

Green Bay Press-Gazette Express it! At the Rainbow Children's Festival later this month, kids can express themselves with art and music. B-1

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INSIDE

Organizer: 10,000 sign Nussbaum recall petition

By James Dumas Press-Gazette
A petition drive seeking the recall of Brown County Executive Nancy Nussbaum has reached at least 10,000 signatures by June 29.
That's more than half of what the group circulating the petition needs, an organizing member said Monday.

A very young tiger woods?

Jonathan Phillips is just 3 1/2, but he can hit a golf ball 100 yards, chip onto a green and sink 20-foot putts. C-5

Study says doctors ignore dementia

By Karen Raker Press-Gazette

As the sun set Tuesday over downtown Green Bay, a crowd of people gathered on the River between the Bay National Bank and the Walnut Street Bridge.
At the same time, crowds packed downtown streets and sidewalks to see the fireworks display that organizers promised would be larger and better than ever.

Fireworks bring out booms, oohs, aahs

Crowds pack downtown most of day



The Shlopig's Fireworks display attracted thousands Tuesday to downtown Green Bay along the Fox River. Many families have made the annual display, which this year cost \$45,000. A-2

EPA boosts estimate of dioxin risk

Fox River pollutant more toxic than thought

By Susan Campbell Press-Gazette
A new federal review of dioxin, one of seven chemicals identified as a particular concern in the Fox River sediment, shows it to be more potent than conclusions reached just two years ago.

WEATHER

77 59
Partly sunny
Thursday
New Bay

INDEX

Table with 2 columns: Category and Value. Includes US, Canada, and other market indices.

New York Harbor flooded with tall ships

The August 8 from Cork, Ireland, sailed through New York Harbor past the Manhattan skyline Tuesday during a parade of tall ships. The 106-foot brigantine sailed with 100 tall ships as part of Cogoli 2000, an international gathering of ships that runs through Sunday.



The August 8 from Cork, Ireland, sailed through New York Harbor past the Manhattan skyline Tuesday during a parade of tall ships. A-2

Audit: Pentagon, VA could save on drug purchases

WASHINGTON — Placing scrutiny ahead of savings, the departments of Defense and Veterans Affairs are considering a joint contract with a single drug manufacturer to change medication.

# Dioxins/Chemical is byproduct of burning, industrial processes

■ From A-1

amount is too much. Still, dioxin isn't nearly as prevalent in the river as PCBs — the toxic chemicals driving cleanup plans and prompting the EPA to propose the river as a Superfund priority site.

"From a relative risk perspective, even though PCBs are 10 to 100 times less toxic than dioxins, we've got so many of those things floating around out there that the real risk driver is PCBs," Paulson said. "Plus, if you deal with the exposure to the PCBs effectively, in essence we're going to deal with the exposure to anything else, including dioxin."

### Unintended product

Unlike PCBs, which were manufactured for use in carbonless copy paper and electrical transformers until they were banned in the 1970s, dioxin is an unintentional byproduct of poorly controlled burning, fossil fuel combustion and certain industrial processes.

The chemicals are formed in the manufacture of certain chlorine-containing chemicals such as pesticides and in the incineration of trash containing plastics and paper. Use of the herbicide Agent Orange to defoliate trees during the Vietnam War and the ensuing health problems reported by veterans exposed to the chemical, is probably the most widely known incident involving dioxin.

The chemical has figured prominently in paper-making, discharged by kraft pulp mills using chlorine to bleach paper. Although papermaking contributed dioxin to the Fox River, the pollution didn't originate from bleaching because the majority of area

mills specialize in de-inking and recycling as opposed to pulping.

Fort James Corp. spokesman Mark Lindley said both of the company's Green Bay mills are free of elemental chlorine, instead using hydrogen peroxide and calcium hypochloride for bleaching.

"The kraft pulp bleaching process is where the issues lie, and with recycled papers it's just not an issue. Although you might have a little residual from the paper you're recycling, it's so small, it's nondetectable," he said, noting dioxin levels in the mills' discharges measure in parts per quadrillion.

Farland of the EPA said the paper industry made great strides in curbing its chlorine use during the 1980s. Many have switched to using chlorine dioxide, which produces substantially less dioxin.

"The question of course is, what does it take and what is the advantage of going totally chlorine-free?" Farland asked.

In the case of the Fox River, dioxin was created during the production of PCBs for carbonless copy paper. The chemical also followed other routes to the river, carried through the air and in chlorinated pesticides like DDT.

"We had a big DDT problem in the bay, so dioxin could have gotten there from any number of those sources," Paulson said.

The good news from the EPA's draft reassessment is that dioxin emissions from all sources have fallen precipitously in the last dozen years.

But dioxin continues to be released from a variety of sources. The unregulated backyard burn barrel is a significant source, said individually to emit as much dioxin

as a municipal incinerator.

Because dioxin resists breaking down, once in the environment, it persists. Once set loose, the chemicals travel up the food chain and are stored away in the fat tissue and breast milk of both wildlife and people.

### Nine-year effort

The EPA has been working since 1991 with government and nongovernment scientists to better understand what happens once dioxin enters the human body.

That year, around the same time the agency was moving to enforce strict limitations to dioxin discharges, the EPA launched its reassessment of dioxin's toxicity. The study was sought by paper and other industry officials who argued that the latest research was showing dioxin to be less toxic than previously thought.

But the agency's first draft reassessment, released in 1994, found just the opposite.

In the months following that release, the EPA was ordered to conduct further studies — the results of which were released last month for public review. The current draft characterizes dioxin as even more toxic, based on the evolving science regarding the chemical.

The new revised estimates for cancer risk in the general human population range from 1 in 100 to 1 in 1,000, up from the 1 in 1,000 to 1 in 10,000 estimated in the 1994 reassessment.

Fetuses, infants and children are believed more sensitive to dioxin than adults because of their rapid development.

Although the EPA report states that there currently is "no clear indication" of increased disease



Photo courtesy Richter Museum of Natural History  
Researchers found this cormorant last week on Cat Island at the mouth of the bay of Green Bay. Its crossed bill is associated with exposure to dioxin, dioxin-like PCBs and furans, chemicals found in the bay and the Fox River.

in the general population attributable to dioxin and dioxin-like compounds, Farland said some of the chemicals' noncancer effects may already be observable in children.

"With the noncancer effects you're talking about affecting development," he said.

### Effects visible

Because animals can be used as test subjects, dioxin's effects on wildlife is better documented, both in the field and in the lab.

The EPA's reassessment holds little surprise for Tom Erdman, curator of the Richter Museum of Natural History at the University of Wisconsin-Green Bay. Last week the ornithologist was

doing pelican research on Cat Island in lower Green Bay when he stumbled upon what has been an all-too familiar sign of chemical contamination on the bay: a black cormorant with a badly twisted beak.

Bird-banding records on the bay date back to 1926, he said, but no deformities were recorded until the 1970s — around the time that DDT was first turning up in eggshells.

"Everything we have seen in the field has now been duplicated in the lab with dioxin-like PCBs," Erdman said. "Crossed bills, edema, splayed legs, bone deformities ... all are associated with dioxin and dioxin-like PCBs and furans."