

The Love Canal Disaster

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Background

In 1978 a chemical leak, that would later become known as the Love Canal disaster, took the nation by storm. The Hooker Chemical Company had used a canal in Niagara Falls, New York as a chemical waste dump for eleven years before selling the land to the Niagara Falls school board in 1953. The school board had no knowledge of what was buried under the land and thought that they were getting a good deal with some sources saying that the land was purchased for as low as \$1. **(3)** By this time, the canal contained around 21,000 tons of toxic chemicals including at least 12 that were cancer causing. **(5)** The public did not become aware of the chemical dump until the late 70's when investigation and research revealed abnormalities in the local neighborhood called Love Canal. Soon after this research was conducted it was concluded that the recent blizzard had caused an increase in runoff resulting in the chemicals leaching into local backyards, basements, and playgrounds. **(6)** Love Canal residents then set out on a difficult and frustrating battle with government officials that would end up greatly benefiting the country as a whole in the long run.

Clean Up (1, 8, & 9)

- **1978-** NYSDEC installed system to collect/treat contaminated liquid
- **1981-** Fenced and covered landfill
- **1985-** 40-acre cap installed, new treatment plant built, cleanup nearby sewers and creeks
- **1986-** Cleaned out 62,000 ft of storm/sanitary sewers
- **1987-** Additional 6,000 ft cleaned
- **1988-** EPA oversaw cleanup for 93rd Street School
- **1992-** Cleanup of the school completed
- **2000-** Last shipment for final disposal of waste materials
- **2004-** Love Canal removed from Superfund list



Figure 1: EPA workers removing a barrel from Love Canal



Figure 2: Barrels of toxic waste removed from Love Canal in 1980

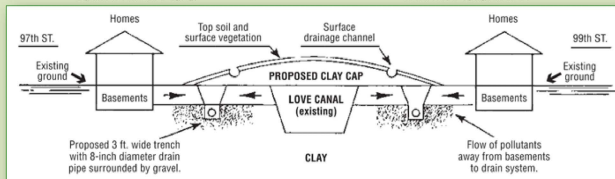


Figure 3: The 1978 proposal for collection and treatment of contaminated water leaving the canal

Legislative and Human Impact



Figure 4: Children protesting for more action and aid with the chemical leak

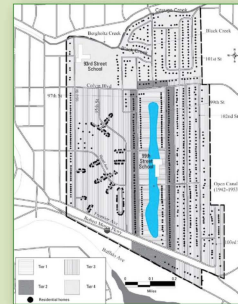


Figure 5: Map showing the leak and the surrounding residential homes

Physical Health

Like previously mentioned, the residents of Love Canal did not see an immediate response from government officials. During the early stages of the cleanup only residents closest to the canal were evacuated leaving 700 families in the affected area **(9 & 4)** Due to the delay, and the underlying spread of the leak, residents experienced

- higher rates of all birth defects **(4)**
- low white blood cell counts **(4)**
- higher rate of miscarriages **(6)**
- chemical burns **(6)**

Superfund (2)

In 1980, President Jimmy Carter signed the Comprehensive Environmental Response, Compensation & Liability Act (CERCLA), better known as Superfund. The Superfund manages the cleanup of the nation's worst hazardous waste sites and responds to local and nationally significant environmental emergencies. This is done by giving the EPA the authority to clean up contaminated sites as well as forcing the responsible party to either preform the cleanup themselves or reimburse the EPA for their cleanup work. If there is no responsible party, the superfund gives the EPA the money needed for the cleanup.

Impacts of Superfund Cleanups

- positive economic/social outcomes in communities
- many sites can be reused and become valuable local assets
- ecological restoration provides a source of income for communities
- restored areas increase local property values, tax revenues and tourism

The Love Canal Disaster prompted the creation of the Superfund and thus was the first site to be placed on the list. **(1)** Since then, the EPA's Superfund program has helped protect human health and the environment in many communities across the country.

Environmental Impacts

The compounds dumped by the Hooker Chemical Company devastated the surrounding environment, seeping upward through the soil into the backyards and basements of residents causing several problems. **(3)** These included:

- Trees and gardens turning black and dying **(3)**
- Puddles of chemicals accumulating **(3)**
- Rotten odor in the air **(1)**



Figure 6: First ring of contaminated homes



Figure 7: Large pool of contaminated toxic water

Environmental Impacts of Superfund (2)

The Superfund aids in the restoration of the environment through a process called Ecological Revitalization and includes increasing or improving habitat for plants and animals.

Ecological revitalization:

- improves soil health and supports diverse vegetation
- creates wildlife habitat and recreation opportunities
- provides environmental education



Figures 8&9: Before (left) and after (right) the chemical leak; affected homes destroyed replaced now by open fields

Hundreds of communities have reclaimed formerly contaminated Superfund sites for protective reuses. Across the country, these areas are seeing new life as places of recreation, commerce, housing, and agriculture.

References

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