

Environmental Property Damage Claims

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The bones of a suit for property damage arising out of on-site contamination are simple:

1. Hire a competent scientist to take a sufficient number of samples for analysis.
2. Consult with a competent toxicologist, normally a Ph.D., to learn the evils of the contaminant.
3. Provide the reports of the toxicologist along with the test results to a banker and ask if he would accept the property as collateral. He will almost always say *no*.
4. Have a real estate lawyer render his opinions as to the duties of the seller, the seller's real estate agent and the seller's lawyer to disclose the on-site contamination.
5. Provide the above information to a real estate appraiser with experience in evaluating property with on-site contamination.
6. Prepare the case for punitive damages. How long has the polluter known of the releases? What has it done to stop or to clean up released toxins? What has the polluter told its neighbors and regulatory authorities? What has the polluters done to delay reduction of releases and remediation? How much has it saved? How much would it now cost to undo the damage?
7. Go to trial. Be happy with an educated, property owning jury. Be moderate in your damage claims and in presentation of your client's testimony.
8. Present a property rights case: I have no right to dump my non-toxic trash on my neighbor's property without his knowledge or consent, even waste that might in time degrade into organic fertilizer beneficial to his yard. What right does Defendant Smokestack have to enhance its wealth by dumping its toxic chemicals on my client's property without his knowledge or consent?

We practice in a day of fewer trials and more delay, with procedural obstruction too often trumping prompt resolution on the merits. The above outline works, for as stated above, educated jurors *get it*, and the defendants know it. The litigation game has however mutated into an effort to avoid trial, any trial, through pretrial presentation of a litany of newly manufactured defenses presented, they hope, to judges who don't *get it*. The pretrial defenses grow progressively complex, ominous and expensive to address. The defenses may be labeled as *preemption*, *primary jurisdiction* or as a plea for a narrowed view of property rights. The defenses are presented repeatedly in motions to dismiss, motions for summary judgment, *Daubert* motions and motions in limine, all directed to restricting or preventing presentation of the simple eight step trial plan outlined above. The common defense theme, their drum beat, is well enunciated in language from a recent brief:

DEFENDANT'S SUMMARY OF ARGUMENT

Recent advances in the science of analytical chemistry have made it possible to detect infinitesimally small quantities of chemical substances in the environment. These developments have spawned a new type of litigation across the country. Using

common law concepts of nuisance and trespass, owners of property allegedly “contaminated” with trace levels of substances, detectable only by sophisticated scientific instruments, are bringing suits for alleged property damages and “loss of peace of mind” based solely on the presence of those trace substances. Courts have been asked to adapt these long-used common law concepts. . . to the detection of substances that cannot be seen, smelled or sensed in any way by human beings.

...

[W]hen a tort claim is based on the presence of minute levels of a substance on real property, and not on anything that can be detected by the senses (such as dust, smoke or odor), the substance must be present at levels sufficient to cause harm before a legally cognizable injury exists. Absent such proof, there simply has not been a substantial injury to or interference with the use and enjoyment of property as required by law to support a tort action. Without such a rule, a wide range of commonplace activities that may cause harmless but scientifically detectable amounts of chemicals to be deposited on land would become tortious. Driving a car, lighting a charcoal grill, pumping gas, mowing a lawn, farming and many other everyday activities, each of which necessarily involves the release and deposit of trace amounts of substances, would become wrongful. Generation of power would be wrongful. Indeed, all industrial activity would essentially be tortious, because it is not possible to conduct manufacturing or other productive operations without the incidental release and deposit of small quantities of substances.

...

[W]hen a regulatory agency, charged by law with determining levels at which substances in the environment present a health threat, has set regulatory safe levels, then the presence of a substance below such levels cannot constitute a legally cognizable injury and thus is not actionable as a matter of law. To hold otherwise would subject parties to *ad hoc*, inconsistent and unpredictable obligations, because different trial court and juries could establish a patchwork of case-specific levels and cleanup requirements, all at variance with scientifically determined regulatory safe levels. This Court should avoid such an undesirable result by following the rule recognized by the overwhelming majority of courts to have addressed this issue.

Nuisance and Trespass Law

Cases asserting claims for pollution to private property should be pursued as simple, but serious, straight-forward tort actions in nuisance and trespass brought under state law to recover damages for interference with use and enjoyment of property and for trespass, plus punitive damages and expenses of litigation. We are taking the liberty of citing Georgia law throughout this paper, as the author is a Georgia lawyer, but Georgia is an old common law state and generally is in accord with the common law decisions of other states and the rules found the Restatements of Law. Georgia law provides:

A nuisance is anything that causes hurt, inconvenience, or damage to another and the fact that the act done may otherwise be lawful shall not keep it from being a nuisance. The inconvenience complained of shall not be fanciful, or such as would affect only one of fastidious taste, but it shall be such as would affect an ordinary,

reasonable person.

O.C.G.A. § 41-1-1. The standard Georgia jury charge provides:

The privilege of use incident to the right of property must not be exercised in an unreasonable manner, so as to inflict injury upon another unnecessarily. To constitute a nuisance the use must be such as to produce either actual, tangible, and substantial injury to neighboring property, **or** such as to interfere sensibly with its use and enjoyment by persons of ordinary sensibilities.

Charge XXV-C, p.190, Pattern Jury Instructions - Civil, 3d Ed., Council of Superior Court Judges of Georgia, [emphasis added]. Neither the Georgia statute, nor the long-accepted pattern jury charge on nuisance, contain requirements that a plaintiff in nuisance prove (1) a trespass, (2) a substantial health risk or (3) a state or federal regulatory violation. Nuisance and trespass actions are often confused due to their similarity, but they are not the same. A trespass involves the wrongful invasion of the property of another. See O.C.G.A. § 51-9-1. In *Jillson v. Barton*, 139 Ga.App. 767 (1975), the Court explained the difference:

“A nuisance is an indirect tort, while a trespass usually is a direct infringement of one’s property rights. ‘The distinction between trespass and nuisance consists in the former being a direct infringement of one’s right of property, while in the latter the infringement is the result of an act which is not wrongful in itself, but only in the consequences which may flow from it. In the one case the injury is immediate; in the other it is consequential, and generally results from the commission of an act beyond the limits of the property affected.’”

Id. at 768 (internal cites omitted). In *Duffield v. DeKalb County*, 242 Ga. 432, 433 (1978), the Court reversed a grant of summary judgment in a nuisance case that had been granted because the evidence showed “no physical invasion which caused injury to the property itself....” In response, the Supreme Court ruled, “[N]o physical invasion damaging to the property need be shown; only an unlawful interference with the right of the owner to enjoy his possession.” *Id.* at 434. The Court restated its holding from *Bowers v. Fulton County*, 221 Ga. 731 (1966):

The term property comprehends not only the thing possessed, but also, in strict legal parlance, *means the rights of the owner in relation to land or a thing; the right of a person to possess, use, enjoy and dispose of it, and the corresponding right to exclude others from the use.*

Duffield, supra, 242 Ga. at 433 (Italics in original, internal bracket removed). Junk cars on a neighbor’s land can constitute a nuisance. *Light v. Mason*, 225 Ga.App. 260 (1997). Opinion evidence of a loss in property value is sufficient to support a nuisance claim, even without proof of a regulatory violation or sensory impact. *Hammond v. City of Warner Robins*, 224 Ga.App. 684, 696 (1997). Loss in property value caused by a non-trespassory nuisance is sufficient “special damage” to give a right of action against one who has created a public nuisance. *Scott v. Reynolds*, 70 Ga.App. 545 (1944); *Savannah, F & W Ry. v. Parish*, 117 Ga. 893 (1903) (“Even though a pool of stagnant water may be a public nuisance, a citizen suffering special damage by reason of sickness of himself or family, or depreciation of his property, as a result thereof, has a cause of action against

the party creating or maintaining the nuisance.”). *Accord, Philips v. Town of Fort Oglethorpe*, 118 Ga.App. 62, 70 (1978), wherein Judge Jordan stated in concurrence:

Any injury to one’s health or limb or to one’s purse, is a special damage and it matters not that others within the sphere of the operation of the nuisance might or might not be affected.

Id. at 70.

Preemption Defenses

Counsel for polluters seek to label us and our clients as irrational “Chicken Littles”, though a cynic could label their defenses as “_____ happens.” Too many courts though have been far too willing to bar trial of contamination cases by adopting preemption defenses without examination of the purpose of the regulation and the source of the standard. Arguments for such preemptive limitation of enforcement of common law property rights through actions in trespass and nuisance are founded upon a pyramid of false premises that mix without distinction various issues that legitimately arise in evaluation of toxic contamination. Such issues include:

1. Is contamination so high that it poses an imminent threat of harm so great that all people in an area should be evacuated?
2. What levels of contamination are so high that the government should force the owner of contaminated property to clean up its own property even though that owner is willing to accept the risks of that contamination on its own property? This issue is commonly addressed by the U.S. EPA and state environmental agencies.
3. What environmental harm is flowing from the contamination? Is it harming animal life? Is it working its way into the food chain? Is it moving up the food chain into humans?
4. What level of poisons can a polluter freely dump on other people’s property without their knowledge or consent?
5. Do polluters have a license to freely dump toxins on other people’s property until the toxins have reached a level *proven* to be harmful? Can polluters thus make homeowners human guinea pigs, testing the safety or dangers of their toxins in the quest for discovery of the exact safe or unsafe level of exposure?
6. Is contamination so high that the contaminated soil should be excavated and replaced with uncontaminated soil?
7. Are “clean up” standards the product of scientific analysis or the product of negotiations driven by cost analysis and politics?
8. In the words of established Georgia law, what level of unwanted pollution on or near one’s property is sufficient to offend a homeowner of *ordinary sensibilities* and thus create an actionable nuisance?

Polluters argue for limitations on actions in trespass and nuisance that would effectively require proof that contamination is so high that all who live in the area should be evacuated and all contaminated soil excavated and sent to a licensed hazardous waste facility. Absent such proof, a polluter would be free to dump its poisons on and around anyone else’s property and neighborhood.

We do not need to debate here the constitutional limitations drawn from the Fifth Amendment that would prohibit Congress or a state from enacting laws that sanctioned non-consensual dumping of one's toxins on the private property of another so long as the toxins were spread out sufficiently to keep concentrations below a designated level. The humble writer of this article knows of no such laws. Law enacted for express but very different purposes should not be morphed by judicial decree into a license to pollute other people's property.

Federal Preemption Law

"Congress did not intend for CERCLA to preempt complementary state remedies." *Manor Care, Inc. v. Yaskin*, 950 F.2d 122, 127 (3d Cir. 1991) (Alito, J.). Two sections of CERCLA so state:

§ 9614. Relationship to other law

(a) Additional State liability or requirements with respect to release of substances within State

Nothing in this chapter shall be construed or interpreted as preempting any State from imposing any additional liability or requirements with respect to the release of hazardous substances within such State.

42 U.S.C. § 9614(a).

§ 9652. Effective dates; savings provisions

(d) **Nothing in this chapter shall affect or modify in any way the obligations or liabilities of any person under other Federal or State law, including common law, with respect to releases of hazardous substances or other pollutants or contaminants.** The provisions of this chapter shall not be considered, interpreted, or construed in any way as reflecting a determination, in part or whole, of policy regarding the inapplicability of strict liability, or strict liability doctrines, to activities relating to hazardous substances, pollutants, or contaminants or other such activities.

42 U.S.C. § 9652(d) (emphasis added). In *ARCO Env. Remediation LLC v. Dept. of Health*, 213 F.3d 1108 (9th Cir. 2000) the Ninth Circuit held that CERCLA is not preemptive, reversed the district court and directed that the case be remanded to state court. *Id.* at 1114, 1118. The courts have consistently held that there is no CERCLA preemption of state law nuisance and trespass claims for damages or for equitable relief unless the equitable remedy sought actually interferes as a matter of fact with EPA's efforts to clean up a site. *Borough of Throop v. Gould Electronics, Inc.*, 302 F.Supp.2d 366, 373 (M.D. Pa. 2001) ("We find that the doctrine of preemption does not apply to the obligations of the plaintiff, and further state and federal statutes fail to address such obligations. A borough is required to take its own action and abate things like nuisances."); *Samples v. Conoco, Inc.*, 165 F.Supp.2d 1303 (N.D. Fl. 2001) (a thorough review of legislative history, holding that CERCLA "does not affect the rights of persons to bring nuisance, trespass or similar actions under state law for remedies which do not conflict with CERCLA." *Id.* at 1315); *United States v. Union Gas Co.*, 743 F.Supp. 1144, 1155 (E.D.Pa. 1990) (CERCLA did not preempt claims to abate

nuisance under state law); *New Mexico v. General Electric Co.*, 335 F.Supp. 2d 1185, 1225, 1235-60 (D. New Mexico 2004) (abatement in nuisance of ground water contamination not preempted absent actual conflict with remedy ordered by EPA under CERCLA); *Accord, Arrest the Incinerator Remediation v. OHM Remediation Services Corp.*, 5 F.Supp.2d 291, 294 (M.D. Pa. 1998) (state law nuisance abatement actions are not preempted but cannot “be used to enjoin an ongoing cleanup.”) *aff’d* in part and *vacated* in part in an unpublished opinion; *Attorney General of Michigan v. Thomas Solvent Co.*, 146 Mich.App. 55, 380 N.W.2d 53 (1986) (state action to abate public nuisance flowing from an EPA Superfund Site). *Accord, Manor Care, Inc. v. Yaskin, supra* (CERCLA is not preemptive of state law absent actual conflict); *Cropwell Leasing Co. v. NMS, Inc.*, 5 F.3d 899 (5th Cir. 1993) (CERCLA doesn’t preempt other causes of action).

State Preemption Law

Response to a defense that asserts state law preemption now calls for a multilayered approach. Common law decisions that reject preemption should be enough, but counsel for today’s polluters are unfettered by binding precedent. Even language in a regulatory statute that disavows preemption or limitations of other rights does not deter forceful silk-touched argument to the contrary. It becomes necessary to examine the source of the regulations themselves.

We again present Georgia law as an example.

Georgia Courts have repeatedly rejected assertions that regulatory compliance is a bar to actions in trespass or in nuisance. *E.g., Superior Farm Management, LLC v. Montgomery*, 270 Ga. 615, 617 (1999). Nonetheless, the Georgia Hazardous Site Response Act is cited by polluters as a limitation of liability in nuisance and trespass. Why was the Georgia’s Hazardous Site Response Act passed? Harold Reheis, then the Director of EPD, told Congress:

In 1992, Governor Zell Miller called for **an expanded state law to clean up abandoned hazardous waste sites** that could not be addressed under either the federal superfund or then existing state law. In response, the General Assembly passed the Georgia Hazardous Site Response Act.

Testimony of Harold F. Reheis, Director of the Department of Natural Resources, State of Georgia, to the Congress of the United States, Water Resources and Environmental Subcommittee of the Committee on Transportation and Infrastructures, U.S. House of Representatives, Washington, DC, March 5, 1997, p. 3 [emphasis added]. The Georgia Hazardous Site Response Act is the Georgia equivalent of the federal Superfund law. A site so designated under the Georgia Act is thus the state equivalent of a federal Superfund Site. The regulations adopted by the Georgia Department of Natural Resources for implementation of the Act make it clear that this is a *hazardous waste dump site* statute and that its regulations are not intended to be preemptive. Rule 391-3-19-.07(1) provides:

Risk Reduction Standards

(1) Purpose and Scope. Rule 391-3-19-.07 specifies the information and procedures necessary to demonstrate compliance with requirements under HSRA for corrective action for all regulated substance releases at a site or individual property **at a site listed on the Hazardous Site Inventory. Compliance with these requirements**

does not preclude the requirement to comply with any stricter standards that may be applicable under other state or federal laws or regulations. These risk reduction standards may be applicable, relevant, or appropriate requirements for remedial actions under the NCP.

Rule 391-3-19-.07(1) Georgia Administrative Code [Emphasis added]

We point out that the plaintiff's property is not listed on EPD's Hazardous Site Inventory, a place no homeowner would want to be. In effect, the defendant contends that only those whose properties have qualified for Georgia's Hazardous Waste Site registry should be allowed to pursue a claim in nuisance or trespass.

The "reporting standards" and "risk-reduction standards" are not intended to be preemptive. They were written to identify hazardous waste dumps and to give guidance for remediation of such dumps, remediation that often must be done at abandoned waste sites with public money within the limited budget of a state agency. A polluter thus seeks to take a statute designed to address abandoned hazardous waste dumps and use it as a license to pollute other people's property. The emptiness of a defendant's argument that EPD regulations for reporting and remediation of hazardous waste sites provide a bright-line standard for what can offend a reasonable homeowner is further belied by the fact that the regulations do not create a bright-line remediation standard even for abandoned dump sites. The regulations provide:

(e) More stringent criteria may be established for a site than are specified under Rule 391-3-19-.07(7)(b) and (c) if the Director or the responsible party determines that it is necessary to protect human health or the environment.

Rule 391-3-19-.07(7)(e) Georgia Administrative Code.

The Georgia Water Quality Control Act provides:

Nothing in this article shall be construed to alter or abridge any right of action existing in law or equity, civil or criminal, nor shall any provision of this article be construed to prevent any person, as a riparian owner or otherwise, from exercising his rights to suppress nuisances or to abate any pollution.

O.C.G.A. § 12-5-46. The Georgia Supreme Court has held:

Appellants counter that equity is not needed to protect the property owners because of the protection of state environmental laws. But, such laws do not attempt to alter general rules of law with regard to private nuisances and will not aid or impede a private individual in an action to enjoin a nuisance. [C.O.]

Superior Farm Management, LLC v. Montgomery, 270 Ga. 615, 617 (1999). In *Galaxy*, the Court held that compliance with a discharge permit issued by EPD was not a bar to liability in nuisance and in an exercise of common sense further held that the fact that harm occurred despite compliance with EPD regulations supported the conclusion, "that administrative proceedings before the Environmental Protection Division of the Department of Natural Resources do not provide the appellees with an adequate remedy." *Galaxy Carpet Mills, Inc., supra*, 255 Ga. at 429-430. The

Georgia Court of Appeals has also rejected regulatory preemption or limitation of liability in nuisance:

In the case sub judice, the appellant has produced some evidence as to the value [of the property] before the nuisance was discovered as well as some opinion evidence as to the value after the nuisance was discovered, which would provide the measure of damages for the jury to determine damages, if any. Thus, even if at trial appellant fails to be able to prove anything more than nominal damages to her realty interests, she has a right to seek the above damages from a jury.

Hammond v. City of Warner Robins, 224 Ga.App. 684, 690 (1997). The one judge who dissented from the *en banc* decision in *Hammond* pointed out that the majority in *Hammond* was holding that the plaintiff had an action in nuisance even though the methane gas at issue was found only once upon the plaintiff's property, and even though the level found was "over 500 times below the lowest risk level of combustion, which is the only danger methane gas poses." *Id.* at 694 (Beasley, J., dissenting).

Defendants routinely claim that the existence of remediation regulations is proof that contamination below the level found in the regulations is proven to be harmless or "safe". However, the term "safe levels" is not normally to be found in environmental statutes or regulations. *See, e.g.*, O.C.G.A. § 12-8-90, *et seq.* Rule 391-3-19-.01, *et seq.*, Georgia Administrative Code. Environmental regulations such as Georgia's HSRA regulations are not the product of a committee of learned scientists, toxicologists and physicians. In Georgia, they are regulations adopted by a politically appointed Board of the Department of Natural Resources. O.C.G.A. § 12-8-93. The statute empowers the EPD Director:

(5) To appoint a hazardous waste trust fund advisory committee and to consult with that committee in developing rules and regulations regarding criteria for compilation of the hazardous site inventory, site priorities, uses of the fund, cleanup standards, and deed notations. At a minimum, **the director shall appoint to the committee four representatives from local government, four representatives from business and industry, and four representatives from other interested parties.** Upon promulgation of rules and regulations in accordance with this part, the director shall no longer be required to consult with the committee; provided, however, that the director shall consult with the committee from time to time as necessary to adopt, promulgate, modify, amend, or repeal rules and regulations in accordance with this part;

O.C.G.A. § 12-8-94(5) (Emphases added). The most recent committee assembled to make recommendations for the Georgia HSRA regulations included lawyers from King & Spalding, Alston & Bird, Arnall, Golden & Gregory and the author of this paper. Other committee members included representatives from Georgia Power, a railroad, municipalities and environmental groups. Issues were debated vigorously and recommendations were made for consideration by the DNR Board. The committee, though, could not in any way be described as a scientific study group assembled to analyze the impact of toxins on the environment and human health, or to calculate scientifically safe levels of exposures. It was not the National Academy of Sciences. The developing medical

literature on the dangers of mercury and PCBs was never discussed, even though the present risk reduction standards for listed hazardous waste sites were promulgated prior to publication of what are now the seminal studies concerning mercury and PCBs. Most, if not all, of the committee members could have been struck for cause if summoned for jury duty in an environmental tort case.

Primary Jurisdiction

The doctrine of primary jurisdiction is a matter of deference and discretion and not a matter of law. *See, e.g., Direct Media Corp. v. Camden Tel. & Tel. Co.*, 989 F.Supp. 1211, 1219 (S.D. Ga. 1997). As such, it is not an appropriate issue for resolution on a motion for judgment on the pleadings and should not be a bar to a jury trial.

The Science

A polluter defendant can be expected to submit an affidavit of a toxicologist or other environmental scientist to the effect that the contaminant is below “safe”, “conservative” clean up levels and is therefore harmless. The swearing scientist is frequently a retiree of a state or federal agency. Depose him, for the affiant has rarely done anything other than to tour the site and compare test results with numbers found in the regulations.

The plaintiff’s response to the court cannot be so simplistic. Go to the books. Examine environmental literature and medical literature, for otherwise you will concede to the polluter the license to poison birds, fish and perhaps even your pets.

“Risk Reduction Standards” found in environmental regulations are just that- guidelines to reduce risks. Soil contaminant levels may meet standards based upon assumptions as to how much dirt an average human being will ingest. Indirect means of exposure, such as through the food chain, or harm to fish, plants and animals are not considered. Moreover, regulations do not change quickly and may have been promulgated long before authoritative studies were published.

PCBs and Mercury are Dangerous

We use as an example literature on Mercury and PCBs. Mercury and PCBs are biologically active toxins that are harmful to human health and the environment. Women who are pregnant or who may become pregnant, a group that would include almost all females under age fifty, risk death or brain damage to any child they bear if they have eaten seafood contaminated with mercury and PCBs or otherwise ingested or absorbed mercury or PCBs. PCBs and mercury are toxic to oysters, clams, fiddler crabs, fish, mink, marsh hens, snails and to any animal or human that eat them, with the mercury and PCBs bioaccumulating and biomagnifying so that concentrations of the PCBs and mercury become increasingly higher as they pass up the food chain. An article published in 1970 quotes a statement from a study by Dr. Morris Brehmer of the Virginia Institute of Marine Sciences:

PCBs in very low concentrations cause deaths in fish, crab and oyster populations. Dr. T.W. Duke and his colleagues at the Bureau of Commercial Fisheries Laboratory in Florida report that one part per billion (or less than one pint of one PCB in 300 acres of water a foot deep) will affect the growth of oysters. Effects of PCBs on plants and animals lower in the food chain have not been determined.

SFI Bulletin. Vol. 218, Sept. 1970, p. 7. The study referred to above was published. Duke, T.W., et al., *A Polychlorinated Biphenyl (Aroclor 1254) in the Water, Sediment, and Biota of Escambia Bay, Florida*, Bulletin of Environmental Contamination & Toxicology, 5:2, p.171 (1970). This study reported that oysters exposed to PCBs at one part per billion had a 19% decrease in shell growth and that, with exposure at 100 parts per billion, all the oysters died. As to shrimp, the study states: "Our laboratory studies showed that juvenile shrimp were the most sensitive, and were killed when exposed to 5.0 ppb of Aroclor 1254 in flowing sea water," Id. at 178. A government study done in 1984 states:

High levels of mercury have been documented in invertebrates and vertebrates of St. Simons estuary (Odum, 1974, Windom et al., 1976, Kendall, 1978, Gardner et al., 1978). Data from the same studies indicates that biomagnification of mercury has occurred within the food chain of the estuary. Mercury concentrations have been lowest in the principal primary producer, *Spartina alterniflora*, and highest in vertebrate fauna associated with the marsh. The Georgia Game and Fish Division has recommended against marsh hen (rail) hunting in the area for the last several years. Although discharges of mercury to the estuary have reportedly been reduced, high residual mercury contamination of the marsh continues to be a problem and has been discussed by Odum (1974), Windom et al. (1976), and Gardner et al. (1978). Since marsh soils and sediments have been highly contaminated and the estuary is not highly flushed, the mercury problem may persist for many years.

Investigatory Monitoring of Contaminants in Fish and Wildlife, St. Simons Estuary, Georgia, Patuxent Wildlife Research Center (August 14, 1984)

A paper by Ron R. Odom of the Georgia Department of Natural Resources noted: The Turtle River-Brunswick River Area, upstream from Brunswick, Georgia; and the Savannah River, from Augusta to Savannah River, from Augusta to Savannah, were identified in 1970 and 1971 as being heavily contaminated with mercury, discharged for many years by the chlor-alkalai industry along the rivers. The Olin Corporation and the Allied Chemical Corporation were singled out as the primary mercury polluters in the Savannah River and Brunswick estuary (Georgia Water Quality Control Board 1971).

. . . .

In the Brunswick estuary, mercury contamination generally was found to be greater than the 0.50 ppm. limit, as set by the U.S. Food and Drug Administration, in the blue crab (*Callinectes sapidus*), speckled trout (*Cynoscion nebulosus*), and flounder (*Paralichthys lethostigma*)

. . . .

The saltmarsh in the Brunswick estuary supports an extremely high population of clapper rail (*Rallus longirostrus*), which are hunted by a growing number of sportsmen each fall. Large numbers of soras (*Porzana carolina*) also use these same marshes during periods of migration, though seldom are they hunted.

Possible contamination, particularly of the potentially important clapper rail and its

food chain, was suspected; therefore collections of rails and rail food items were initiated at various locations along the Georgia Coast. Of primary concern was levels of mercury present in the eatable portion of the marsh hen, which might be ingested by hunters.

Reports of sick water birds are not uncommon in the Brunswick Area. Symptoms described, and in several instances observed, were similar to those characteristic of mercury poisoning. Symptoms appear to be neurological, including difficulty in walking and standing, and inability to control muscle movements. No recent necropsy records are available for water birds from the polluted area.

Both polluted areas also support moderate to high mammal populations. Effects on such species as the mink (*Mustela vison*), raccoon (*Procyon lotor*), and otter (*Lutra canadensis*), which feed and thrive in and around the contaminated areas, have not been determined. High levels of mercury are also likely to have detrimental effects on mammal populations. Cats have been killed experimentally by feeding them fish and shellfish contaminated at 5.7 ppm. (Study Committee on Mercury Hazards 1970).

Odom, Ron R., *Mercury Contamination in Georgia Rails*, Georgia Dept. of Nat. Resources.

Brain damage caused by eating mercury-contaminated fish is known as Minamata Disease, named for Minamata Bay, Japan, where a chemical plant had dumped mercury into the waters that methylized and moved up through the food chain, injuring the brains of those who ate the fish. One of the first signs of the problem was that cats along the shore of Minamata Bay were behaving strangely, going mad and dying. *Mercury Poisoning: The Legacy of Minamata, Japan*, Environmental Health Monthly, 9:6-7, p.3, March/April 1997.

A careful person can reduce his risk of exposure to toxic mercury and PCBs by foregoing his right to fish, and by not digging in his contaminated soil, but his pets remain at risk.

In Georgia, industrially dumped PCBs have moved up the fish food chain into bottlenose dolphins above the "level at which immunological and reproductive effects start to occur." *Frolicking 'Flipper' may be endangered by pollution*, Skidaway Campus Notes; Pulster, et al., *Polychlorinated Biphenyls and Toxaphene in Preferred Prey Fish of Coastal Southeastern U.S. Bottlenose Dolphins (Tursiops Truncatus)*, Environmental Tox. and Chem., 24:12, p.3128 (2005).

Studies, reported in respected journals, confirm that methylmercury is particularly neurotoxic to infants *in utero* and for young children. Grandjean, et al., *Methylmercury Exposure Biomarkers as Indicators of Neurotoxicity in Children Aged 7 Years*, American Journal of Epidemiology, 150:3 John Hopkins University School of Hygiene and Public Health, 1999; *Toxicological Effects of Methylmercury*, pp. 16-18, National Academy of Sciences, 2000. Trasande, *Public Health and Economic Consequences of Methyl Mercury Toxicity to the Developing Brain*, Environmental Health Perspectives, 113:5, p.590, May, 2005; Yokoo, et al., *Low level methylmercury exposure affects neuropsychological function in adults*, Environmental Health, June 2003.

A study conducted in Finland concluded that high consumption of fish contaminated with methylmercury doubled the rate of both myocardial infarctions and cardiac death. *Circulation* 1995; 91: 645-655, American Heart Association, Inc. A paper published in 2001 by the Environmental

Working Group of the State PIRGs states:

Exposure to mercury in the womb can cause learning deficits, delay the mental development of children, and cause other neurological problems. Mercury consumed by a pregnant woman through contaminated fish can cross her placenta to damage the brain of her baby. As a National Academy of Sciences panel definitively warned last year, some children exposed in utero by their mothers' fish consumption are at risk of falling in the group of children "who have to struggle to keep up in school and who might require remedial classes of special education."

Brain Food: What Women Should Know about Mercury Contamination of Fish, Environmental Working Group, U.S. PIRG Education Fund (2001), p. i. The report further states:

When a pregnant woman eats a serving of mercury-contaminated fish, methylmercury crosses the placenta and enters her baby's brain within a matter of hours. It is stored there, where it blocks the natural formation and migration of nerve cells and slows the growth of the brain. **There is no amount of mercury known to be harmless.** The only limiting factor in our understanding of mercury's toxicity is scientists' ability to measure the effects (subtle neurological deficits from low-level exposures to mercury), like those of a baby in the womb whose mother eats a tuna fish sandwich once a week.

Id., p.11. (Emphasis added) The link between mercury and autism in our children is a matter under study. *Possible environmental risk factors in the etiology of autism: Mechanisms altering cellular Ca²⁺ signaling*, National Institute of Child Health & Human Development. The study published by the National Academy of Sciences concluded that current science supports the EPA's recommended daily exposure limit for methylmercury of 0.1 ug/kg per day rather than the FDA level that is equivalent to five times higher than the EPA levels. Toxicological Effects of Methylmercury, *supra*, pp. 21-25, pp. 326-329. 0.1 ug/kg is one part per ten billion. Stated numerically, it is .0000000001 kilogram.

Environmental exposures to PCBs likewise pose serious threats to human health. Women with elevated levels of PCBs in their bodies as a result of eating fish contaminated with PCBs produce children with statistically significant lower IQ's. Jacobson and Jacobson, *Intellectual Impairment in Children Exposed to Polychlorinated Biphenyls in Utero*, *New England Journal of Medicine* 335:11, September 12, 1996, p.783. The more highly chlorinated PCBs have been found to be deadly to children *in utero*. Bercovici, et al., *Serum Levels of Polychlorinated Biphenyls and Some Organochlorine Insecticides in Women with Recent and Former Missed Abortions*, *Environmental Research* 30, 169-174 (1983); Wassermann, et al, *Premature Delivery and Organochlorine Compounds: Polychlorinated Biphenyls and Some Organochlorine Insecticides*, *Environmental Research* 28:106-112 (1982). The chemical soup that constitutes PCBs has been found in human and animal studies to mimic human hormones, and thereby to alter pubertal growth and development in humans, even at "background" levels. Gladen, et al, *Pubertal Growth and Development and Prenatal and Lactational Exposure to Polychlorinated Biphenyls and Dichlorodiphenyl Dichloroethene*, *The Journal of Pediatrics*, 136:4, p.490 (2000). One study reported that boys exposed *in utero* to PCBs had reduced penile length and neuro-cognitive deficits.

Guo, et al., *Neuro-Endocrine Developmental Effects in Children Exposed in Utero to PCBs: studies In Taiwan* [abstract], *Neurotoxicology* 16:752 (1995)

PCB exposure as a possible cause of Parkinson Disease is being examined, along with the synergistic effect of PCBs and mercury on Dopamine in the brain. Summary of Study Results, Parkinson's Disease, Dopamine and PCBs, Seegal, *Emerging Stories of Discovery, PCBs and Methylmercury Synergistically Reduce Rat Brain Dopamine Content*, Archived Profiles in Environmental Health Research, 1999; Bemis, et al., *Polychlorinated Biphenyls and Methylmercury Act Synergistically to Reduce Rat Brain Dopamine Content in Vitro*, *Environmental Health Perspectives*, 107:11, November 1999.

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What person *of ordinary sensibilities* would want such stuff dumped in his backyard?

John C. Bell, Jr.