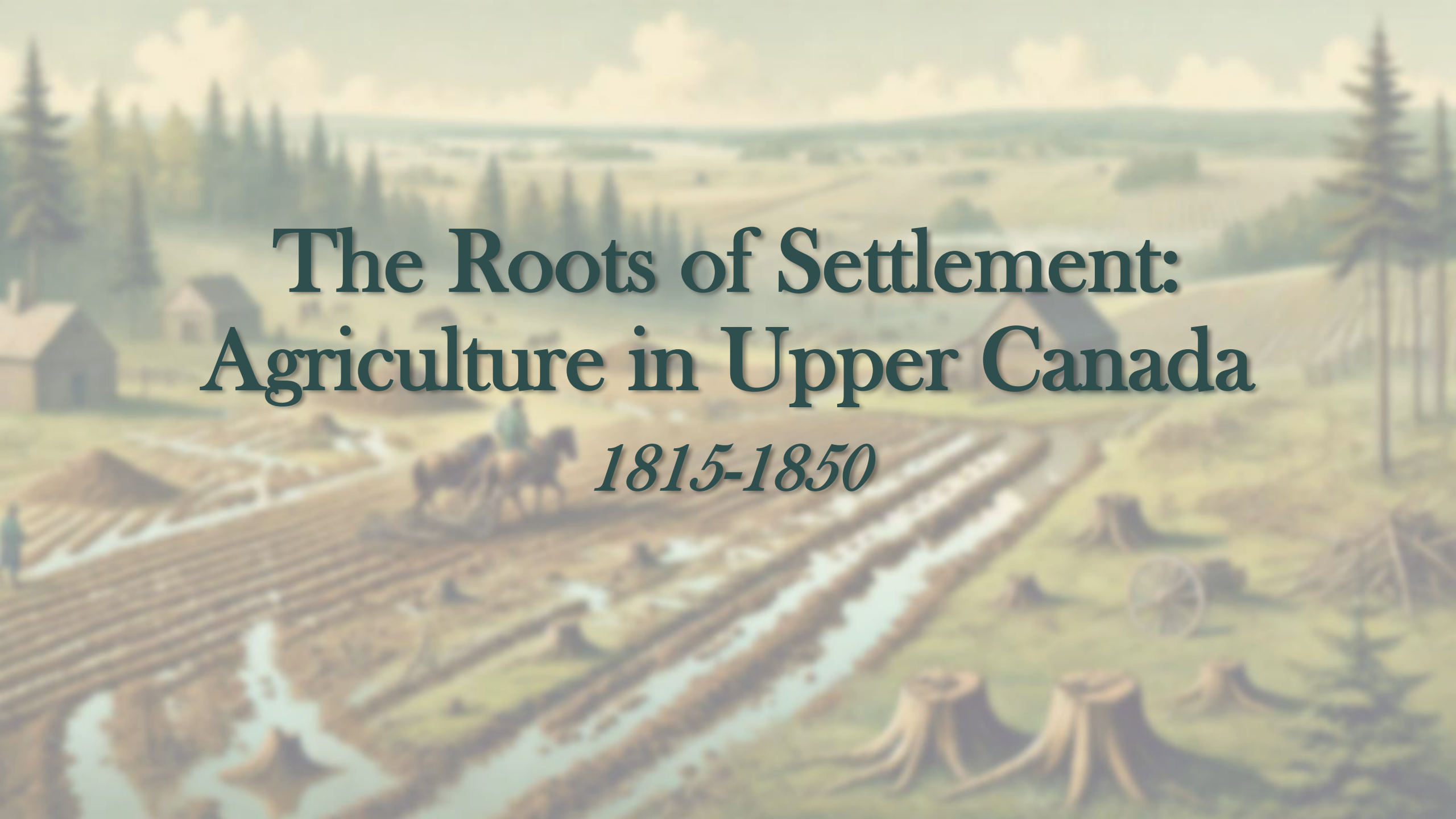
Post-War 1815: Treaty of Ghent and Its Aftermath



America and British North America in 1815

- No clear winner emerged from the War of 1812.
- Borders remained unchanged, reflecting a mutual agreement to end hostilities.
- Neither side achieved territorial or strategic goals.

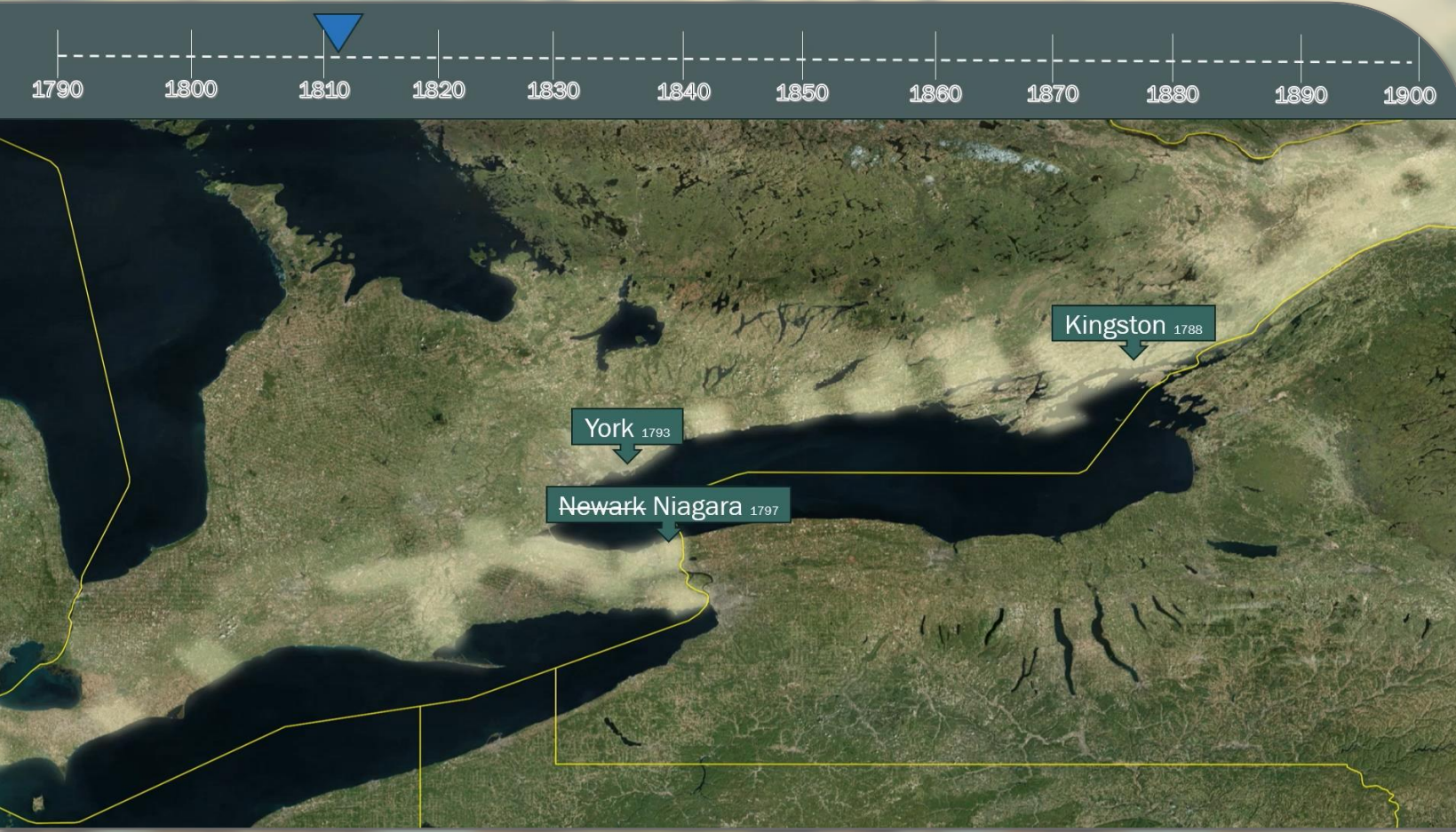
The Treaty of Ghent ended the war in a stalemate, reshaping strategies for both nations and leading to long-term consequences for Indigenous alliances.



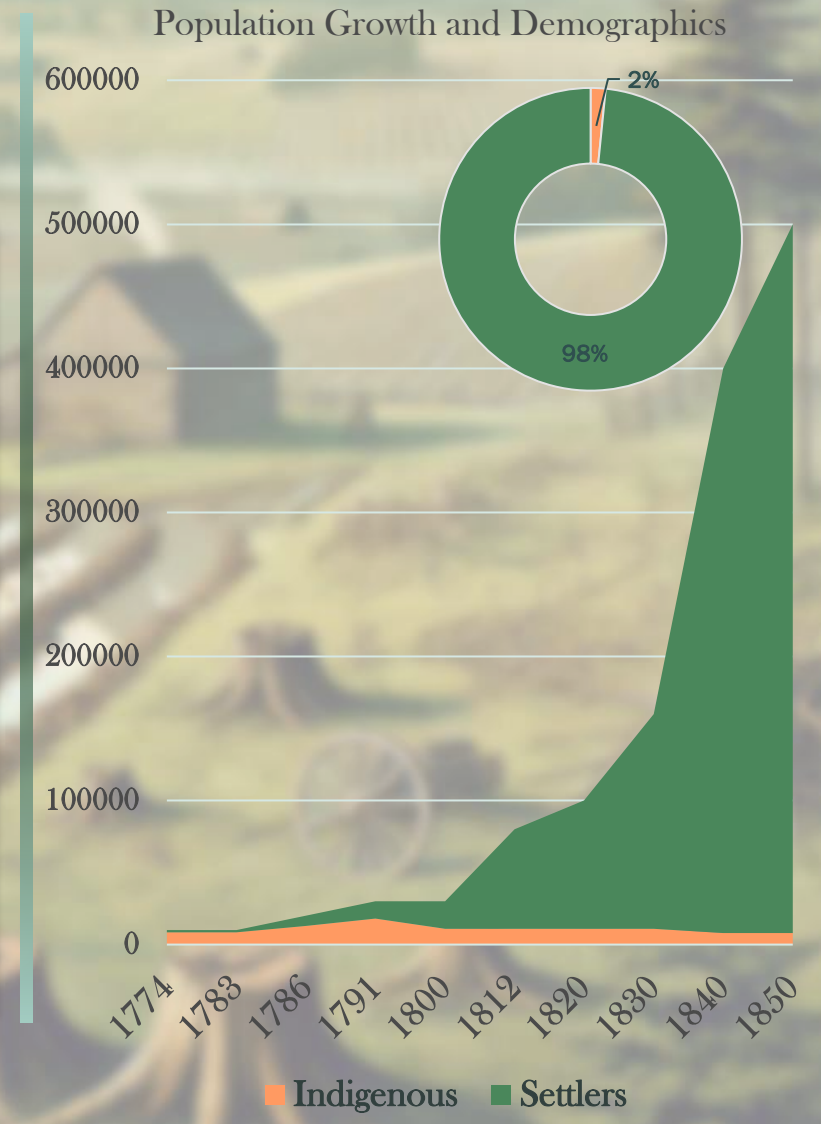
**The Roots of Settlement:
Agriculture in Upper Canada**
1815-1850

Settlement Expansion: 1812-1850

Mapping Growth and Population



Settlement Progress, 1812 - 1850



The First Steps in Drainage: The Act of 1835

The 1835 Act to Regulate Line Fences and Watercourses

Cost Recovery Mechanism:

Allowed landowners to recover costs from neighbours whose properties benefited.

Collaborative Regulation:

Enabled cooperation on shared drainage projects, addressing disputes between properties.

Legacy:

The act laid the groundwork for more comprehensive drainage laws.

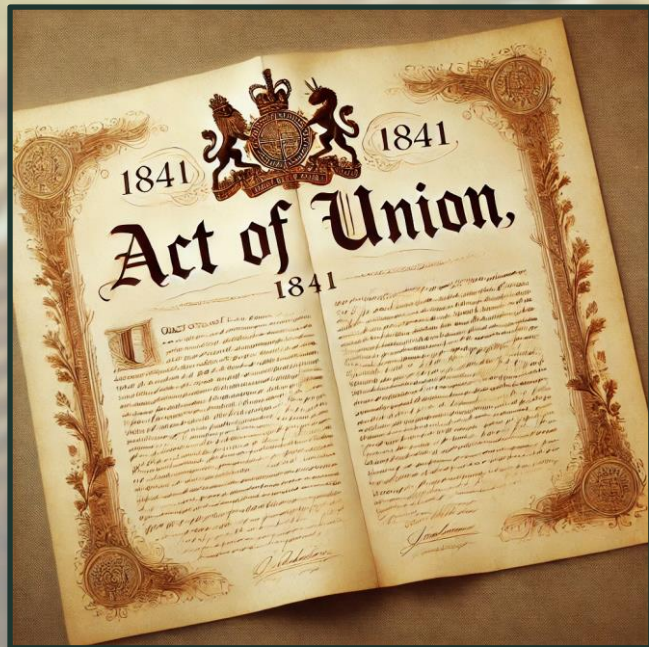
*Line Fences &
Watercourses
Act
(Originally 1835)*



1835: Manual Drainage Construction

From Upper Canada to Canada West

- In 1841, The Act of Union merged Upper and Lower Canada into one province, with shared governance.
- Upper and Lower Canada united under the **Province of Canada**. Upper Canada was renamed **Canada West**.



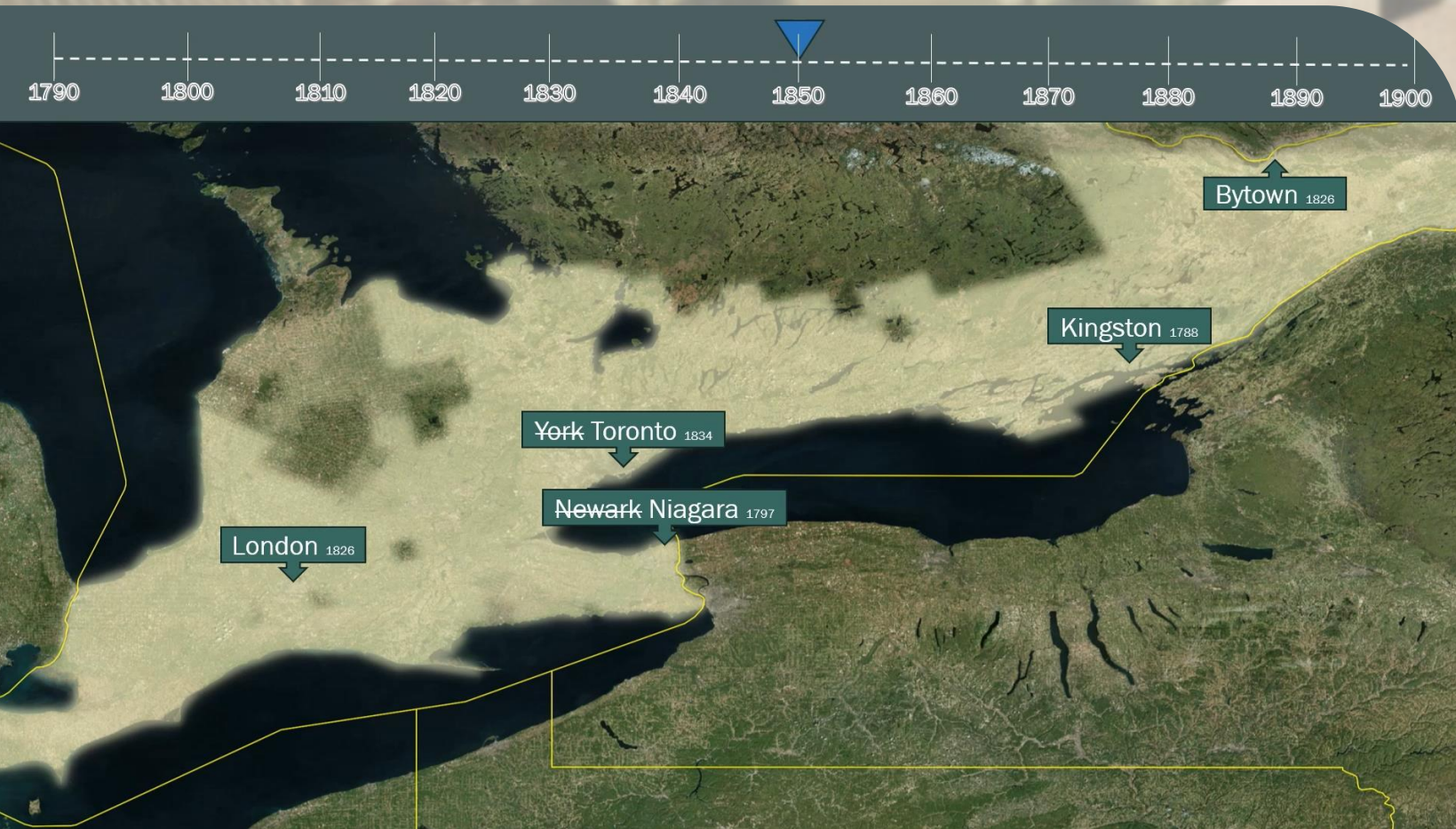


Agriculture, Infrastructure, and Growth

1850-1890

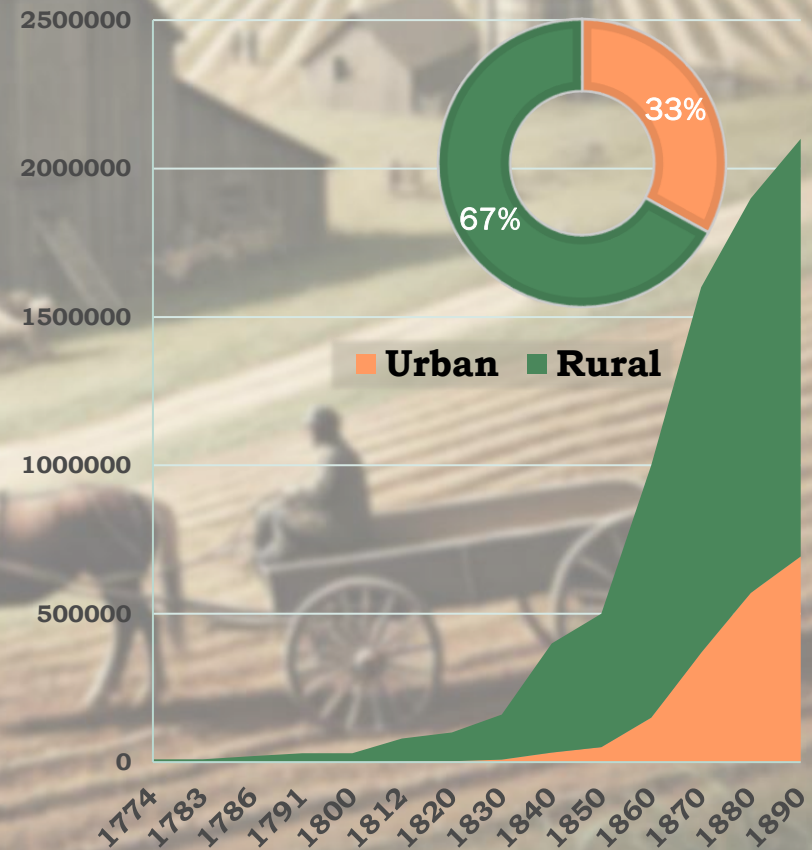
Settlement Expansion: 1850–1890

Mapping Growth and Population



Settlement Progress, 1850 - 1890

Population Growth and Demographics



Railways in Canada West

1847-1850

- Initial construction the Great Western Railway (connecting Niagara to Windsor).

1853

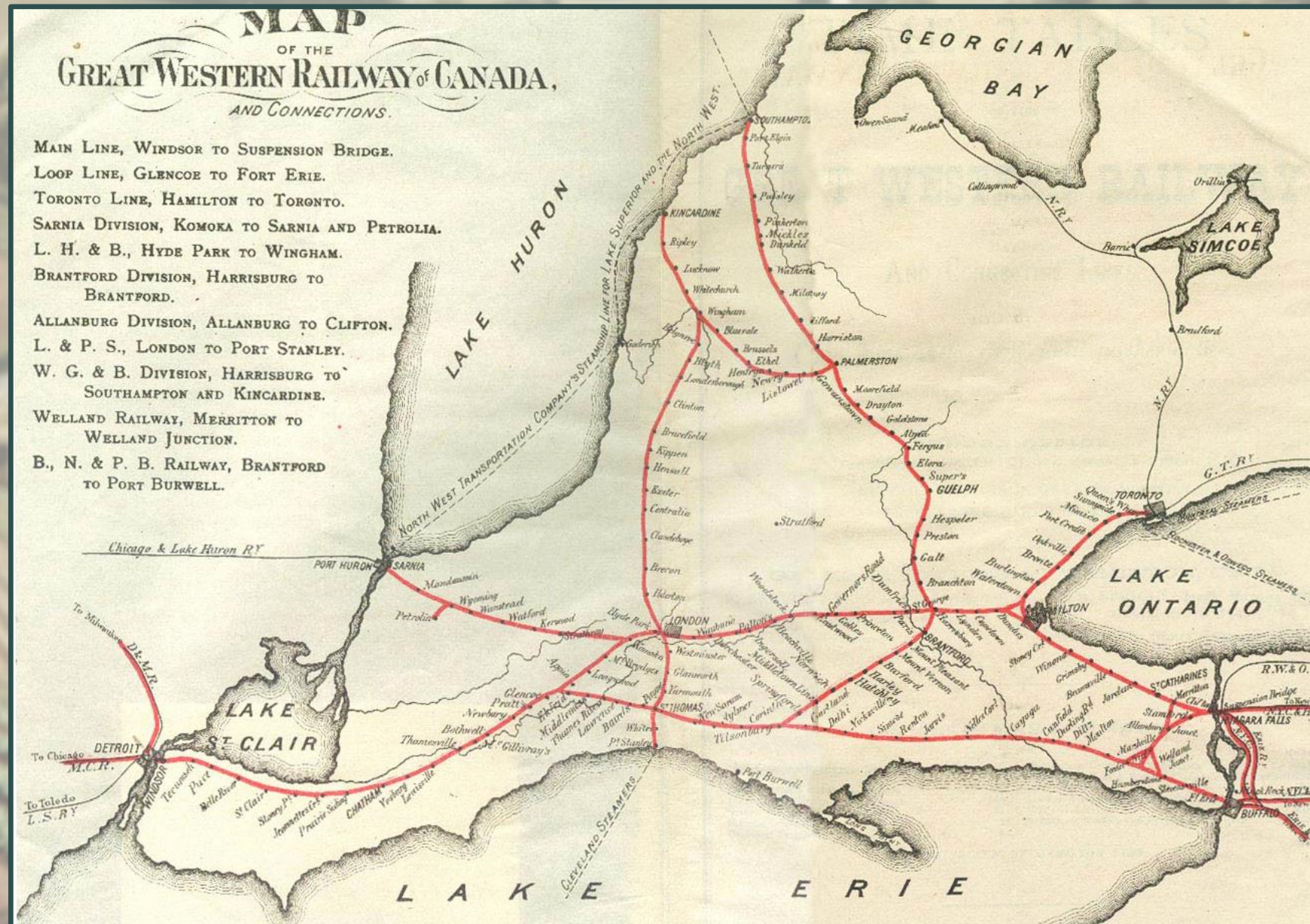
- The Great Western Railway was completed, linking trade between Canada West and the United States.

1856

- The Grand Trunk Railway (GTR), connecting Toronto and Montreal

1867

- GTR had become the largest railroad system in the world. It connected locations between Portland, Maine to the southern areas of Quebec and Ontario.



1859: Municipal Control Begins

Municipal Institutions of Upper Canada Act (1859)



• **Municipal Governance:** Standardized Council roles and responsibilities.



• **Taxation Authority:** Enabled property taxes for local projects.



• **Infrastructure Development:** Roads, bridges, public works.



• **Public Health and Safety:** Sanitation, water management, and regulations.



• **Law Enforcement:** Local policing and by-law enforcement.



• **Market Regulation:** Oversight of fairs, markets, and trade.

• **Drainage and Land Improvement**

Municipal Institutions Act
(Originally 1859)

Process

Petition Received

- Petition from majority of resident owners



Examination Ordered

- Engineer examines area



By-Law Passed

- By-Law posted publicly



Appeals

- Appeals allowed to County Court Judge



Construction



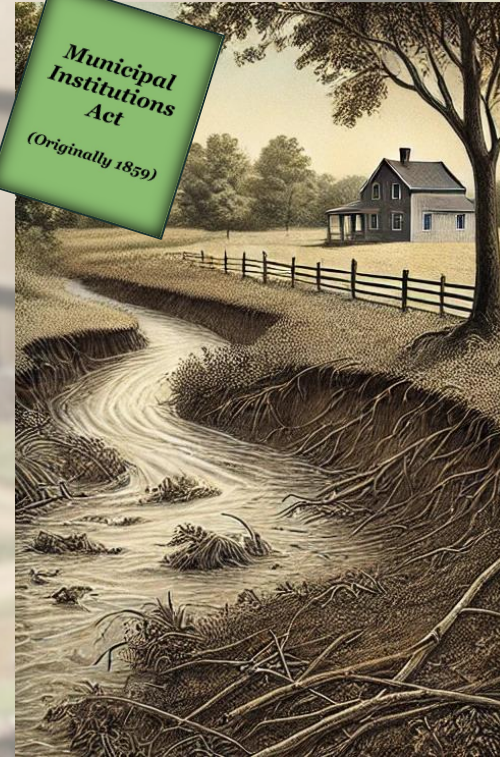
Growing Challenges: Inter-Municipal Drains and Maintenance (1866)

Addressing Coordination and Accountability

Municipal
Institutions
Act
(Originally 1859)



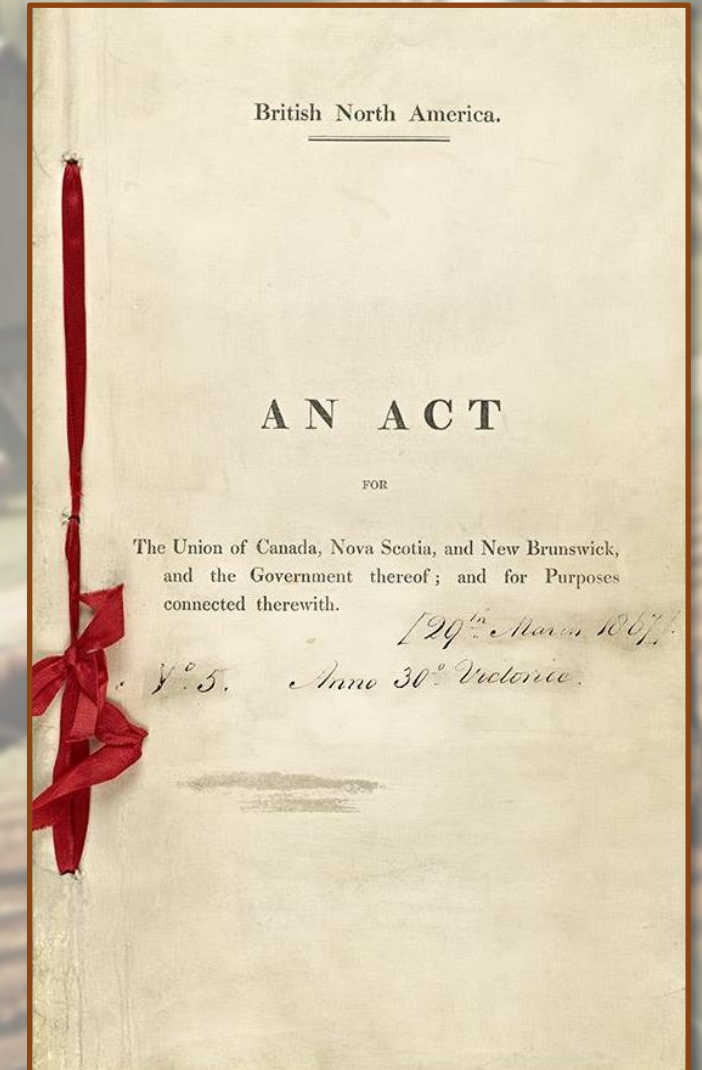
Municipal
Institutions
Act
(Originally 1859)



In 1866, amendments enabled drainage projects crossing municipal boundaries, formalizing processes for notifying neighboring municipalities and allowing appeals to arbitrators.

Municipalities were legally obligated to '**preserve, maintain, and keep the drain.**' Neglect could lead to legal consequences, including indictments and damage claims

Confederation and Ontario's Formation: The 1867 Milestone



Formation of the Dominion of Canada

- On July 1, 1867, Canada West became Ontario as part of the Confederation, joining Quebec, New Brunswick, and Nova Scotia in forming the Dominion of Canada
- Ontario's agricultural and industrial sectors expanded under a stable political framework.

Building Ontario's Drainage Framework (1868–1869)

Municipal Institutions Act (1868 & 1869)

*Municipal
Institutions
Act
(Originally 1859)*

Capabilities:

- Allowed landowners to petition for drainage improvements.
- Introduced a more formalized drainage process by requiring an **engineer's report** to guide projects.
- Enabled municipal councils to pass bylaws for drainage projects.

Changes Introduced:

- 1868: Petition criteria expanded to a majority of **residents or others** in a municipality.
- 1869: Further broadened to include **non-resident landowners** or a **majority of all owners**.



Building Ontario's Drainage Framework (1868–1869) Continued

Public Works Act (1868)

Ontario Public Works Act (Originally 1868)

Capabilities:

- Established a **provincial department of Public Works** to handle larger-scale drainage projects.
- **Allowed public authorities to initiate drainage works without waiting for landowners.**

Ownership and Maintenance:

- Drains constructed under this act were **owned by the Province** and maintained by the Crown.

Significance:

- Introduced **government-led drainage initiatives.**



Ontario Drainage Act (1869)

Ontario Drainage Act (Originally 1869)

Capabilities:

- Allocated **\$200,000 in loans** for drainage construction under the Public Works Act.
- Ensured cost-sharing among benefitted landowners using a formalized system (22-year rent charges).
- Established a process for resolving disputes through arbitrators.
- Enabled funding assistance for municipal drainage projects.
- Allowed for equitable cost distribution among **benefitted** properties.
- Formalized procedural safeguards for landowners and municipalities.

Ontario's Financial Aid for Drainage (1870's)

Ontario Drainage Act (1871)

Ontario
Drainage Act
(Originally 1869)

Capabilities:

- Allocated **\$200,000 in loans** for drainage construction under the Public Works Act.
- Ensured cost-sharing among benefitted landowners using a formalized system (22-year rent charges).
- Established a process for resolving disputes through arbitrators.
- Enabled funding assistance for municipal drainage projects.
- Allowed for equitable cost distribution among benefitted properties.
- Formalized procedural safeguards for landowners and municipalities.

Changes Introduced:

- Allowed drainage works initiated by a **valid petition** of under the **Municipal Institutions Act** to qualify for financial aid.

Ontario Municipal Drainage Aid Act (1871)

Ontario
Municipal
Drainage Aid
Act
(Originally 1871)

Capabilities:

- Enabled drainage reports prepared under the **Municipal Institutions Act** to **receive financial aid** from surplus government funds.
- Required submission of drainage report to the **Public Works Commissioner** for review and approval.



Ontario's Financial Aid for Drainage (1870's)

Ditches and Watercourses Act (1874)

*Ditches &
Watercourses
Act*
(Originally 1874)

Capabilities:

- Applied specifically to **individuals and small groups of landowners**.
- Allowed for the appointment of an Ontario Land Surveyor (OLS) to assist Fence Viewers.

Changes Introduced:

- **Lined Fences and Watercourses Act**

*Line Fences &
Watercourses
Act*
(Originally 1835)

REPEALED
1874

Municipal Institutions Act (1877)

*Municipal
Institutions
Act*
(Originally 1859)

Capabilities:

- Allowed landowners to petition for drainage improvements.
- More formalized drainage process by requiring an **engineer's report** to guide projects.
- Enabled municipal councils to pass bylaws for drainage projects.

Changes Introduced:

- Introduced a requirement for **two-thirds of landowners to sign petitions** for projects requiring **banking, pumping, or mechanical operations**.
- 1879 debuted the **Trial of Complaints** (Today's Court of Revision)

A Summary of Ontario's Drainage Statute in 1870's

*Line Fences &
Watercourses
Act*

REPEALED

1874
(Originally 1835)

*Municipal
Institutions
Act*

(Originally 1859)

*Ontario Public
Works Act*

(Originally 1868)

*Ontario
Drainage Act*

(Originally 1869)

REPEALED

1873

*Ontario
Municipal
Drainage Aid
Act*

(Originally 1871)

*Ditches &
Watercourses
Act*

(Originally 1874)

*Ontario Tile
Drainage Act*

(Originally 1878)

Drain Management, Dispute Resolution and Engineer Oversight (1880's)

Municipal Institutions Act (1882)

Municipal
Institutions
Act
(Originally 1859)

Capabilities:

- Allowed landowners to petition for drainage improvements.
 - requirement for two-thirds of landowners to sign petitions for projects requiring banking, pumping, or mechanical operations.
- More formalized drainage process by requiring an **engineer's report** to guide projects.
- Enabled municipal councils to pass bylaws for drainage projects.

Changes Introduced:

- **Improvements** to existing drains were now permissible.
- **County Council** gained authority to initiate projects crossing multiple municipalities upon request.
- Expenses for **arbitration and by-law publication** were **included in project costs**.

Ditches and Watercourses Act (1883)

Ditches &
Watercourses
Act
(Originally 1874)

Capabilities:

- Applied specifically to **individuals**, and not intended public or local rights or liabilities.

Changes Introduced:

- Introduction of **On-Site Meetings**:
 - Mandatory initial meeting set by the municipal clerk for parties to resolve drainage issues.
 - If unresolved, a second meeting was convened with an **engineer** present to **mediate and allocate responsibilities**.
- Role of the **Engineer**:
 - Heard evidence and could compel attendance of relevant landowners.
 - Made **written awards** within 30 days, determining **work allocation**.
- Appeals Process:
 - Awards could be contested before the **County Court Judge**.

Design and Outlet Standards (1884-1887)

Ditches and Watercourses Act (1884-1887)

*Ditches &
Watercourses
Act
(Originally 1874)*

Capabilities:

- Applied specifically to **individuals**, and not intended public or local rights or liabilities.

Changes Introduced:

- **Sufficient Outlet Requirement (1884):**
 - Drains must reach a **sufficient outlet** to prevent flooding caused by the construction of a drain.
 - At this time Sufficient Outlet could be achieved through any number of Lots.
- **Maintenance Provision (1887):**
 - Municipality could intervene if a landowner failed to maintain the drain.



*Examining the effects of an insufficient outlet
on a waterlogged field*

A Summary of Ontario's Drainage Statute in 1880's

Capital and Operations

Municipal Institutions Act

(Originally 1859)

Ontario Public Works Act

(Originally 1868)

Ditches & Watercourses Act

(Originally 1874)

Financial Aid

Ontario Municipal Drainage Aid Act

(Originally 1871)

Ontario Tile Drainage Act

(Originally 1878)

An aerial, painterly illustration of a rural farmstead. In the foreground, a river flows through a fenced-in area containing a wooden wagon, a horse-drawn plow, and a cow. The middle ground features a large, multi-story farmhouse, several smaller outbuildings, and two tall, cylindrical silos. The background shows rolling hills, fields of crops, and a winding river under a soft, hazy sky.

Rural Foundations and Industrial Growth

1890-1910

Simplifying Disputes: The Drainage Trials Act (1891)

Drainage Trials Act (1891)



- **The Drainage Trials Act (1891)** was introduced to address the high costs and inefficiencies of arbitration under drainage statutes (previously up to \$100 per day).
- **Referee Role:**
 - A barrister with at least **10 years' standing** and an officer of the High Court.
 - Could **hear appeals, make binding decisions,** and enforce judgments.
 - The referee handled appeals related to:
 - **The Municipal Aid to Drainage Act and Municipal Institutions Act,** including:
 - Disputes over **engineer reports,** and **municipal actions.**
- **Challenges:**
 - Despite its intent, the act's complexity caused confusion, slowing construction and necessitating reform.



Establishing the Office of the Drainage Referee

Rebuilding the System — 1892–1894

Municipal Drainage Act

The 1892–1893 Commission

The province appointed a **commission** to evaluate drainage laws and hear public feedback.

- The commission traveled across Ontario, gathering input from municipalities, landowners, and engineers.
- Produced a 135-page report in 1893, summarizing issues and recommendations.

Key Findings and Recommendations:

- The **Municipal Institutions Act** was **too slow** and cumbersome.
- A **Referee** should handle appeals from the Court of Revision, **removing County Judges**. - **REJECTED**
- Municipal involvement should decrease; a Board of Engineers and Agriculturalists should oversee projects. - **REJECTED**
- **Engineers' duties** needed clearer descriptions.
- Petition validity depends on the engineer's report.
- Petitioners should be allowed to withdraw early or not at all.
- Only the area in the petition should be assessed for benefits. - **REJECTED**
- Introduce clearer assessment criteria: **benefit, outlet, and injury**.
- Engineers preferred presenting only the total assessment amount, without detailing the breakdown by benefit, outlet, and other categories. - **REJECTED**
- **More time** for appeals (extend from 5 days to 10).
- Allow by-laws to adjust assessments (up or down).

Municipal Drainage Act (1894)

**Municipal
Drainage Act**
(Originally 1894)

- **Allowed petition withdrawals at council meetings considering engineer reports.**
- Introduced **key concepts**:
 - **Benefit**: Cost tied to benefit received.
 - **Outlet Liability**: Responsibility for drainage outlets.
 - **Injury Liability**: Addressing harm caused by drains.
- Allowed for amending by-laws.
- Enabled engineers to:
 - Incorporate culverts and bridges in designs.
- Allowed for a mechanism to transitioned ditches under the Ditches and Watercourses Act into the new framework.

1899 Update:

- Definition of “owner” expanded to include **mining and manufacturing lands**.

Supporting Investment: The Provincial Drainage Aid Act (1900)

Provincial Drainage Aid Act (1900)

- Introduced **grants** from the provincial government to fund drainage projects.

What it invested in:

- **Mechanical systems like embankments and pumps** which were prohibitively expensive.
- Aided drainage construction of **major trunk channels**.

Impact:

- Grants covered up to **20% of eligible costs**.



*Financial Grants Supporting Rural Progress
in Early 20th Century Ontario*

A Summary of Ontario's Drainage Statute from 1890 – 1900

Ditches & Watercourses Act

(Originally 1874)

Municipal Institutions Act

(Originally 1859)

REPEALED
1894

Ontario Public Works Act

(Originally 1868)

REPEALED

Ontario Municipal Drainage Aid Act

(Originally 1871)

Ontario Tile Drainage Act

(Originally 1878)

Ontario Drainage Trusts Act

(Originally 1891)

REPEALED
1894

Municipal Drainage Act

(Originally 1894)

Tile, Stone and Timber Drainage Act

(Originally 1897)

Provincial Aid to Drainage Act

(Originally 1900)

Professionalism in Question (1903 – 1910)

Municipal Drainage Act (1903)

The Tension:

- Farmers and landowners often mistrusted engineers, viewing their expertise as:
 - **Unnecessary:** Believing experienced laymen could do the job just as well.
 - **Expensive:** Professional fees were seen as too high.
 - **Prone to Errors:** Engineers' recommendations were not always correct.
- The **Ditches and Watercourses Act** allowed non-professionals to design drains.

The Experiment:

- 1903: Amendments to the Municipal Drainage Act allowed municipalities to appoint **drainage viewers** (two local residents) to:
 - Assist the engineer or Ontario Land Surveyor.
 - Resolve disputes by voting—effectively granting the engineer veto power.

The Problems:

- Engineers' recommendations were frequently overridden, leading to inefficiencies and inconsistent outcomes.

The Outcome:

- **By 1910: The drainage viewer provision was abolished, reaffirming the role of licensed engineers and surveyors.**
- The professionalization of drainage design became a cornerstone of Ontario's modern drainage statutes.

Impact:

- Highlighted the critical role of technical expertise in managing complex drainage systems.
- Emphasized the importance of maintaining professional standards to ensure long-term success.

*Municipal
Drainage Act
(Originally 1894)*



A rendering of a professional engineer and a farmer at a stalemate, symbolizing the unresolved tensions and lack of trust toward professionals.

Railways and Drainage: A Turning Point in Liability (1903)

Dominion of Canada Railway Act (1903)

Section 197 (2)

The proportion of the cost of the drain, or drainage works, across or upon the railway, to be borne by the company, shall, in all such cases, be based upon the increase of cost of such work caused by the construction and operation of the railway.



Map of Canada in 1903, featuring the Canadian Pacific Railway's transcontinental route, linking British Columbia to Eastern Canada.

A rural landscape featuring a large red barn with a white cross on its side and a tall, cylindrical silo to its right. The foreground is filled with green crops, likely corn. The background shows rolling hills under a sky with scattered white clouds.

WAR & TRANSFORMATION

1910-1950

DEFINING MOMENTS (1910–1950)

World War I
Factories pivoted to
wartime production



1920-1929

Great Depression
Widespread
unemployment



1939-1945

**Industrial
Powerhouse**



1914-1918

Roaring Twenties
Urban growth and
rising wealth



1929-1939

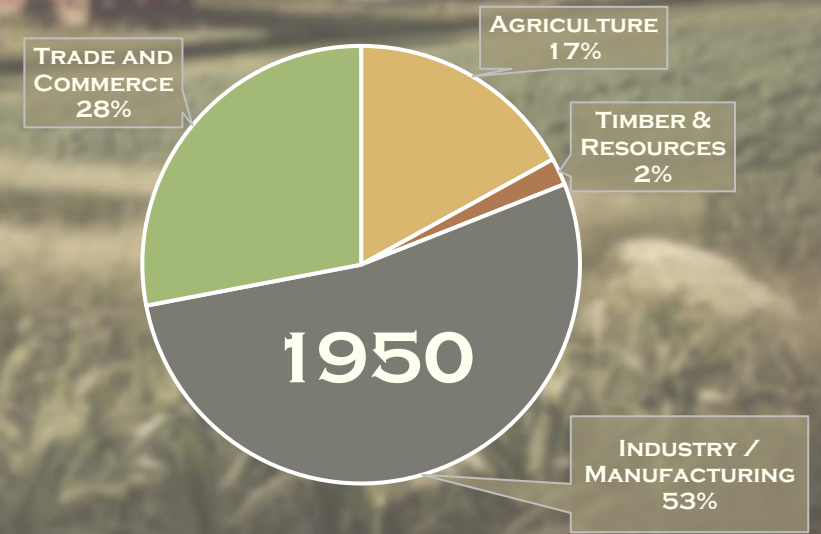
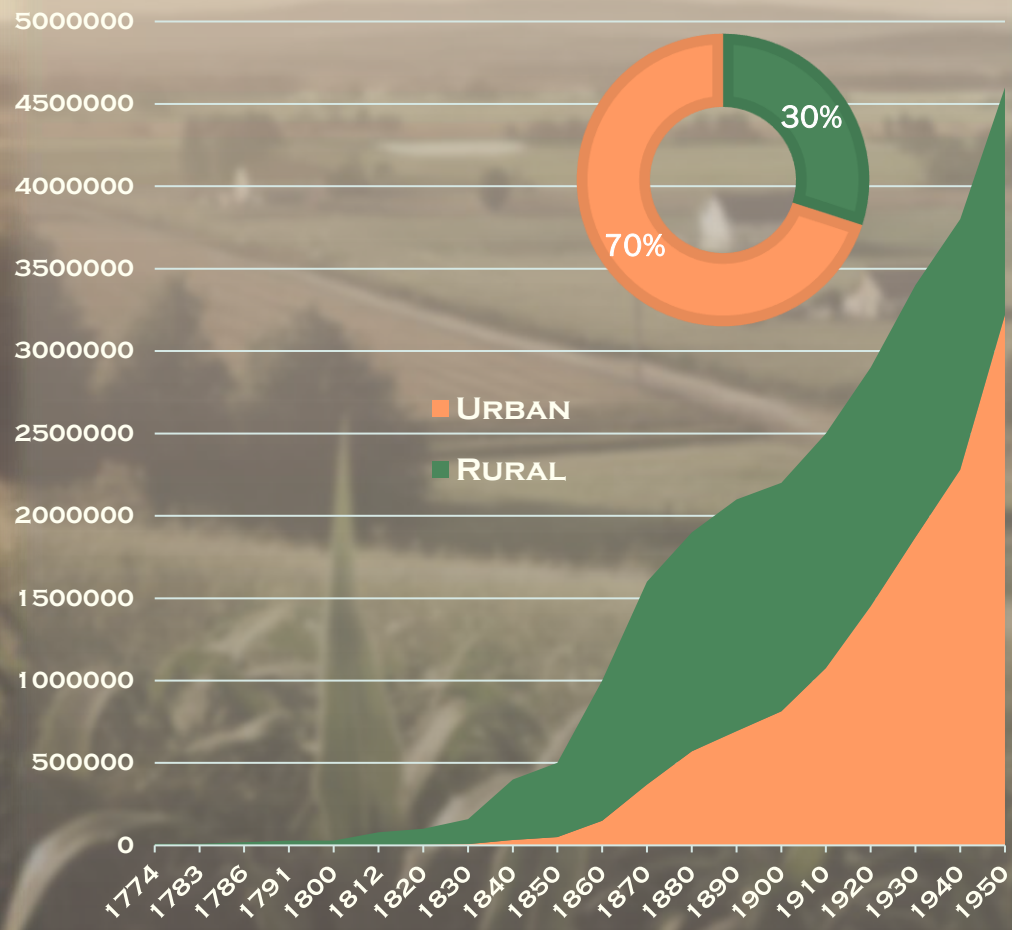
World War II
Industrial
mobilization and
economic recovery



Post 1945

FROM RURAL ROOTS TO URBAN GROWTH

POPULATION GROWTH AND DEMOGRAPHICS



PUBLIC UTILITIES HELD LIABLE: A TURNING POINT FOR DRAINAGE COSTS

MUNICIPAL DRAINAGE ACT



1920

- **SECTION 9, (14) - "IN ADDITION TO ALL OTHER SUMS LAWFULLY ASSESSED AGAINST THE PROPERTY OF ANY PUBLIC UTILITY UNDER THE PROVISIONS OF THIS ACT THE PUBLIC UTILITY SHALL ALSO BE ASSESSED FOR AND SHALL PAY ALL THE INCREASE OF COST OF THE WORK CAUSED BY THE CONSTRUCTION AND OPERATION OF THE PUBLIC UTILITY.**
- **SECTION 9, (15) THE WORDS "PUBLIC UTILITY" IN THIS ACT SHALL HAVE THE MEANING AS DEFINED IN THE ONTARIO RAILWAY AND MUNICIPAL BOARD ACT AND AMENDMENTS THERETO.**

ONTARIO RAILWAY AND MUNICIPAL BOARD (ORMB)

- **1906:** THE ORMB WAS ESTABLISHED AS THE "ONTARIO RAILWAY AND MUNICIPAL BOARD" (ORMB), WITH ITS PRIMARY PURPOSE BEING THE REGULATION OF RAILWAYS, UTILITIES, AND MUNICIPAL FINANCIAL MATTERS.
- **1932:** THE ORMB WAS RENAMED THE ONTARIO MUNICIPAL BOARD (OMB) TO REFLECT ITS EVOLVING FOCUS ON MUNICIPAL ISSUES RATHER THAN RAILWAYS.
 - **BY THIS TIME, THE OMB BEGAN ADDRESSING LAND USE PLANNING AND ZONING DISPUTES.**
- **2017:** THE OMB WAS OFFICIALLY DISSOLVED AND REPLACED BY THE LOCAL PLANNING APPEAL TRIBUNAL (LPAT).
- **2021:** THE LPAT WAS RESTRUCTURED AGAIN, BECOMING PART OF THE ONTARIO LAND TRIBUNAL (OLT), WHICH CONSOLIDATED SEVERAL ADJUDICATIVE BOARDS.

ENVIRONMENTAL CHALLENGES – FLOODS AND WATERSHED MANAGEMENT



ENVIRONMENTAL CHALLENGES – FLOODS AND WATERSHED MANAGEMENT



WATERSHED MANAGEMENT: THE RISE OF CONSERVATION AUTHORITIES

- **1946: CONSERVATION AUTHORITIES ACT ESTABLISHED TO ADDRESS WATERSHED-SCALE CHALLENGES.**
- **PURPOSE: FLOOD CONTROL, EROSION PREVENTION, AND RESOURCE RESTORATION.**

YEAR	CONSERVATION AUTHORITY
1946	AUSABLE BAYFIELD CONSERVATION AUTHORITY
1946	GANARASKA REGION CONSERVATION AUTHORITY
1947	UPPER THAMES RIVER CONSERVATION AUTHORITY
1948	GRAND RIVER CONSERVATION AUTHORITY
1949	CATFISH CREEK CONSERVATION AUTHORITY
1950	KETTLE CREEK CONSERVATION AUTHORITY
1951	LAKE SIMCOE REGION CONSERVATION AUTHORITY
1952	LONG POINT REGION CONSERVATION AUTHORITY
1954	CREDIT VALLEY CONSERVATION
1955	CENTRAL LAKE ONTARIO CONSERVATION AUTHORITY



A SUMMARY OF ONTARIO'S DRAINAGE STATUTE FROM 1910 – 1950

***Ontario
Municipal
Drainage Aid
Act***

(Originally 1871)

***Ditches &
Watercourses
Act***

(Originally 1874)

***Ontario Tile
Drainage Act***

(Originally 1878)

***Municipal
Drainage Act***

(Originally 1894)

***Provincial Aid
to Drainage
Act***

(Originally 1900)

***Interprovincial
Drainage Act***

(Originally 1932)

An aerial photograph of a rural farm landscape. A two-lane road curves through the center of the image. On the right side of the road, there is a large red barn with a grey roof and a tall, cylindrical metal silo with a blue roof. In the foreground, a red pickup truck is parked on a dirt path. The fields are divided into various sections, some with green crops and others with brown soil. The background shows rolling hills under a hazy sky.

Modern Drainage Evolves

1950-1980

Hurricane Hazel: Ontario's Deadliest Storm

On **October 15–16, 1954**, Hurricane Hazel swept through southern Ontario, bringing unprecedented rainfall and catastrophic flooding.

Rainfall: Up to 214 mm in 48 hours in some areas.

Impact:

- **Fatalities: 81 lives lost.**
- **Displacement: Over 4,000 families were left homeless** in Ontario as a result of severe flooding and property destruction.
- **Financial Damage:** Estimated at approximately \$137 million (\$1.2 Billion – 2025)

Long-Term Impacts:

- **Floodplain Regulations:** Introduction of zoning laws to restrict construction in high-risk areas.
- **Conservation Authorities** empowered to manage watersheds comprehensively.



Toronto Neighbourhood Devastated by Hurricane Hazel, 1954

The Need for Highways

Ontario Highway 401

401 Construction Timeline:

- Began in the 1940s, expanded significantly during the 1950s and 60s.
- By the mid-1960s, Highway 401 became one of the busiest highways in North America.

Features:

- Spanned over 800 km, connecting Windsor to the Quebec border.
- Supported Ontario's manufacturing dominance, especially in automotive and steel industries.

www.thekingshighway.ca

Expanding Support: Drainage Grants (1950's)

Provincial Aid to the Drainage Act (1950)

*Provincial Aid
to Drainage
Act
(Originally 1900)*

1950:

- Grants increased to **1/3** for southern Ontario and **2/3** for northern Ontario.

1954:

- Expanded to include **any work to drain agricultural land**. (Previously restricted to trunk channels, embanking, and pumping)
- Exclusions:
 - Covered/lateral drains and drains for domestic sewage.



An agricultural drainage ditch

Simplifying the System: Consolidation of the Drainage Act

“An elaborate exercise with scissors and glue.” – Prof. Ross W. Irwin

Select Committee & Advisory Group Chaired by Prof. Ross W. Irwin

- Drainage statutes were overseen by multiple government departments, including:
 - Department of Municipal Affairs
 - Department of Agriculture
 - Department of Public Works
 - Treasury Board
- Each department played a role in **approvals, financing, and oversight**, leading to overlapping responsibilities and conflicting decisions.
- The Committee recommended consolidating the statutes to eliminate redundancies and create a more user-friendly system for municipalities, engineers, and landowners.

Ontario Drainage Act (1962-63)



Consolidated statute into:

- **Ontario Drainage Act**
- **Tile Drainage Act**
- Repealed five other drainage statute.
- Introduced:
 - Private **Mutual Agreement Drains**.
 - Requisition drains (intended to be phase out).
- Changed:
 - Petition validity based on ‘**Area Requiring Drainage**’ (formerly ‘**Benefiting Area**’)
 - Referee’s salary adjusted (for the first time ever) from \$3,500 to \$5,000 per year.

Simplifying the System: Consolidation of the Drainage Act

Ditches & Watercourses Act
REPEALED
1963
(Originally 1874)

Ontario Municipal Drainage Act
REPEALED
1963
(Originally 1871)

Ontario Tile Drainage Act
(Originally 1878)

Municipal Drainage Act
REPEALED
1963
(Originally 1894)

Provincial Aid to Drainage Act
REPEALED
1963
(Originally 1900)

Interprovincial Drainage Act
REPEALED
1963
(Originally 1932)

Ontario Drainage Act
(Originally 1962-63)

1968: Exclusion of Grants for Government Lands

Ontario Drainage Act (1968)

Ontario
Drainage Act
(Originally 1962-63)

Grants no longer available for drainage work on lands owned by:

- **Canada**
- **The Province of Ontario**
- **Municipalities**



Federal, Provincial, and Municipal-owned land designated as non-grantable.

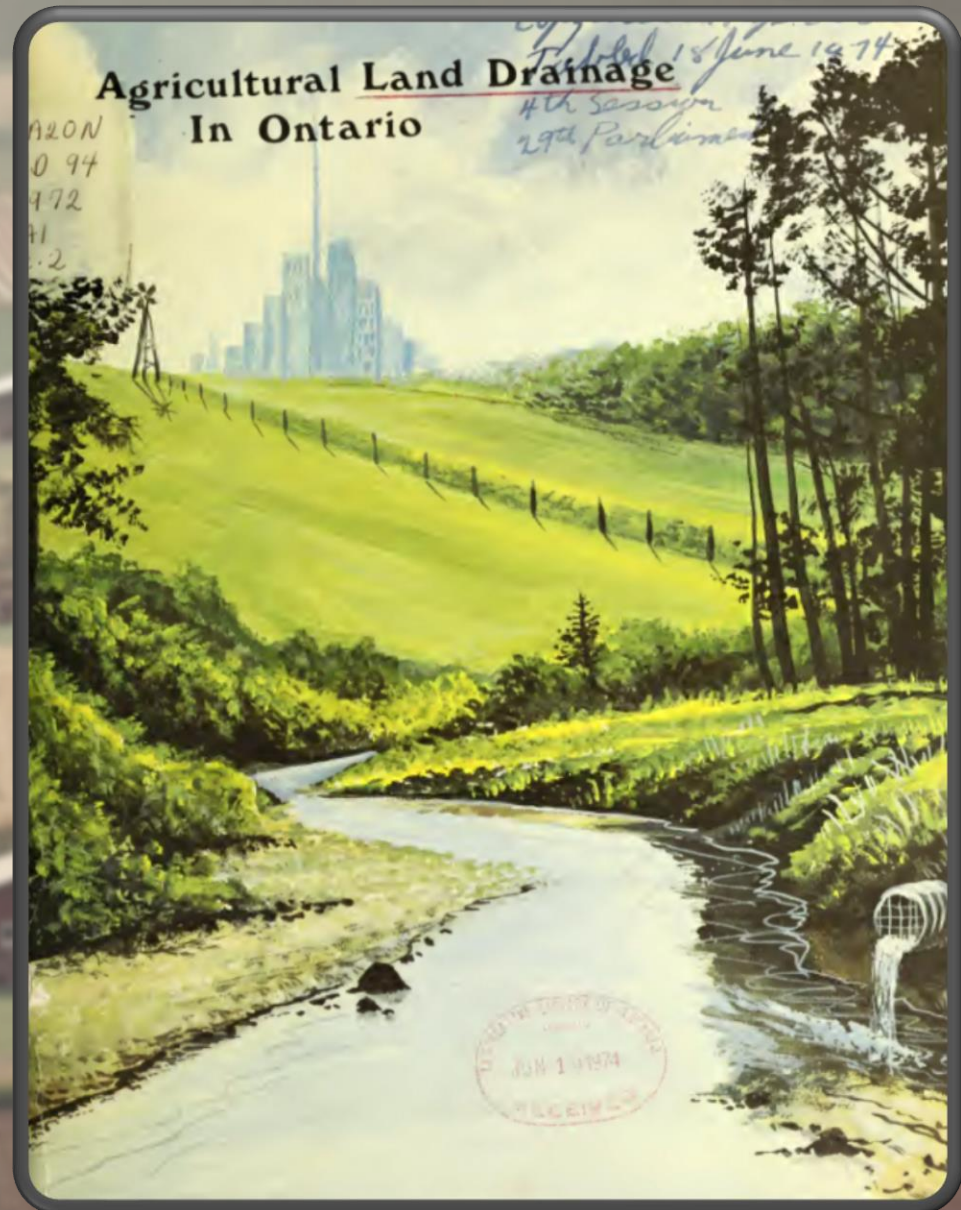
1974 Select Committee on Land Drainage

Objective:

- Address inefficiencies and gaps in the existing drainage statutes.
- Streamline procedures for landowners, municipalities, and engineers.

Focus Areas:

- **Improving petition processes** to ensure fairness and sufficiency.
- Incorporating **environmental considerations**.
- Strengthening roles and responsibilities for engineers and introducing **Drainage Superintendents** and the **Tribunal**.



1975 Drainage Act: A Landmark in Modern Drainage Statute

Drainage Act (1975)



- **Tribunal Established**
- **Petition Reforms:**
 - Criteria for a valid petition better defined.
 - Engineer to determine Area Requiring Drainage and petition validity.
- Definition of Public Utility extended to include railways.
- Conservation Authority notification requirements.
- **Environmental Appraisals:**
 - Paid for by the requestor.

Drainage Act (1975)



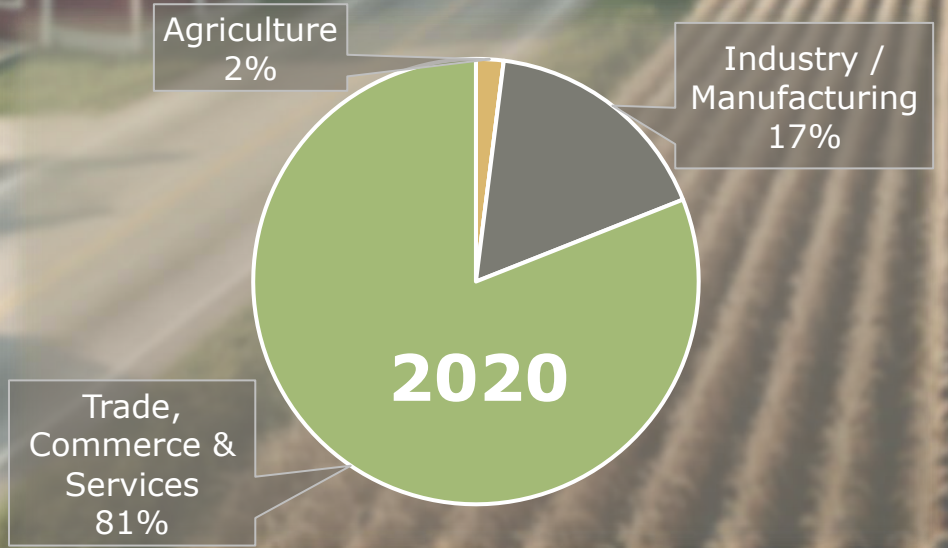
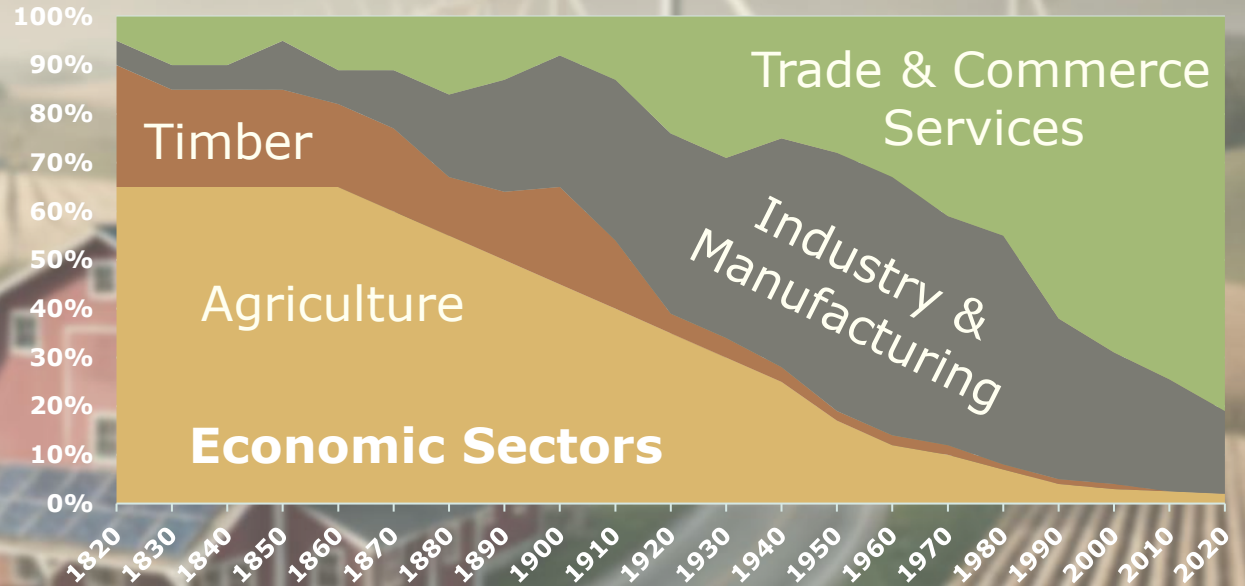
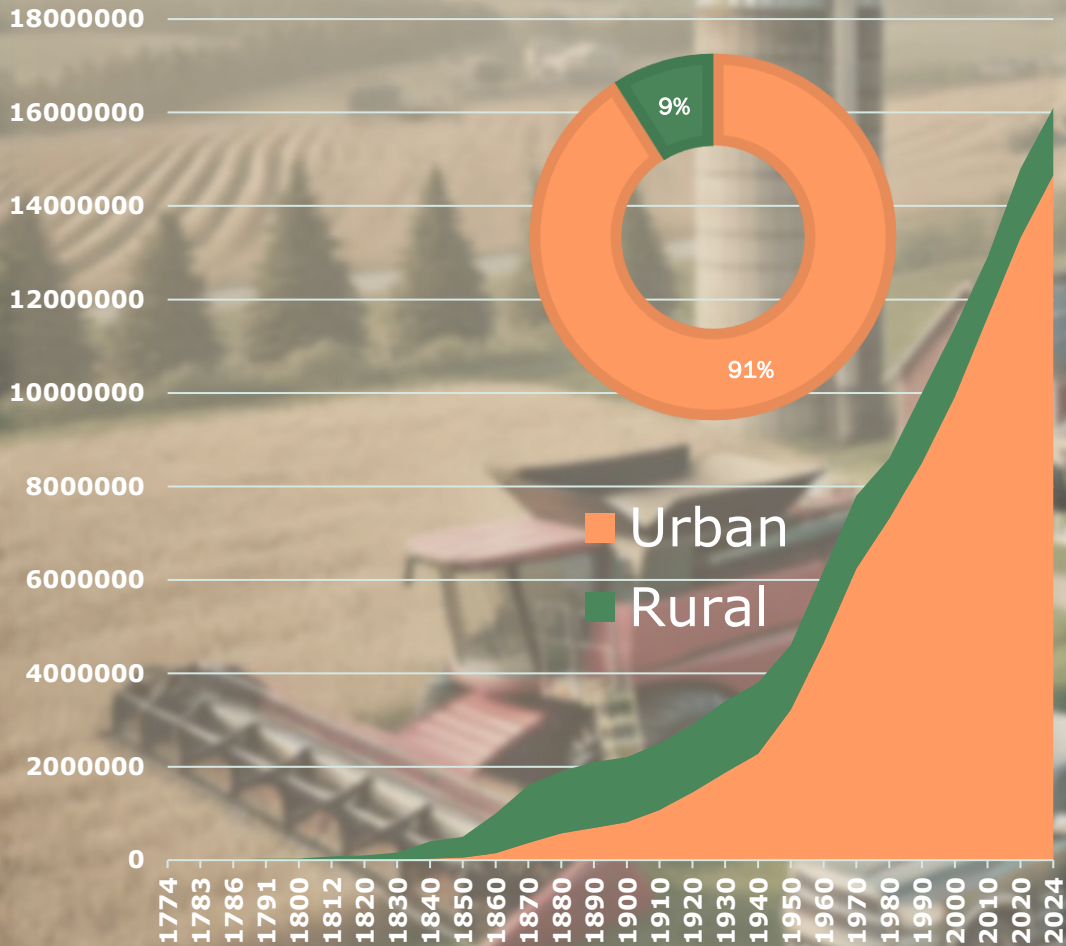
- **Engineering Reports:**
 - Engineers could recommend abandonment of a drain.
- **Special Benefit Assessment introduced.**
- **Petitioners could withdraw if costs exceeded 133%.**
- **Commissioners for Pump Systems**
- **Established Drain Superintendents:**
 - Gained powers to enter lands and manage projects.
 - Eligible for a 50% grant for duties.



Sustainability and Climate Change 1980-2025

Population Growth and Economic Shifts

Population Growth and Demographics



Evolution of Stormwater Management Regulations

1980's Pre- and Post-Development Flow Controls:

- The late 1980s and early 1990s, SWMF became recognized as necessary infrastructure.
- SWMF were increasingly required to obtain CofAs under the EPA.

2003 – Stormwater Management Planning and Design Manual:

- the **Ministry of the Environment**, provides guidance for planning, designing, and operating stormwater management systems.

Transition to Environmental Compliance Approvals (ECAs):

- On **October 31, 2011**, amendments to the EPA and OWRA replaced Certificates of Approval with Environmental Compliance Approvals.

2010's – Low Impact Development (LID)



Stormwater management pond in a residential area

Municipal Amalgamation: Transforming Rural Governance

Pre-1996 (Before Amalgamation):

- **Over 800 lower-tier municipalities**

1996:

- The process began with the provincial government initiating discussions on amalgamation.

1998:

- Major urban and suburban amalgamations occur.

1999–2001:

- **Rural municipalities** undergo widespread amalgamation.

2001 (After Amalgamation):

- 444 municipalities.
 - **173 Single Tier**
 - **241 Lower Tier**



Climate Change: Recognition and Urgency

1996 – Saguenay Flood

- **\$1.5 billion** in damages, one of Canada's earliest large-scale floods linked to extreme rainfall.

2005 – Toronto Flood

- Severe rain overwhelmed stormwater systems, with insured losses exceeding **\$500 million**.

2013 – Calgary Bow River Flood

- **\$6 billion** in damages, the most costly natural disaster in Canada at the time.

2013 – Toronto Flood

- **\$1 billion** in damages from just 2 hours of rain, flooding highways and subway systems.

2016 – Fort McMurray Wildfire

- **\$9 billion** in damages, highlighting the impact of prolonged heat and drought on forests.

2018 – Ottawa-Gatineau Tornadoes

- Multiple tornadoes caused destruction, with damages in the **hundreds of millions**.

2023 – Toronto Floods

- Severe storms caused major damage to infrastructure

2024 – Dual Toronto Floods

- Two back-to-back floods caused unprecedented damages to property, transit systems, and municipal infrastructure.



Fort McMurray Wildfire - 2016

Key Updates in the 1980s and 2010s

Drainage Act (1980)

*Drainage Act
(Originally 1975)*

Defining Drainage Areas:

- Engineers required to include a description of the Area Requiring Drainage (ARD) in reports.

Switch to the Metric System

Drain Superintendent Enforcement:

- Obstructing the Drainage Superintendent became an offence.

Drainage Act (2010)

*Drainage Act
(Originally 1975)*

Repeal of Requisition Drains:

- Removed the last vestiges of the **Ditches and Watercourses Act**.

Minor Adjustments:

- Improvement projects (Section 78) also reworded into a bulleted list.
- Set a 1-year limit for report completion.

Environmental Considerations:

- Section 83 (Pollution) repealed; delegated to modern legislation.

Red Tape Reductions in the 2020s

Drainage Act (2020)

*Drainage Act
(Originally 1975)*

Regulatory Definitions:

- **O. Reg 500/21** defined **prescribed persons** for roles in drainage.

New Section 78(5):

- Added provisions for 'minor' improvement works, allowing for a more streamlined process of conditions are met.

Section 84(1):

- Updated process for amendments to an engineer's report.



Today's Drainage Statute

***Ontario Tile
Drainage Act***

(Originally 1878)

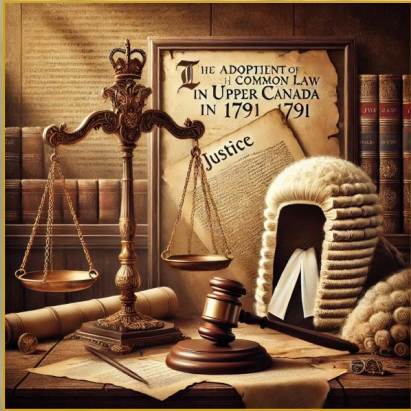
Drainage Act

(Originally 1975)

***Agricultural
Tile Drainage
Installation
Act***

(Originally 1988)

15 Acts That Helped Build Ontario



1791

Line Fences & Watercourses Act

(Originally 1835)

Municipal Institutions Act

(Originally 1859)

Ontario Public Works Act

(Originally 1868)

Ontario Drainage Act

(Originally 1869)

Ontario Tile Drainage Act

(Originally 1878)

Ontario Municipal Drainage Aid Act

(Originally 1871)

Ditches & Watercourses Act

(Originally 1874)

Ontario Drainage Trials Act

(Originally 1891)

Municipal Drainage Act

(Originally 1894)

Tile, Stone and Timber Drainage Act

(Originally 1897)

Provincial Aid to Drainage Act

(Originally 1900)

Interprovincial Drainage Act

(Originally 1932)

Ontario Drainage Act

(Originally 1962-63)

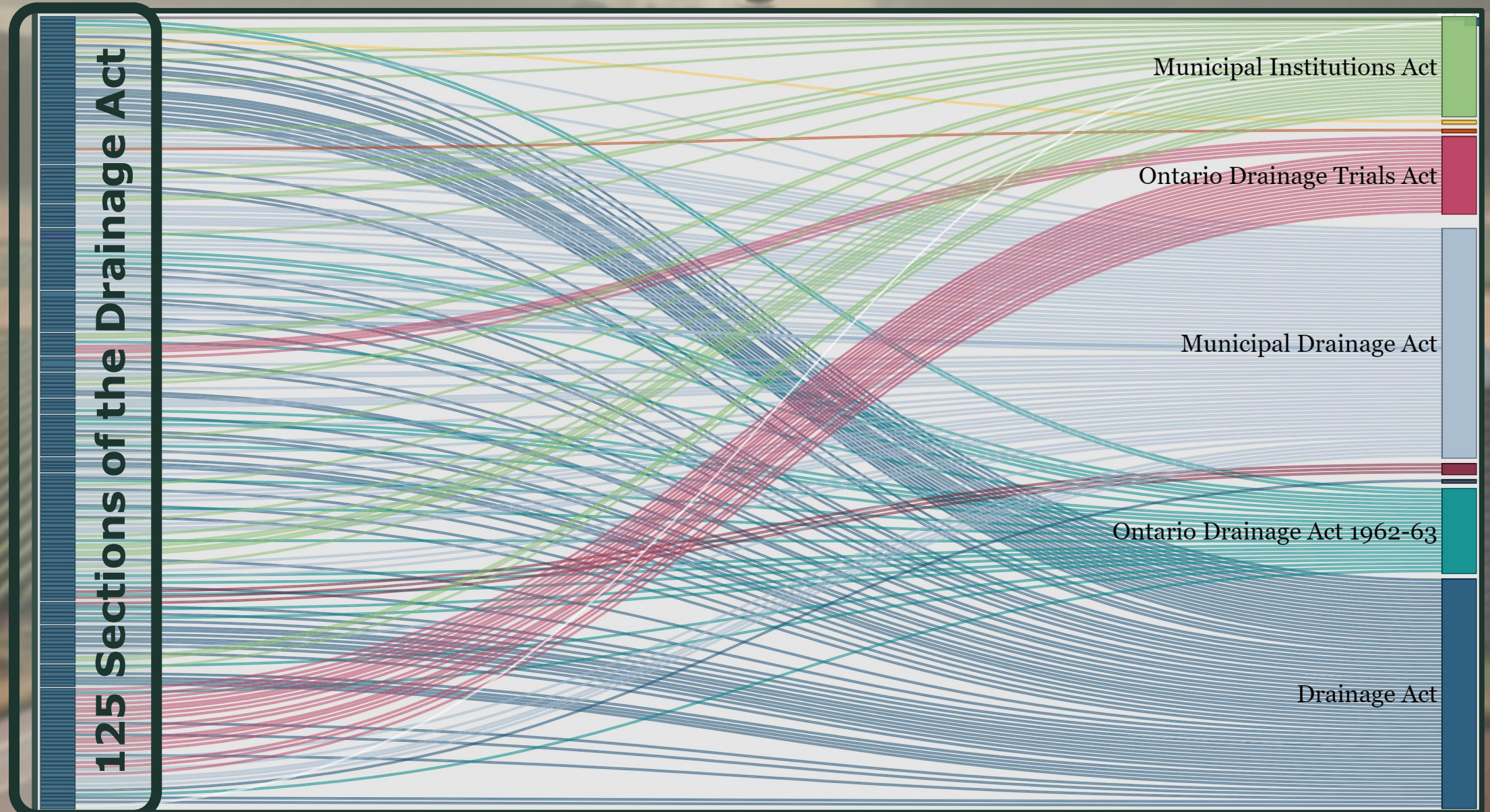
Drainage Act

(Originally 1975)

Agricultural Tile Drainage Installation Act

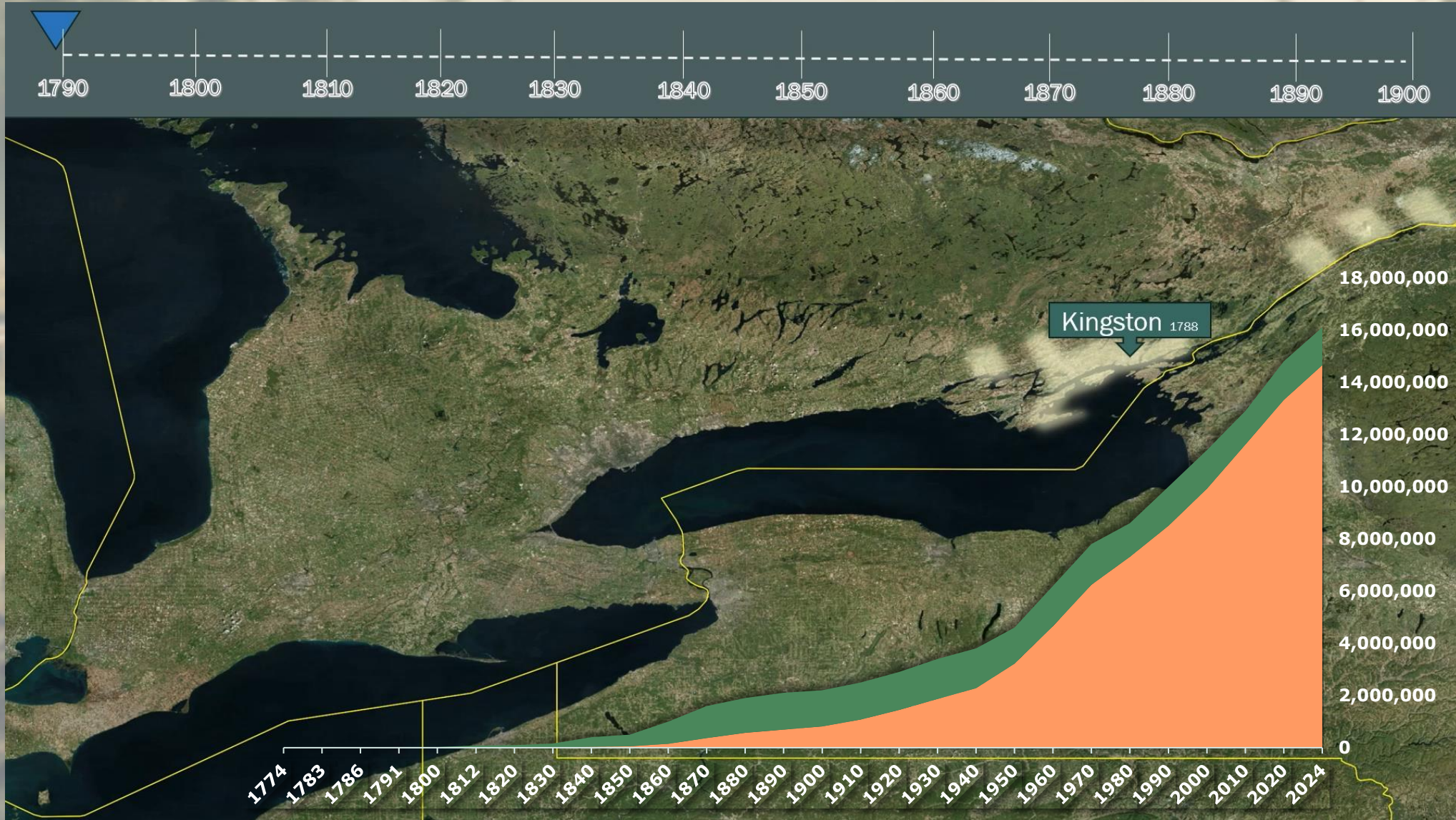
(Originally 1988)

Tracing Drainage Act Sections to Their Origins



Reflections on Ontario's Growth

From Settlements to a Prosperous Province



The Hidden Story of Ontario's Growth

Before Ontario could grow, its lands had to dry.



Tracing the Roots: Drainage Statute's Role in Ontario's Development

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Six Years in the Bush, 1838

Ontario Archives - Early Districts and Counties 1788-1899

Stephen Brickman, P.Eng

Headway Engineering

January 2025

Drainage Superintendents Association of Ontario Conference

