

MASINAIGAN SUPPLEMENT

MASINAIGAN (MUZ IN I AY GIN) A publication of the Great Lakes Indian Fish & Wildlife Commission

Spring 1997

Baapiniziwaagan! maji-mashkiki Beware! bad medicine (mercury)

Odanah, Wis.—In the Ojibwa language there is no word for “mercury,” but identification of poison or bad medicine is an accurate description of mercury if its levels become too high in the human body.

While there may be no Ojibwa word for mercury, twentieth century Ojibwe people are concerned about the dangers of mercury-contaminated giigoonh (fish) on behalf of themselves and their children. This, at least, is what a 1993 GLIFWC survey of tribal spearmen indicated.

As a result of tribal members’ concern, GLIFWC pursued the development of maps (reprinted in this supplement), showing lakes speared by tribal members and the mercury levels in each lake’s fish.

Each lake is color-coded to indicate the size group of walleye where mercury first begins to show a 0.5ppm (part per million) concentration. This is the mercury level (0.5ppm) used by the Wisconsin Division of Health to advise pregnant women.

If mercury levels are at 0.5 ppm or greater, women who are pregnant, breast feeding, or planning to have children are advised not to eat any of the fish. The advisory also applies to children under 15. If the level is below 0.5 ppm, pregnant women are advised to eat only one meal of fish per month.

While the states’ issue “mercury advisories” regarding levels of mercury and appropriate quantities of safe consumption,

these advisories are based on an estimated average consumption of fish in a weekly diet. It is likely that Ojibwe people consume more fish than the average non-Indian, therefore, the state advisory levels may not be protective enough for tribal members.

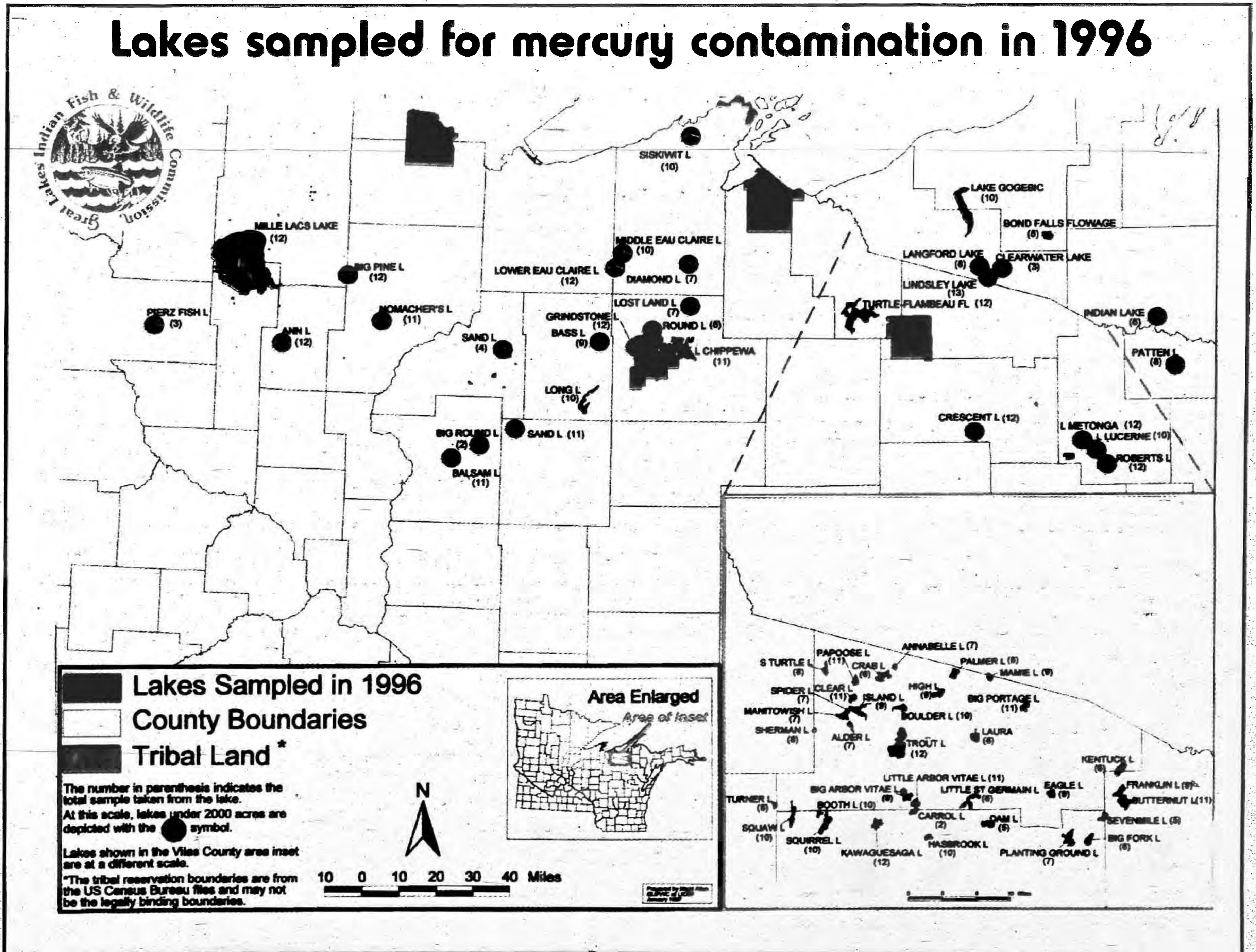
Fish, or giigoonh, has traditionally been a primary food for Ojibwe people. Historically, Ojibwe villages were close to major fishing lakes, and the location of modern-day reservations are on sites adjacent to traditional fishing and ricing lakes. Giigoonh remains an important and frequently-eaten food for the Ojibwe today, particularly during the spring spearing of walleye.

Therefore, tribal members may need to pay extra attention to mercury levels in the fish they take. GLIFWC hopes the maps will guide tribal members in the selection of lakes they choose to fish and in the consumption of potentially contaminated fish.

GLIFWC was fortunate to receive a grant from the Administration of Native Americans (ANA) in 1995 which covered costs to collect sufficient samples of walleyes from speared lakes, test the samples, and produce information pictured in this supplement for the use of tribal members.

Each map represents lakes commonly speared by one tribe. Larger scale maps (see Mercury facts, page 3)

Lakes sampled for mercury contamination in 1996





Size at which .5ppm first occurs

- Walleye less than 15"
- Walleye 15 to 18"
- Walleye 18 to 22"
- Walleye over 22"
- All Walleye under .5 ppm
- No sample taken

The first set of numbers in parenthesis on the following maps indicate the number of fish in the color coded size class above .5ppm, out of the number of fish sampled in that size class.

The second set of numbers indicates the total number of fish over .5ppm, out of the total sample size for that lake.

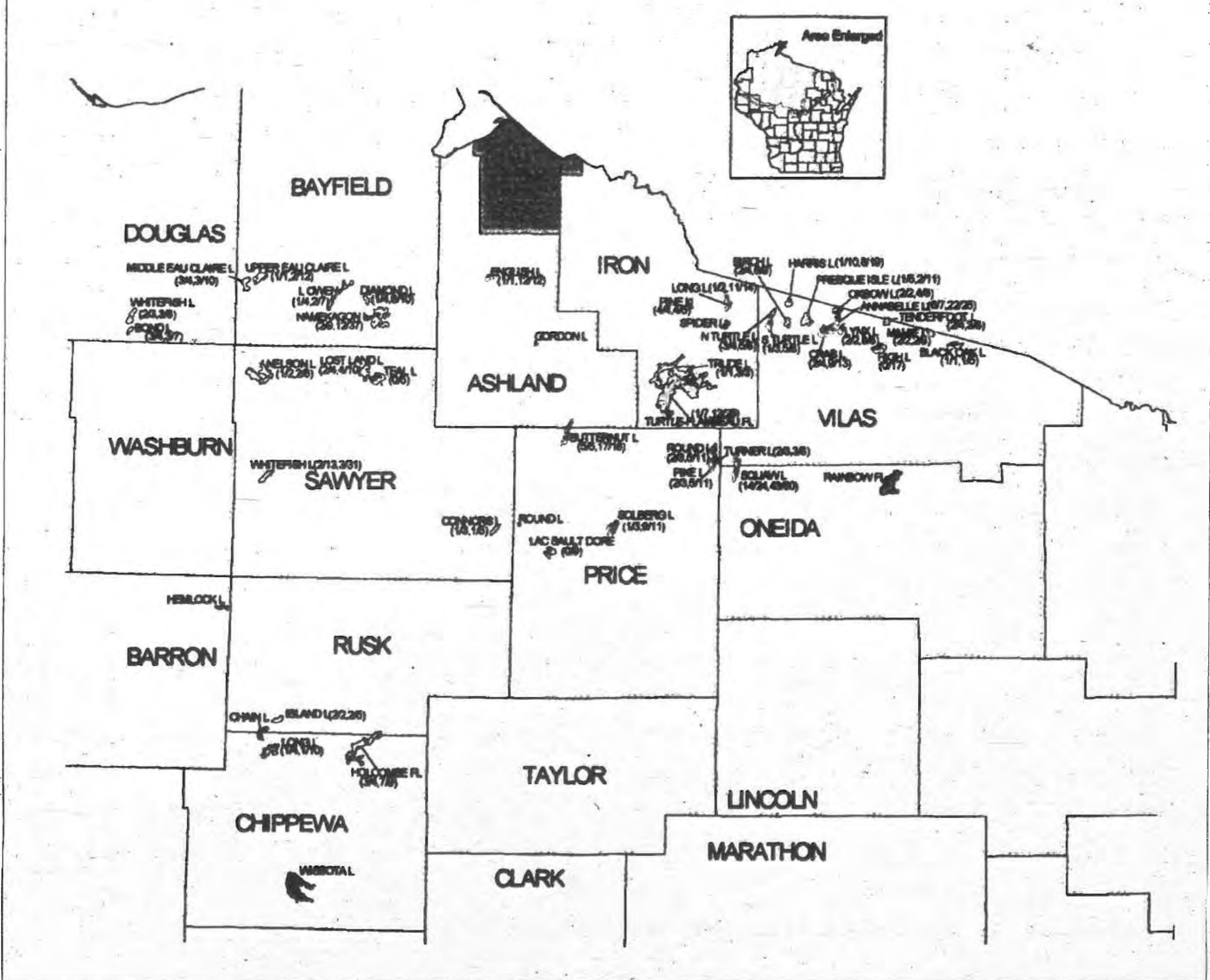
For lakes with all walleye under .5ppm, the numbers in parenthesis refer to the total number over .5ppm (0), and the total sample size.

Tribal Land
 County Boundaries

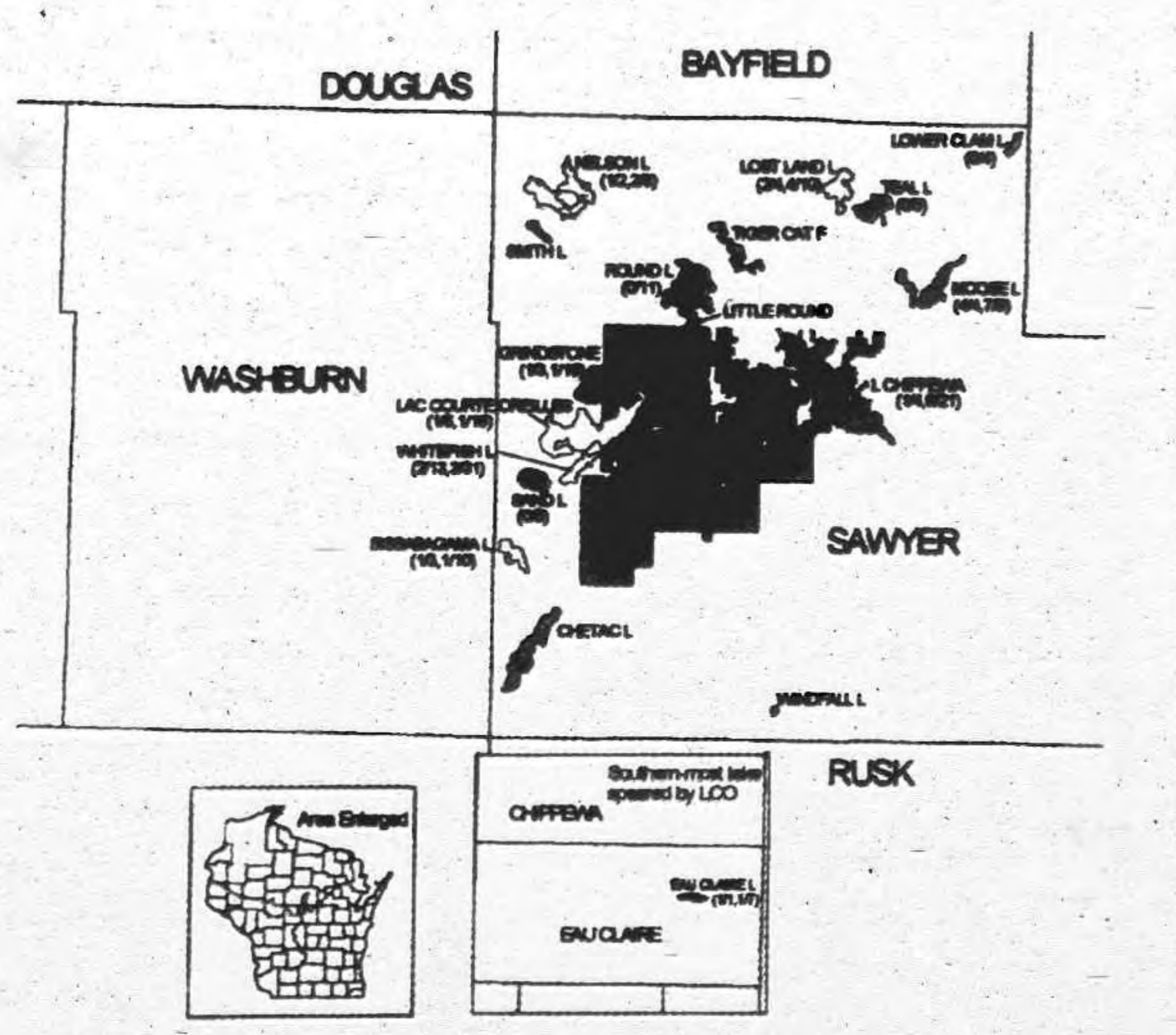


The ceded territory boundaries are representations and may not be the actual legally binding boundaries.
 *The tribal reservation boundaries are from the United States Census Bureau files and may not be the legally binding boundaries.

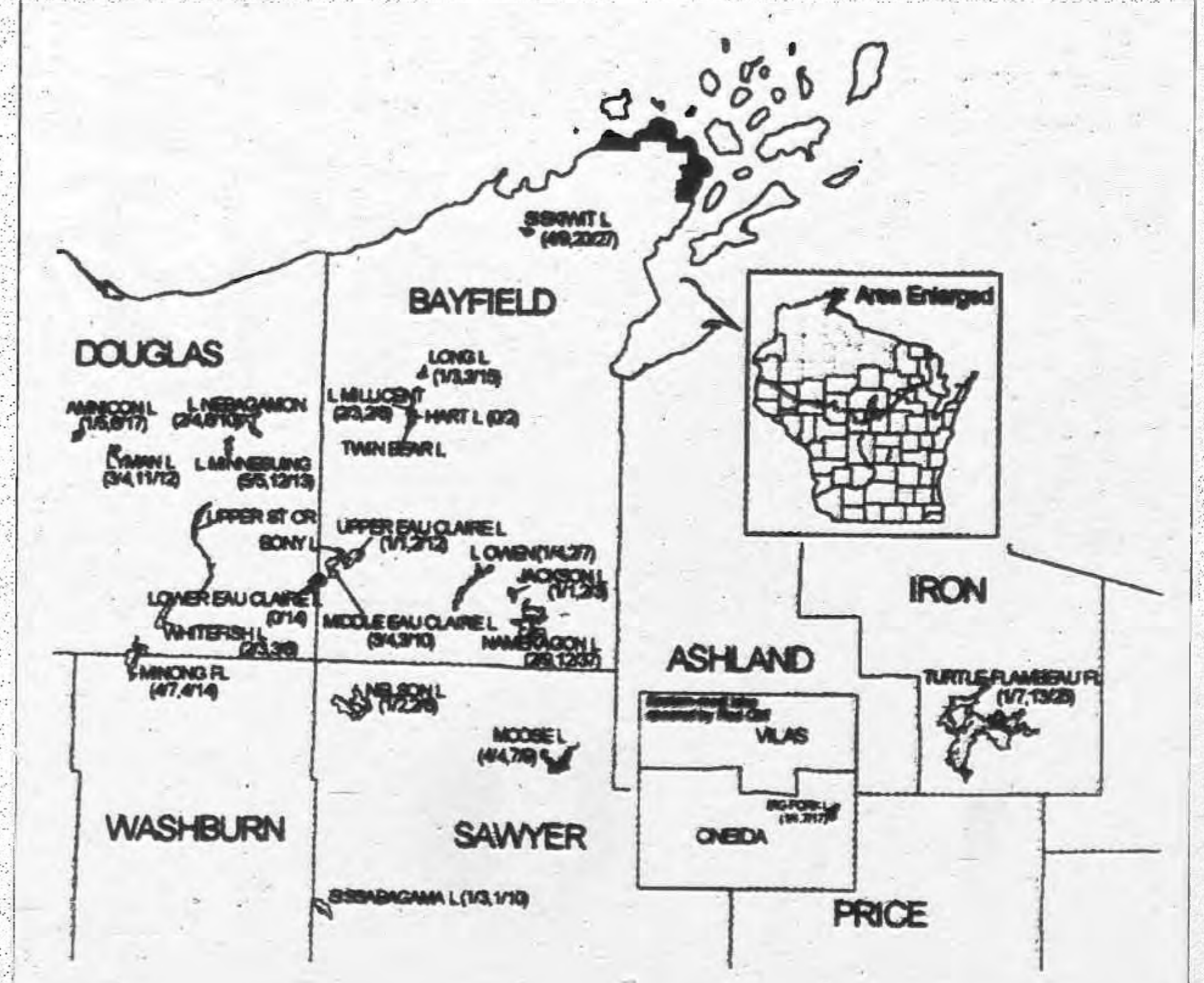
Mercury contamination of walleye in lakes harvested by Bad River



Mercury contamination of walleye in lakes harvested by Lac Courte Oreilles



Mercury contamination of walleye in lakes harvested by Red Cliff





Mercury facts

(continued from page 1)
will be posted at registration stations on each reservation.

Particular thanks must go to the following GLIFWC staff stationed at the Land Information and Computer Graphics Facility, (LICGF) UW-Madison for production of the maps: Gary Wockner, mining specialist assistant; Eric Madsen, data analyst; John Coleman, environmental modeler, and Mijid Allen, mercury modeling assistant.

Facts about mercury

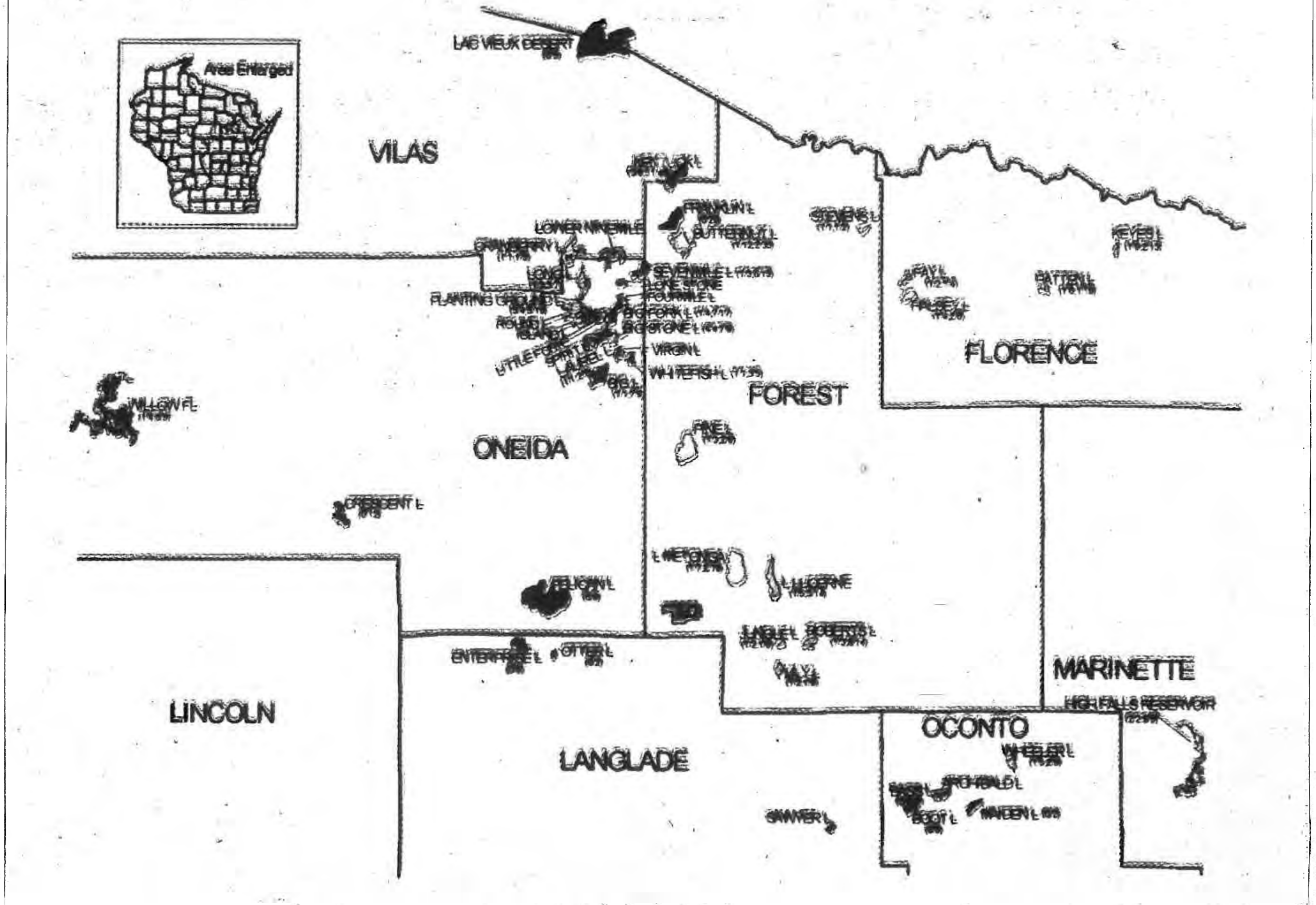
Mercury is a natural element that is found in air, water, rocks and soil. Mercury evaporates from these sources and returns to Aki (the earth) attached to small airborne particles or is washed out of the air by rain or snow.

Since about 1850 the amount of mercury cycling through Aki has been increasing about 1.7 percent per year due to human activity.

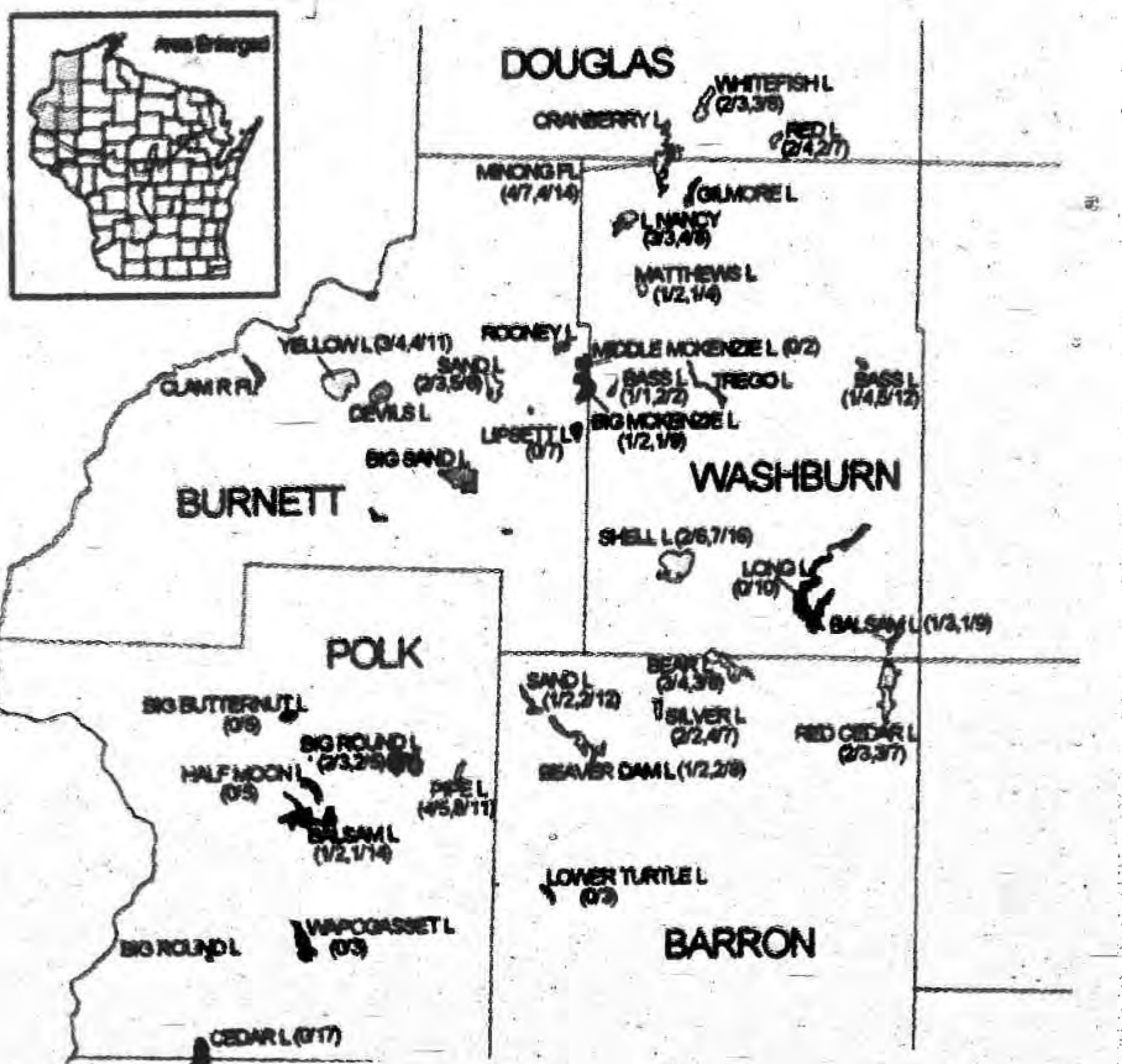
For example, burning coal, wood, and waste (both household and industrial) releases mercury into the atmosphere. An estimated 75% of newly deposited mercury entering land and lakes comes from human activities; the other 25% is natural.

Efforts are being made to reduce the amount of mercury entering the environment. For example, the White Pine smelter in northern Michigan was the largest source of mercury pollution in the Lake Superior basin and was shut down in 1995. Also, it is no longer legal to use mercury as a fungicide in latex paints.

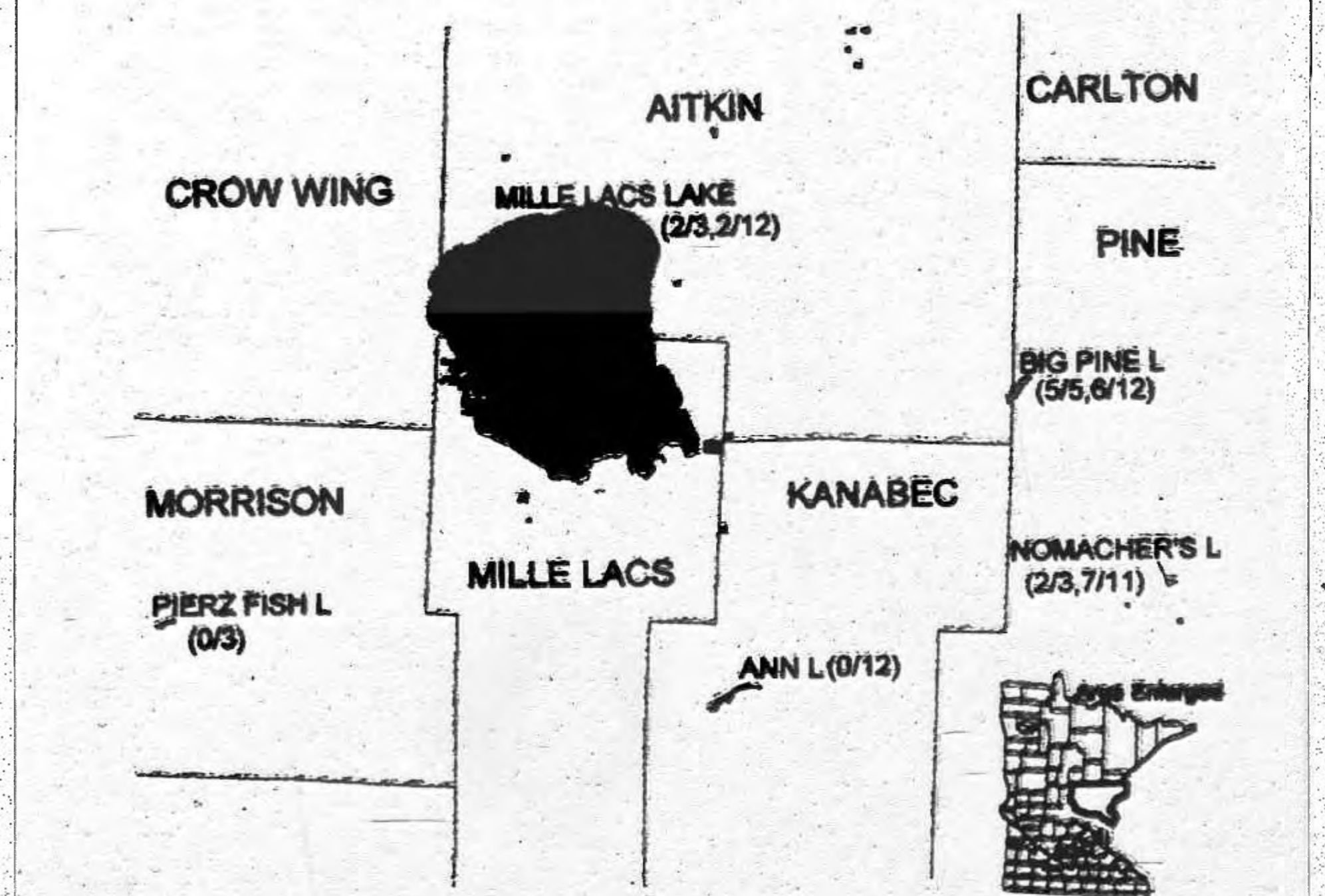
Mercury contamination of walleye in lakes harvested by Mole Lake



Mercury contamination of walleye in lakes harvested by St. Croix



Mercury contamination of walleye in Minnesota Ceded Territory Lakes



How mercury gets into giigoonh

When mercury enters lakes and streams, bacteria or chemical reactions transform it into methylmercury. This form of mercury is absorbed by giigoonh as water passes over its gills. All giigoonh probably contain some methylmercury and absorb it throughout their life.

Methylmercury is easily absorbed by animals which eat fish. It builds up in ever increasing amounts as small insects are eaten by small fish, which then are eaten by large fish, which are eaten by Anishinabe (Chippewa).

For example, water containing two (2) parts per trillion of mercury can build up to 450 parts per billion methylmercury in ginoozhe (northern pike), a 225,000-fold increase. So larger, older, and predatory fish like ogaa (walleye) and ginoozhe will have higher levels of methylmercury than smaller, younger fish such as agwadaashi (sunfish). Mercury is tightly bound in fish tissue and can't be removed by any special cooking or cleaning method.

Health risks of eating contaminated giigoonh

Methylmercury is neurotoxic; it affects the brain and spinal cord. Methylmercury can build up in the body gradually and it may take months or years of regularly eating fish to accumulate levels which are a health concern. Small amounts can safely be eliminated.

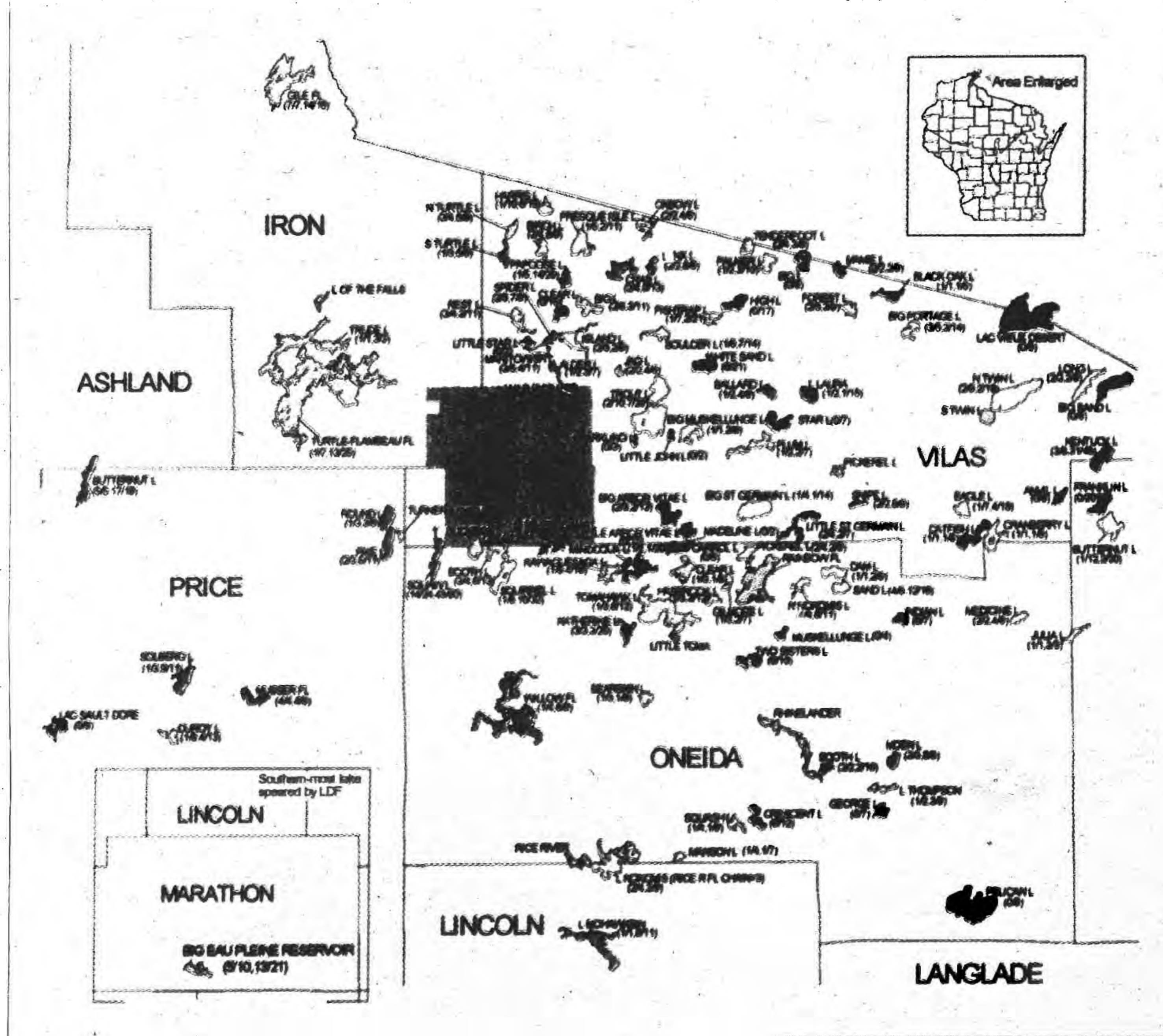
However, when the amount taken into the body exceeds the amount that can be eliminated, methylmercury builds up. In adults the first signs of poisoning are tremor of the hands and a burning or tingling sensation in the fingers or toes.

At higher levels, walking is affected, followed by blurred vision. Severely-affected people have speech and hearing problems. In rare cases of severe exposure, a person can become paralyzed and die.

The fetus is most sensitive to mercury poisoning because its nervous system is developing. However, young children, pregnant and nursing women, and women of child bearing age also need to take extra care.

In the early 1970's, more than 400 people in Iraq died from eating bread made from wheat treated with methylmercury which was intended for planting. Researchers found that children exposed while in the womb experienced delayed develop-

Mercury contamination of walleye in lakes harvested by Lac du Flambeau

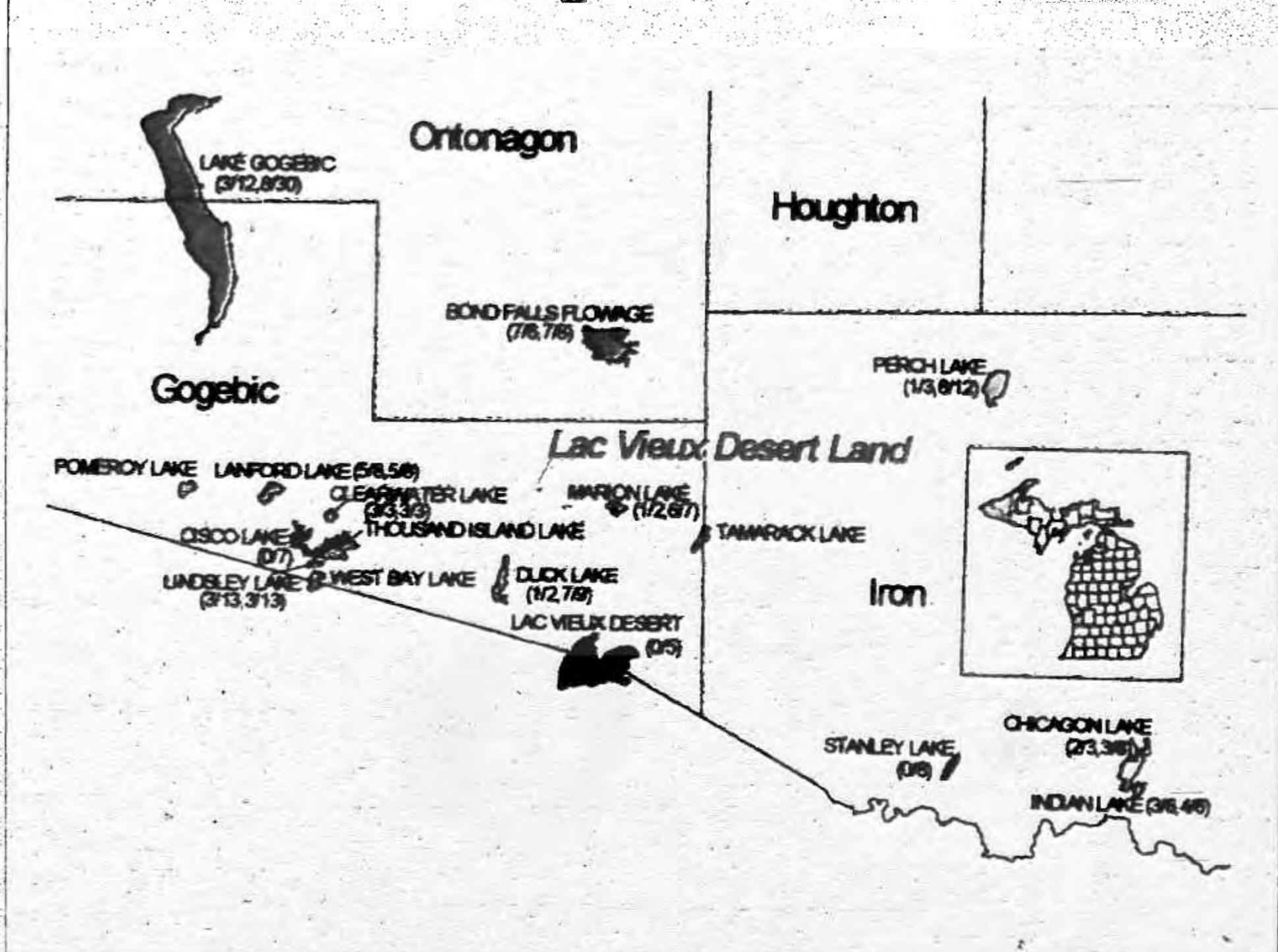


ment in walking and talking, even though the mother was not affected.

Conclusion

Hopefully, tribal members will continue to enjoy fish as part of their traditional diet and avoid harvesting fish with higher levels of mercury. These maps were created to assist tribal fishermen in providing healthy food to family and community.

Mercury contamination of walleye in lakes harvested by Lac Vieux Desert



MASINAIGAN STAFF: (Pronounced MUZ IN IAY GIN) Susan Erickson..... Editor Lynn Plucinski..... Assistant Editor Amoose..... Photographer MASINAIGAN (Talking Paper) is a quarterly publication of the Great Lakes Indian Fish & Wildlife Commission, which represents eleven Chippewa tribes in Michigan, Minnesota and Wisconsin. Subscriptions to the paper are free, write: MASINAIGAN, P.O. Box 9, Odanah, WI 54861, phone (715) 682-6619, or e-mail: pio@win.bright.net. Please be sure and keep us informed if you are planning to move or have recently moved so we can keep our mailing list up to date. This supplement may be obtained by writing to the above address. Copies are available free of charge.