

Sierra Club Michigan

America's Farmland: From Heartland to Wasteland
MDP Rural Summit 2024



From Toilet to Table

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1. **PFAS in Agriculture**
 - a. State impacts - MI and beyond
 - b. WWTP sludge
 - c. Legacy contamination: EOLC, paper mills
2. **CAFO Manure gas**
 - a. Not a bridge fuel, methane lock-in
 - b. Windfall for big oil: not a win-win
3. **State Legislative Solutions**
 - a. PFAS bill package
 - b. Strip Dairy CAFO subsidies in the LCFS, properly incentivize electrification (not ethanol).
 - c. Sno-fro ban
 - d. Revisit the BU3 program



Solid “material” settled
from wastewater system

100s of persistent
chemicals, drugs,
detected—also bacteria &
viruses.

No good disposal
option—we need to make
it as nontoxic as |

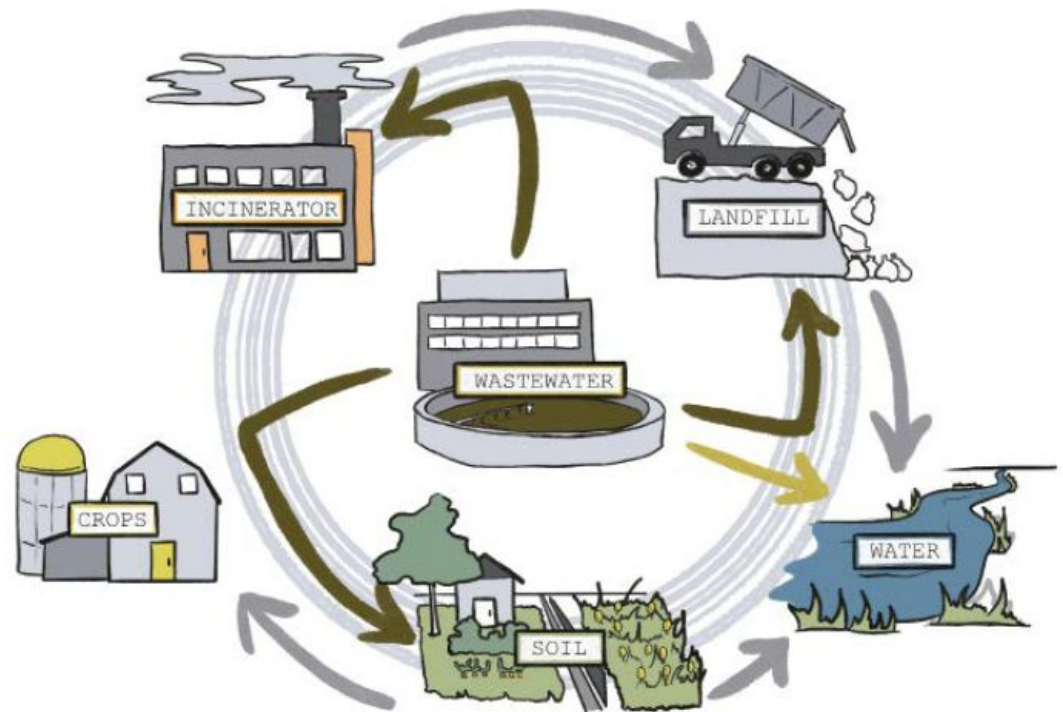


Figure 1: The fate of PFAS in wastewater treatment. Arrows indicate the transfer of materials, as well as the transfer of PFAS compounds present in different media.

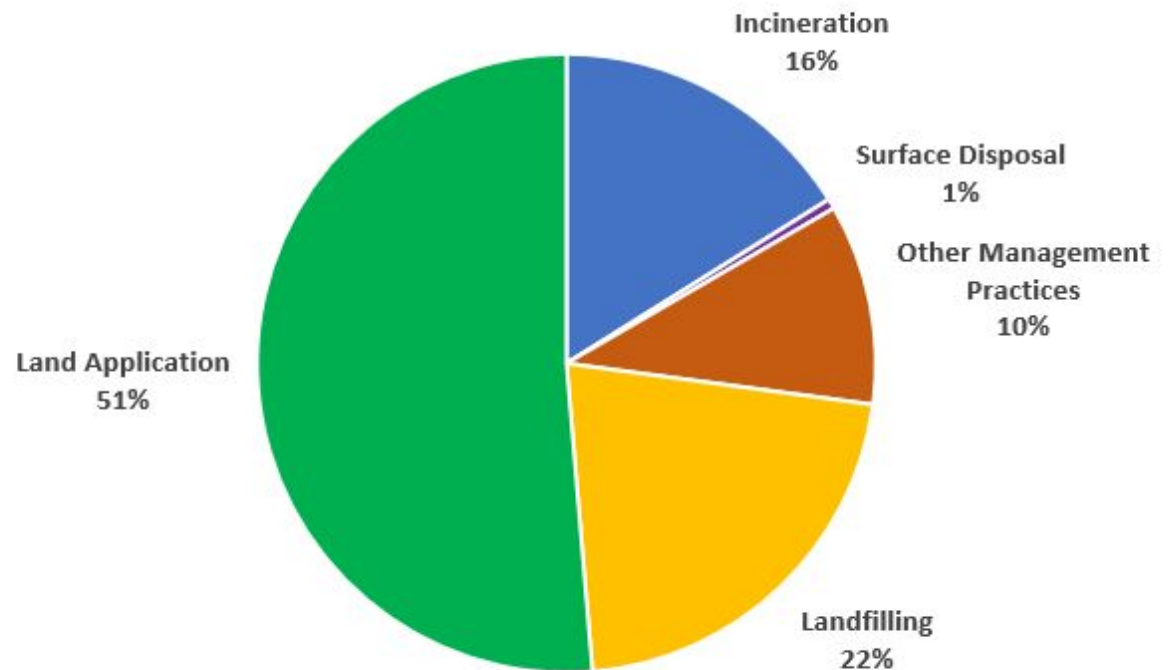
In the United States (2019)

**4.75 Million Dry Metric
Tons per year**

- 30% ag land
- 21% non-ag land
- 22% landfilling
- 16% incineration
- 11% other



Biosolids Use & Disposal from Major POTWS in 2019



Public Interest

Advisory warns of PFAS in beef from Michigan cattle farm

Updated: Jan. 28, 2022, 4:29 p.m. | Published: Jan. 28, 2022, 2:38 p.m.



Aerial photo of the Wixom Wastewater Treatment Plant, Aug. 9, 2018.





05:58

In Maine, 'forever chemicals' are upending this family farm

February 08, 2022

By Kevin Miller, Maine Public



Johanna Davis and Adam Nordell stand outside of their house at Songbird Farm, an organic vegetable and grain farm they have operated in Unity since 2014. (Kevin Miller/Maine Public)

EDITORIALS

Editorial: Toxic sludge in Illinois comes with more than the obvious stench

By The Editorial Board

News

Poultry waste, sewage sludge from other states flowing into rural Alabama

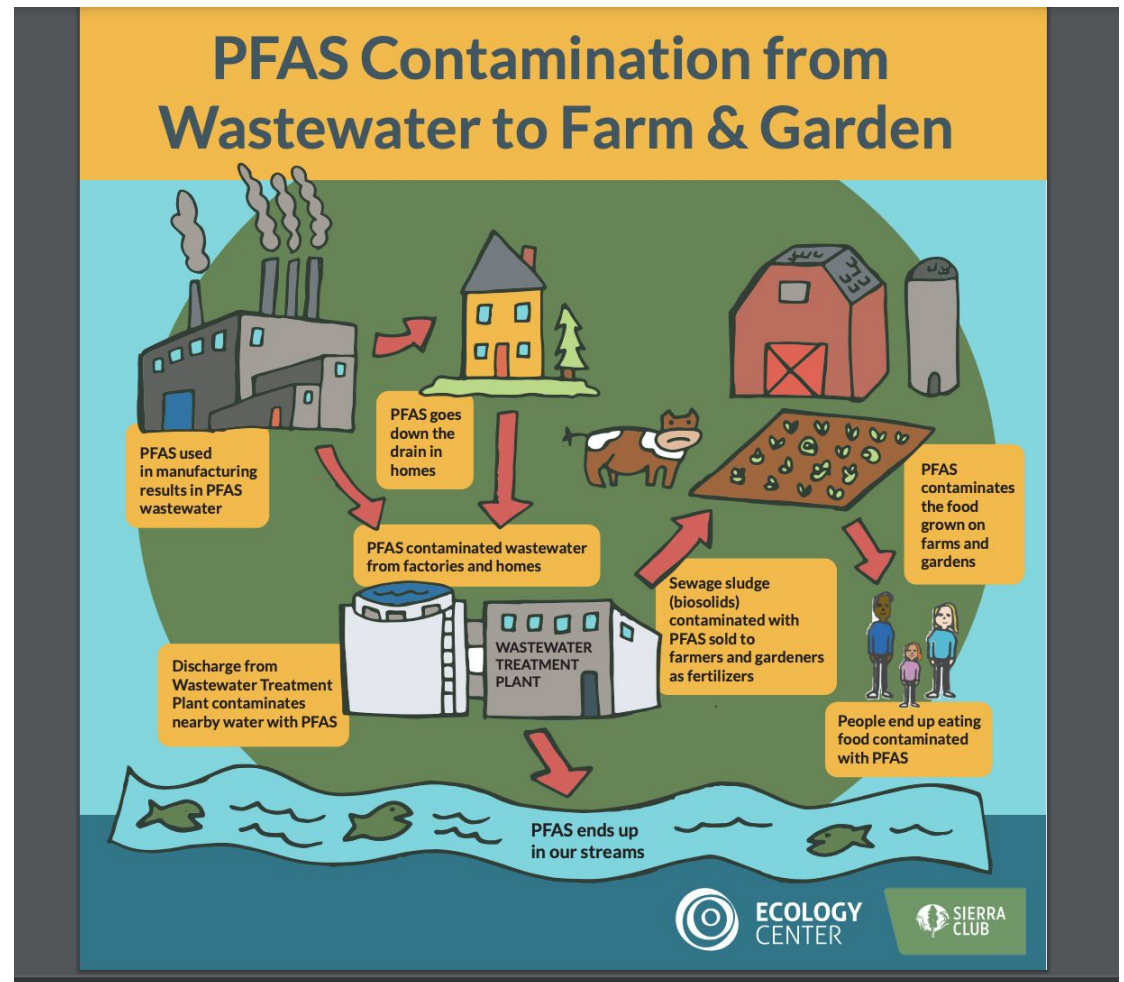
Updated: Mar. 03, 2022, 2:54 p.m. | Published: Mar. 03, 2022, 7:45 a.m.

With fertilizer costs skyrocketing, farmers find a friend in New Hampshire sludge

By Mark Hayward New Hampshire Union Leader May 7, 2022 Updated May 9, 2022

The public is completely unaware they are purchasing sewage waste. Sierra Club and Ecology Center tested 9 home fertilizers made from biosolids:

- PFOS and PFOA in all of it
- Results compared to Maine's standards, (the only health-protective biosolid standards in place).
- Each contained 14 to 20 detectable PFAS compounds



Walkerville Timeline: 1990–2007; 2007-2022



1990-1994

EOLC purchases Newwaygo Farms and starts trying to get a permit to spread tannery waste. It takes 4 years for the process to be permitted.

1994–1999

EOLC applies ReTurn under a “PERM.” They sell compost in the area as well as crops grown on the land. Records indicate that testing required by PERM not conducted.

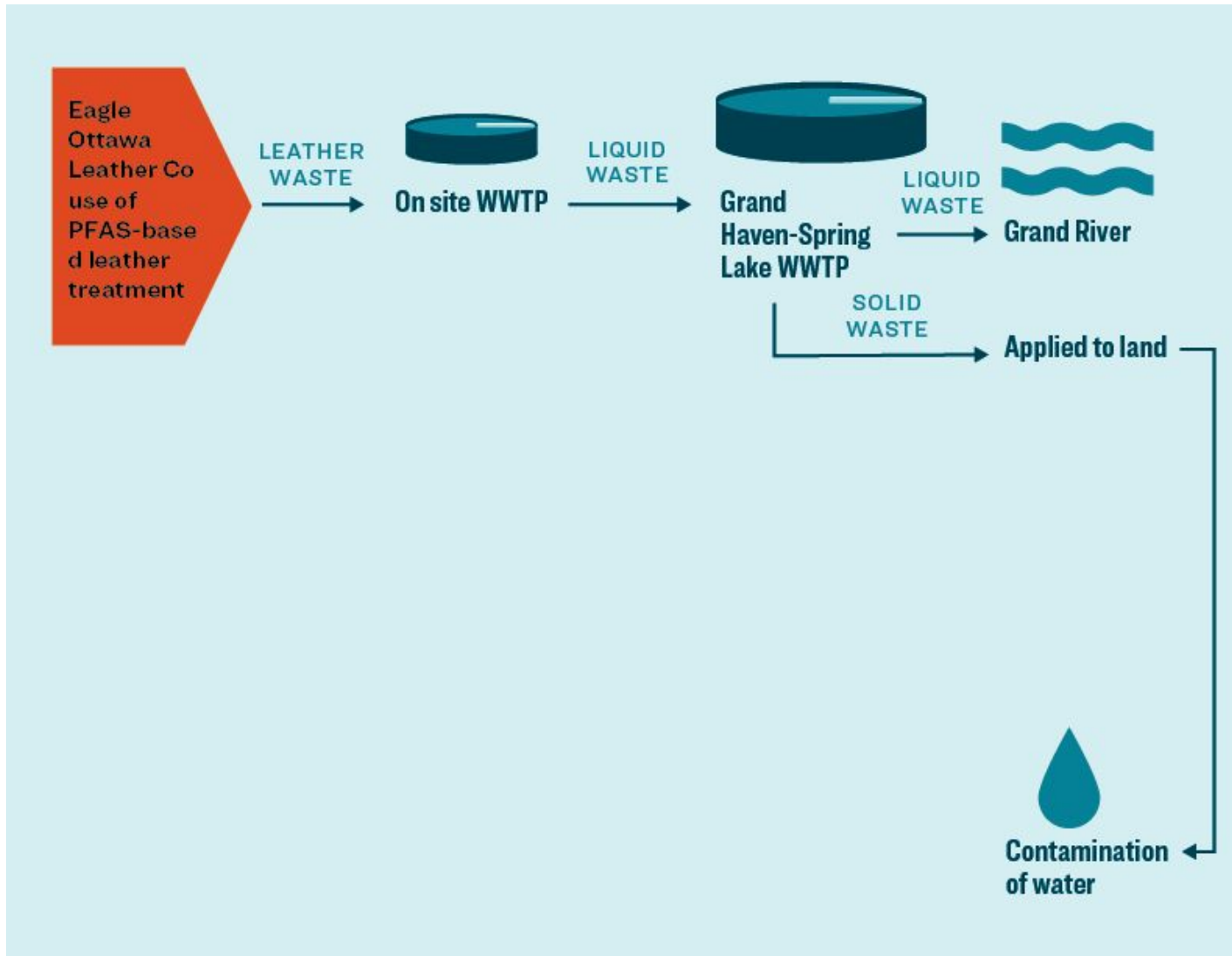
2000-2007

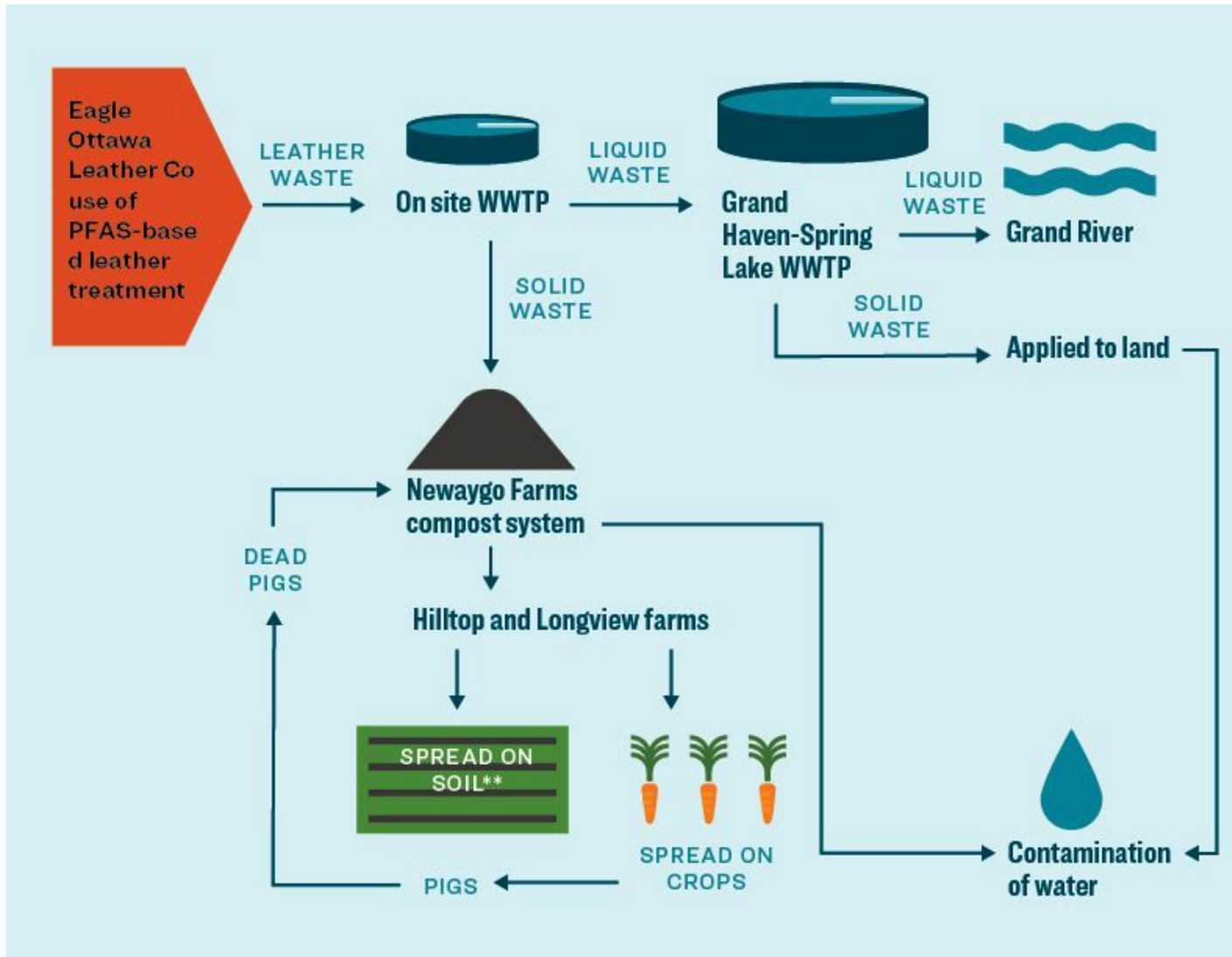
PERM no longer required - laws changed. VVP begins operating a CAFO in 2004. Tannery compost applied until EOLC sells to VVP.

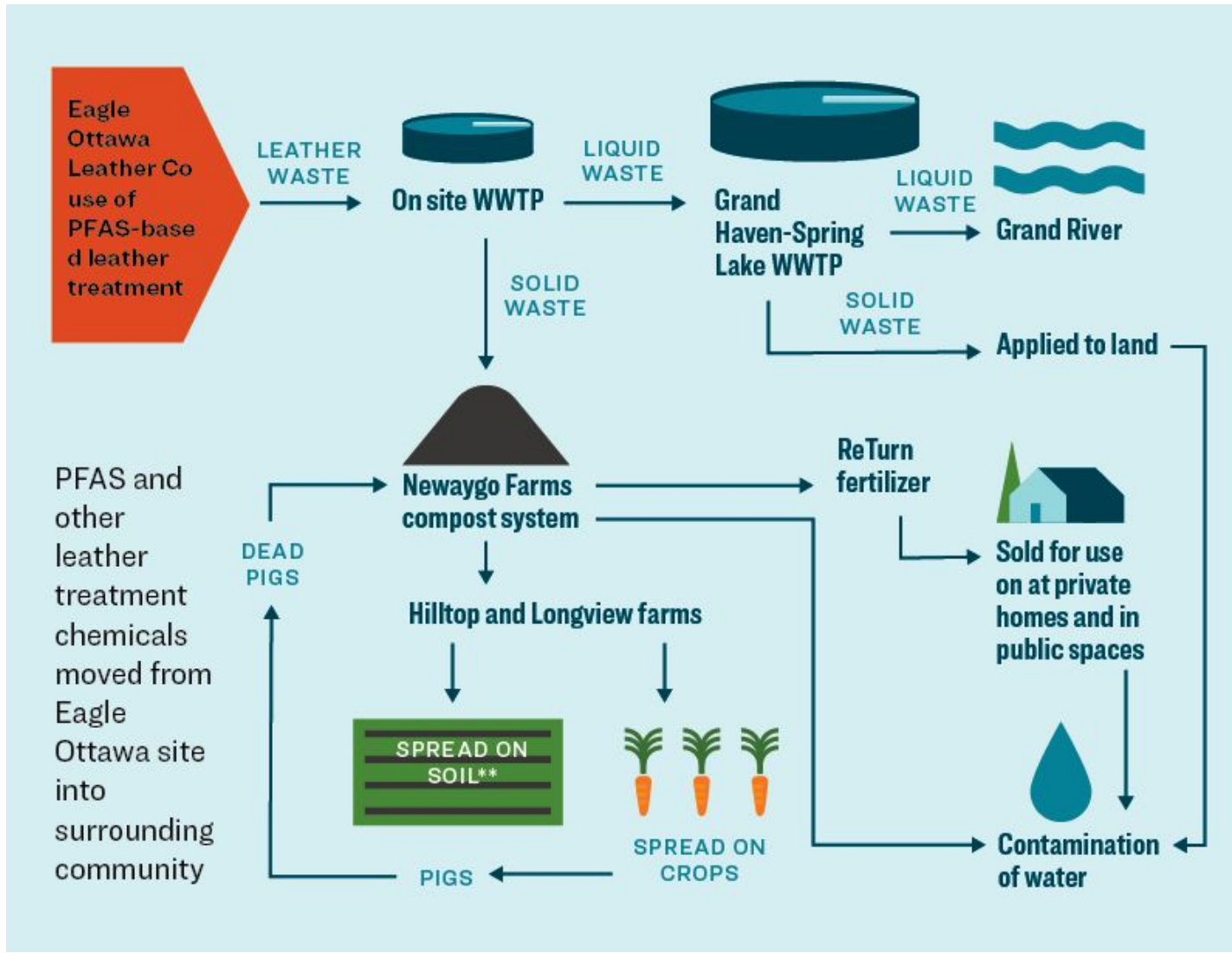
2007–present

CAFO operations on land with restrictions on how the property is used from 2007 until now. Changes made when purchased by Jackpine Holdings and PFAS documented.









Swine CAFO waste (urine & feces): 2007 - current

vs.

ReTurn® (tannery waste/solid residuals): 1994 - 2007

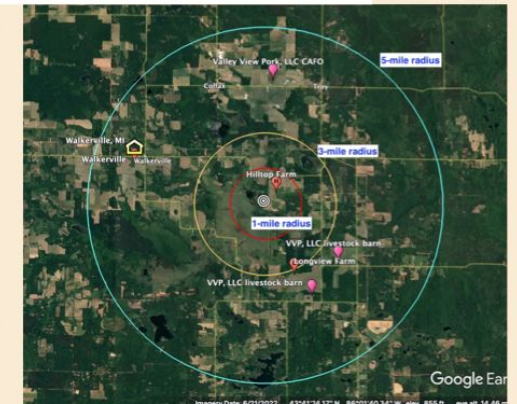
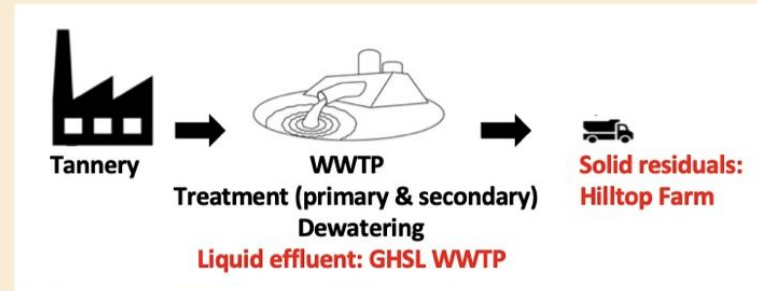
CAFO WASTE STREAM

Deep pit/lagoon → Field



TANNERY WASTE STREAM:

WWTP → Compost → Field



Legacy PFAS contamination of soil & water

Not the farmers' fault

- Food and feed crops should not be grown on PFAS-contaminated farm fields or irrigated with PFAS-contaminated water.
- Livestock should not be exposed to PFAS in feed, forage, or drinking water.
- Avoid repeated, even low-level PFAS exposures

At this point, there are no documented means of effectively reducing PFAS levels in agricultural fields.

Univ of Maine Cooperative Extension

CAFO gas= more ghg emissions

- Anaerobic Digesters – in an oxygen free environment organic material breaks down and generates methane, which can be injected into our current gas infrastructure, piped across hundreds of miles, and burned.
- Small scale, on-farm ADs can be good. ADs on WWTP, when properly operating, can be good.
- ADs on CAFOs: dramatic explosion in the Dairy CAFO industry in particular, with catastrophic consequences–
 - More ghg emissions produced overall – modeling belied by on-farm measurements.
 - Incentivization to build out more gas infrastructure, and lock-in permanent gas reliance
 - Devastating water quality impacts and habitat degradation (less ghg capture with less habitat).
Eutrophication of lakes may increase methane emissions by 30-90%.
 - GhGs other than methane not accounted for, including nitrous oxide. GhGs still emitted whenever methane is burned - and we are building out CAFOs to make gas, not food.

CAFO gas = Big Oil & Dirty Utilities

- Shell and BP invested over 6 billion dollars in 2022 alone in ADs on CAFOs.
- Chevron, via the digester company Brightmark, is the largest big-oil prospector operating Dairy CAFO manure-gas operations in Michigan. (7 operating). Chevron purchased the “Renewable Energy Group” - a biodiesel manufacturer, for 3.15 billion in 2022.
- DTE: investing big in Dairy CAFO gas, including 8 ADs in WI. (DTE Vantage)
- Perverse incentives: public money propping up oil company profits.
 - CA LCFS is sending billions to oil company shareholders by heavily subsidizing ADs.
 - Federal RFS = CAFO gas credits purchased by oil companies to “offset” their oil production
 - IRA sec 48 investment tax credit

Solutions:

- Pass the PFAS package in the state legislature, including biosolids bill and farmer support bill.
- Push to exclude CAFO gas incentivization in the Farm Bill
- CAFO moratorium
- Demand a good LCFS (and SAF) at the state level
- Demand CAFO operator accountability from EGLE
- Sno-fro ban (limit times of year that manure can be sprayed on fields).
- Revisit waste-disposal loopholes: BU3 program reform.

If you'd like to get involved in Ag advocacy: get in touch!

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