

GMO Crops, Pesticides, Birth Defects, Coral Bleaching and Lies

WWF-US statement on Monsanto

WWF does not have a partnership or any formal relationship with Monsanto. WWF is committed to achieving zero net deforestation and forest degradation and has played a key role alongside other NGOs to establish and maintain the soy moratorium to combat deforestation in the Amazon (and Cerrado). WWF co-founded the Roundtable on Responsible Soy (RTRS), a multi-stakeholder initiative to encourage environmentally, socially and economically sound soy production. Monsanto is a member of the RTRS, and a prominent actor in genetically modified soy production, but their membership does not mean that WWF endorses their position or actions. We believe that being part of the RTRS to develop standards with other stakeholders will have a much greater impact than refusing to participate and so we will continue to do so. Moreover, we maintain the precautionary principle to use of GMOs.

Doesn't Genetic Modification follow what nature does already?

In April 2004, Dr Maewan Ho, Geneticist and Co-Director of the Institute of Science in Society was interviewed by Anastasia Stephens, a journalist from the Evening Standard. ¹
AS *"Doesn't genetic modification follow what nature does already - the evolutionary principle of genetic selection?"*

MWH *"No, GM breaks all the rules of evolution, it short circuits evolution altogether. It bypasses reproduction, creates new genes and gene combinations that have never existed, and is not restricted by the usual barriers between species."*

Policy Statement on Pesticides Exposure in Children American Academy of Pediatrics²

This statement presents the position of the American Academy of Pediatrics on pesticides. Pesticides are a collective term for chemicals intended to kill unwanted insects, plants, molds, and rodents. Children encounter pesticides daily and have unique susceptibilities to their potential toxicity. Acute poisoning risks are clear, and understanding of chronic health implications from both acute and chronic exposure are emerging. Epidemiologic evidence demonstrates associations between early life exposure to pesticides and pediatric cancers, decreased cognitive function, and behavioral problems. Related animal toxicology studies provide supportive biological plausibility for these findings.

Monsanto's push for GMOs in Latin America in 1996 and violent suppression of anyone who revealed the serious health effects on the rural communities

Birth defects in Argentina

Monsanto's Mission Statement for its projects in Latin America (2012 website)

"Monsanto is committed to helping improve lives – especially the lives of farmers in small rural communities around the world." Pablo Vaquero, Monsanto Latin America South corporate affairs director, said: "Today, we are helping to change the lives of many individuals in remote and forgotten communities where opportunities are scarce. We are convinced that by helping with training and education, as a company, we are able to add value to people and their communities. Projects have been implemented in 14 provinces in Argentina (Buenos Aires, Santa Fe, Córdoba, La Pampa, San Luis, Santiago del Estero, Entre Ríos, Corrientes, Formosa, Misiones, Salta, Tucumán, Jujuy and Chaco) and one in the Republic of Paraguay. Many farmers and people know about Monsanto Company because of

¹ <http://www.i-sis.org.uk/GMmyths.php>

² <http://pediatrics.aappublications.org/content/130/6/e1757.full>

the Roundup® Ready trait, which is a trait that gives in-plant tolerance to Roundup® agricultural herbicides. The trait was introduced to the market in 1996 and brought a whole new element to farmers. In 1996, farmers could now plant soybeans, spray the soybeans with Roundup®, and poof- the weeds were gone and the soybeans were still as healthy as they were before they sprayed the field”.

The above-mentioned rural communities in which glyphosate and other biocides were regularly sprayed on Roundup® Ready Soya had increased incidence of birth defects, miscarriages, infertility, cancers, DNA damage, neurological development problems in children and allergies.³

Devastating Impacts of Glyphosate Use with GMO Seeds in Argentina”⁴

Published on the I-SIS website on 18/02/2015 by Dr Medardo Ávila-Vázquez, a paediatrician and neonatologist at the Faculty of Medical Sciences, National University of Córdoba, Argentina. *“Widespread GM soybean cultivation and accompanying pesticide spraying is wreaking havoc on the health of millions.”*

Dr Ávila-Vázquez is the coordinator of the Physicians of Crop-Sprayed Towns, a University Network for Environment and Health that campaigns against agrochemical spraying and provides medical treatment to villages suffering from illnesses as a result of agrochemical exposure. Since noticing the health of his patients deteriorate and patterns of illness change, he has campaigned tirelessly for the protection of local people, particularly children who are some of the worst affected.

“The model of agricultural production foisted on Argentina by international biotechnology companies has led to 858 % increase in the amount of pesticides used per year, resulting in a massive environmental and health impact in the region.” ...“ Glyphosate is the most commonly used toxic agrochemical in Argentina, comprising 64 % of total sales, and 200 million litres of glyphosate were applied during the last crop season.” ...“ The clinical manifestations that physicians working in the crop-sprayed towns find in patients are consistent with the results of scientific research on the effects of various pesticides including glyphosate on experimental animals. Laboratory research by our Scientists show how glyphosate acts on embryonic development to produce birth defects [8], and how this poison damages DNA molecules in the cell nucleus, promoting mutant cell lines that will cause cancer if they cannot be eliminated by the individual [9-11].

Also, a number of scientific papers worldwide show how exposure to toxic agrochemicals significantly increases the rate of birth defects, miscarriages, cancer, and hormonal disorders in people subjected to repeated sprayings [12-15].”

Fig 1. The rise in birth defects correlates with the rise in cultivation of GM glyphosate-tolerant soybeans in Chaco, Argentina. Birth defects per 10 000 live births increased from approx. 15/10,000 live births in 1997 to approx. 82/10,000 live births in 2008.

Birth defects in animals in Montana correlates with those in humans in the US⁵

A recent study by Hoy *et al.* found alarming increases in congenital malformations in wildlife in Montana that Hoy has been documenting for the past 19 years. Similar birth defects have occurred in humans in the US. Their graphs illustrating human disease patterns over the twelve-year period correlate remarkably well with the rate of glyphosate usage on corn, soy, and wheat crops, which has increased due to Roundup® Ready crops. While the animals’

³ INGLES-Report-from-the-1st-National-Meeting-Of-Physicians-In-The-Crop-Sprayed- Towns.pdf Faculty of Medical Sciences, National University of Cordoba, Argentina, August 27 & 28 2010

⁴ http://www.i-sis.org.uk/Devastating_Impacts_of_Glyphosate_Argentina.php

⁵ <http://www.esciencecentral.org/journals/the-high-cost-of-pesticides-human-and-animal-diseases-2375-446X-1000132.pdf>

exposure to the herbicide is through food, water and air, the authors believe that human exposure is predominantly through food, as the majority of the population does not reside near agricultural fields and forests. They conclude: *“Our over-reliance on chemicals in agriculture is causing irreparable harm to all beings on this planet, including the planet herself. Most of these chemicals are known to cause illness, and they have likely been causing illnesses for many years. But until recently, the herbicides have never been sprayed directly on food crops, and never in this massive quantity. We must find another way.”*

Increase in birth defects in the UK compared with Sweden⁶

Deaths in the under 5s in the UK are twice those of Sweden and the three main causes are prematurity, congenital malformations and infections. The mortality rates for the three main causes of death in the UK (prematurity, congenital malformations and infections) were 138.5, 112.1 and 63.9, respectively, per 100 000 children for the three years 2006-2008. The mortality rates for the same three conditions in Sweden were 10.1, 88.6 and 34.8, respectively.

Global burden of disease study 2010 shows declines in the health of the UK and US

Between 1990 and 2010, Britain and the US have slipped down the scale of health compared with other wealthy nations and the patterns of disease are remarkably similar. Congenital anomalies were mentioned as having increased in the Global burden of Disease study 1990-2010.

In the US: “However, morbidity and chronic disability now account for nearly half of the US health burden, and improvements in population health in the United States have not kept pace with advances in population health in other wealthy nations”.⁷

In the UK: “The performance of the UK in terms of premature mortality is persistently and significantly below the mean of EU15+ and requires additional concerted action... premature mortality from several major causes such as cardiovascular disease and cancers... In terms of premature mortality worsening ranks are most notable for men and women aged 20-54 years. Increases in Alzheimer’s disease, breast cancer, oesophageal cancer, congenital anomalies “and a growing burden of disability, particularly from mental disorders” are all acknowledged.⁸

Birth defects and GMOs in Hawaii: Pesticides in paradise⁹

Carla Nelson, Californian pediatrician says that in Waimea, there have been at least nine babies born with congenital cardiac malformations in five years; that’s more than 10 times the national rate, according to analysis by local doctors. They find themselves in the eye of a storm swirling for the past three years around the Hawaiian archipelago over whether a major cash crop on four of the six main islands, corn that’s been genetically modified to resist pesticides, is a source of prosperity, as the companies claim – or of birth defects and illnesses, as the doctors and many others suspect.

Summary of Center for Food Safety Pesticide Report for Hawaii¹⁰

GENETICALLY ENGINEERED (GE) CROPS IN HAWAI’I (SECTION 3)

⁶ <http://adc.bmj.com/content/early/2015/07/15/archdischild-2014-308059>

⁷ <http://www.ncbi.nlm.nih.gov/pubmed/23842577> The state of US health, 1990-2010: burden of diseases, injuries, and risk factors

⁸ <http://www.ncbi.nlm.nih.gov/pubmed/23668584> UK health performance: findings of the Global Burden of Disease Study 2010

⁹ <http://www.theguardian.com/us-news/2015/aug/23/hawaii-birth-defects-pesticides-gmo>

¹⁰ http://www.centerforfoodsafety.org/files/pesticidereportfull_86476.pdf

Hawai'i leads the nation in GE crop field trials, with tests on 1,141 sites in 2014 alone, representing a far higher density of field tests than on larger mainland states (3.1).

The majority of GE crops tested in Hawai'i are corn (67%) or soybeans (24%), while virtually no GE crops relevant to Hawai'i's food needs are being tested (3.2).

The most commonly tested GE "trait" is herbicide-resistance (82% of field releases over the past two years), which permits heavier and more frequent spraying of herbicides than is otherwise possible (3.2 & 3.4).

PESTICIDE USE ON HAWAI'I (SECTION 4)

GE seed corn in Hawai'i involves much more intensive use of pesticides than mainland field corn, for instance, 17 times more restricted use insecticides (4.1 to 4.4).

From 2007-2012 on Kauai, DuPont-Pioneer alone applied 90 different pesticide formulations representing 63 active ingredients on 2/3 of the days each year, with on average 8.3 to 16 applications per application day in various years of this period (4.3).

Large agricultural users of more hazardous "restricted use pesticides" (RUPs) – mostly seed firms – account for 99.8% of agricultural RUP sales on the Islands (4.6).

ADVERSE IMPACTS OF PESTICIDES REPORTED IN HAWAI'I (SECTION 5)

Pesticide drift frequently sickens Hawai'i's schoolchildren, triggering nausea, vomiting, dizziness and difficulty breathing, among other symptoms, and in some cases necessitating decontamination showers, school evacuations and hospitalization.

Children and adults in Waimea, Kaua'i, downwind of DuPont-Pioneer fields, have been particularly hard hit by pesticide drift and "fugitive dust;" Kaua'i physicians report "almost daily" respiratory complaints, as well as nose bleeds and dermatitis; and they suspect pesticides as a possible cause of high cancer and birth defect rates.

Hawai'i's lack of a pesticide poisoning surveillance system, as found in 11 other states, means that pesticide drift is likely far more common than realized.

HEALTH IMPACTS OF PESTICIDE EXPOSURE (SECTION 6)

Farmworkers and children are at greatest risk from pesticides, due to high exposure and greater sensitivity, respectively. Fetuses (via maternal exposure) are the most vulnerable.

In a major review of the medical literature, the American Academy of Pediatrics found strong evidence linking pesticide exposure of kids to childhood cancers, neurobehavioral and cognitive deficits, adverse birth outcomes, and asthma. Many of the implicated pesticides (e.g. chlorpyrifos, atrazine) are heavily used in Hawai'i (6.2).

Adults exposed to pesticides have higher risk of various cancers, Parkinson's disease, depression, and reproductive problems, such as low sperm counts (6.1).

Studies suggest that even one-time (acute) pesticide poisoning episodes can sometimes have long-term health impacts (6.4).

ENVIRONMENTAL IMPACTS OF PESTICIDES IN HAWAI'I (SECTION 7)

Hawai'i's incredible biodiversity and many threatened and endangered species are at risk from intensive pesticide use on the Islands.

For instance, atrazine contamination of surface water threatens amphibian life, while many insecticides heavily used in seed corn operations are toxic to bees.

Gastroschisis: a major congenital defect of the abdominal wall

Sidney Johnson, a pediatric surgeon at the Kapiolani Medical Center for Women and Children who oversees all children born in Hawaii with major birth defects and operates on many, says he's been thinking about pesticides a lot lately. The reason: he's noticed that the number of babies born here with their abdominal organs outside, a rare condition known as gastroschisis, has grown from three a year in the 1980s to about a dozen now.¹¹

Atrazine is still used extensively in many countries, including the US and Australia and Syngenta relentlessly pursues anyone who says it is harmful.¹² Although atrazine was banned in the EU in 2004, it was still used in Britain 4 years after it had been banned in Europe.¹³ In 2008, illegal levels of atrazine >0.1µg/l were found in more than 25% of groundwater monitoring sites in the UK.¹⁴ The Environment Agency Groundwater Database had recorded a maximum concentration of atrazine of 13.04µg/l. That is 130 times the EU legal limit for groundwater (2004/248/EC).¹⁵

Was heavy contamination of groundwater with atrazine linked to a gastroschisis cluster in Kent?

In April 2012, The Daily Mail and Mail on Sunday revealed that nine babies born over 12 years in one street in Kent had the same major congenital anomaly, gastroschisis.¹⁶ Gastroschisis is a major congenital defect in the abdominal wall, almost always to the right of the navel, through which the abdominal contents freely protrude. An investigation was carried out which reported on 10 July 2013.¹⁷ The Public Health investigation did not find evidence of higher rates of gastroschisis than could be considered normal in the Waterdales Road area. Defra endorsed the statement and Syngenta said: *"There is no proven link between atrazine and these defects. Atrazine does not cause developmental abnormalities."*

Atrazine does appear to be linked with developmental abnormalities despite denials

Gastroschisis had been reported in association with atrazine in the US in 2010.¹⁸ The investigators had found this report, but for some reason had dismissed it. In May 2013, 3 months before the Report was published a Case-control study of maternal residential atrazine exposure and male genital malformations in their offspring was undertaken in Texas.¹⁹

¹¹ <https://alethonews.wordpress.com/2015/08/26/hawaii-sees-10-fold-increase-in-birth-defects-after-becoming-gm-corn-testing-grounds/>

¹² www.newyorker.com/reporting/2014/02/10/140210fa_fact_aviv

¹³ <https://secure.fera.defra.gov.uk/pusstats/index.cfm> Atrazine

¹⁴ http://www.pesticides.gov.uk/Resources/CRD/Migrated-Resources/Documents/P/Pesticides_Forum_Oct_2008_WFD.pdf

¹⁵ <http://nora.nerc.ac.uk/14557/1/OR11013.pdf> A British Geological Survey Report (2011): 'Emerging contaminants in groundwater' which has remained unpublished.

¹⁶ <http://www.dailymail.co.uk/news/article-2142106/One-street-Nine-babies-born-horrific-rare-deformity-And-troubling-question--mothers-poisoned-weedkiller.html>

¹⁷ Report into possible cluster of Gastroschisis in Northfleet: Meradin Peachey, Director of Public Health, Kent County Council (Formerly Director of Public Health Kent and Medway) 10 July 2013

¹⁸ <http://www.ncbi.nlm.nih.gov/pubmed/20207240> Agricultural-related chemical exposures, season of conception, and risk of gastroschisis in Washington State.

¹⁹ <http://www.ncbi.nlm.nih.gov/pubmed/23494929>

Extracts from Abstract: "Exposure to endocrine disrupting chemicals has been associated with risk for male genital malformations. However, residential prenatal exposure to atrazine, an endocrine disrupting pesticide, has not been evaluated...Previous literature from animal and epidemiological studies supports our findings. Our results provide further evidence of a suspected teratogenic role of atrazine."

Just after the Report was published (in December 2013): The incidence of abdominal wall defects is related to surface water atrazine and nitrate in Indiana²⁰ appeared and a further paper confirmed the link; Maternal residential atrazine exposure and gastroschisis by maternal age.²¹

Australia had a similar cluster of cases of gastroschisis to the UK in a small community in NSW in 2011 but industry and the APVMA denied a link

The global incidence of gastroschisis is one in 5,000, but data from the Australian Bureau of Statistics puts the incidence for NSW's Northern Rivers region at one in 950 births.

In the past three years there have been at least seven babies born with the defect around the community of Wadeville.²²

In a population-based study of 122 cases in Western Australia between 1980 and 2001 there was a sustained increase in incidence of gastroschisis and a significant fetal death rate in the third trimester.²³

In 2010, researchers at the University of Washington released a landmark study analysing almost 20 years of medical and agricultural data for Eastern Washington.

It linked the rising rate of gastroschisis to exposure to Atrazine-contaminated waters, particularly for women who conceived in spring - the peak spraying time.

Another 2010 study from the University of California found one in 10 male frogs exposed to Atrazine turned into females, while 75 per cent were rendered sterile.

Studies done by the manufacturer of Atrazine did not come to the same conclusions.

The Australian Pesticides and Veterinary Medicines Authority (APVMA) is the regulator of pesticides. "The APVMA has reviewed in detail scientific studies that suggest possible links between Atrazine and gastroschisis and Atrazine and Hermaphroditism in frogs. While the studies are interesting, they do not satisfy internationally accepted standards of scientific rigour, relevance and reliability, which regulators rely upon to make decisions," the APVMA said in a statement.

CSIRO admitted that Australia works with global corporations for market access

In 1992, according to an interview with John Stocker, Commonwealth Scientific and Industrial Research Organisation's former chief executive, *"Working with the transnationals makes a lot of sense, in the context of market access... There are very few Australian companies that have developed market access in the United States, in Europe and in Japan, the world's major marketplaces. Yes, we do find that it is often the best strategy to get into bed with these companies."*²⁴ **The APVMA was also established in 1992.**

Delay since 1999 in identifying and banning endocrine disruptors in Europe

The Community strategy on endocrine disruptors is from 1999, but no real action has resulted from it. There appear to be many individuals and bodies fighting to delay the ban on agricultural pesticides that have been causing endocrine disruption in humans and animals for the last 30 or so years: low semen quality in men, genital malformations, adverse

²⁰ <http://www.ncbi.nlm.nih.gov/pubmed/17560200>

²¹ <http://www.ncbi.nlm.nih.gov/pubmed/23184502>

²² <http://www.abc.net.au/news/2011-05-14/birth-defect-cluster-sparks-investigation/2715546>

²³ [http://www.ajog.org/article/S0002-9378\(03\)00819-6/abstract](http://www.ajog.org/article/S0002-9378(03)00819-6/abstract)

²⁴ http://powerbase.info/index.php/Commonwealth_Scientific_and_Industrial_Research_Organisation

pregnancy outcomes and birth defects, neurobehavioural disorders related to thyroid function, increasing incidence of endocrine-related cancers (breast, endometrial, ovary, prostate, testicular and thyroid cancers), early breast development in girls and the prevalence of obesity and Type 2 diabetes.

Endocrine Disrupting Chemicals (EDC) – 2012 Commissioned by WHO and UNEP

An assessment of the State of Science of Endocrine Disruptors was prepared for the United Nations Environment Program and the World Health Organization by a group of approximately 50 expert scientists led by Professor Åke Bergman, University of Stockholm.²⁵ The authors outlined the current evidence of: 1) a high incidence, and increasing trends, of many endocrine-related disorders in humans; 2) observations of endocrine-related effects in wildlife populations; 3) identification of chemicals with endocrine disrupting properties linked to disease outcomes in laboratory studies.

“Endocrine-related disorders in humans are manifest by:

- *Increases in low semen quality in young men (up to 40%)*
- *Incidence of genital malformations has increased over time*
- *Adverse pregnancy outcomes and birth defects has increased in many countries*
- *Neurobehavioural disorders related to thyroid dysfunction has increased*
- *Endocrine-related cancers (breast, endometrial, ovary, prostate, testicular and thyroid cancers) have been increasing over the past 40–50 years*
- *Earlier onset of breast development in young girls which leads to breast cancer*
- *The prevalence of obesity and Type 2 diabetes is increasing. The WHO estimates that 1.5 billion adults worldwide are overweight or obese and that the number with Type 2 diabetes increased from 153 million to 347 million between 1980 and 2008”*

The conclusion was: *“It is essential to evaluate associations between EDC exposures and health outcomes by further developing methods for which proof of concept is currently under development.”* An Editorial in the *Lancet*²⁶ concluded: *“there is currently no widely agreed system for assessing the strength of associations between exposure to chemicals (including EDCs) and adverse health outcomes.”*

Why didn't glyphosate even appear on the list of candidates for Endocrine Disrupting Chemicals? There is plenty of evidence from independent scientists. In addition, the evidence produced in the Report that atrazine was also an EDC was overwhelming; why was atrazine not named as one? The reason is that atrazine is still used extensively in many countries, including the US and Australia.

Link between eating organic food and reduced risk of urogenital defects

A large epidemiological study published in *Environmental Health Perspectives* and led by Dr Anne Lise Brantsæter at the Norwegian Institute of Public Health in Oslo. The research used data collected from the Norwegian Mother and Child Cohort Study. It links consumption of organic food with decreased rates of hypospadias and cryptorchidism, both common types of male urogenital birth defects. This is the first prospective study to find a significant link between consumption of organic foods and reduced risk of hypospadias.²⁷

The 27–year decline of coral cover on the Great Barrier Reef and its causes²⁸

Extracts: Based on the world's most extensive time series data on reef condition (2,258 surveys of 214 reefs over 1985–2012), we show a major decline in coral cover from 28.0% to

²⁵ http://unep.org/pdf/9789241505031_eng.pdf

²⁶ [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(13\)60564-4/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(13)60564-4/fulltext)

²⁷ <http://ehp.niehs.nih.gov/wp-content/uploads/advpub/2015/7/ehp.1409518.acco.pdf>

²⁸ <http://www.pnas.org/content/109/44/17995.full>

13.8% (0.53% y^{-1}), a loss of 50.7% of initial coral cover. Tropical cyclones, coral predation by crown-of-thorns starfish (COTS), and coral bleaching accounted for 48%, 42%, and 10% of the respective estimated losses amounting to 3.38% y^{-1} mortality rate. Importantly, the relatively pristine northern region showed no overall decline. Thus, reducing COTS populations, by improving water quality and developing alternative control measures, could prevent further coral decline and improve the outlook for the Great Barrier Reef. Such strategies can, however, only be successful if climatic conditions are stabilized, as losses due to bleaching and cyclones will otherwise increase.

Glyphosate persistence in samples of seawater extracted from the Great Barrier Reef; ²⁹ this poison has probably been responsible for much of the destruction of the GBF's aquatic vertebrates and invertebrates over the 40 years it has been in use.

Extracts: Glyphosate is one of the most widely applied herbicides globally but its persistence in seawater has not been reported. Here we quantify the biodegradation of glyphosate using standard "simulation" flask tests with native bacterial populations and coastal seawater from the Great Barrier Reef. The half-life for glyphosate at 25 °C in low light was 47 days, extending to 267 days in the dark at 25 °C and 315 days in the dark at 31 °C, which is the longest persistence reported for this herbicide. AMPA, the microbial transformation product of glyphosate, was detected under all conditions, confirming that degradation was mediated by the native microbial community. This study demonstrates glyphosate is moderately persistent in the marine water under low light conditions and **is highly persistent in the dark**. Little degradation would be expected during flood plumes in the tropics, which could **potentially deliver dissolved and sediment-bound glyphosate far from shore**.

Why was glyphosate found in the sea and so far from shore?

Instructions for using Roundup Advance AG Herbicide by Monsanto include: "*Protection of Wildlife, Fish, Crustacea and Environment. Do not contaminate dam, river or stream with the product.*" ³⁰

Clothianidin (Sumitomo Shield a systemic neonicotinoid insecticide) has been granted registration by APVMA for use on very low-lying sugar cane plantations.

Instructions: PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT ³¹

DO NOT apply under weather conditions, or from spraying equipment, that may cause spray drift onto nearby or adjacent areas, particularly wetlands, water-bodies or watercourses.

This product is highly toxic to aquatic invertebrates. DO NOT contaminate streams, rivers or waterways with the chemical or used containers. DO NOT apply when there are aquatic and wetland areas including aquacultural ponds or surface streams and rivers downwind from the application area and within the mandatory no-spray zone shown in table 1.

Massive kills of wildlife during flooding events

In 2011, Australia (New South Wales and Queensland) had disastrous floods.³² The Darling River area had suffered prolonged drought followed by heavy rain and flooding. On March 11 Bourke Township experienced a massive fish kill. An eye-witness said: "*It was phenomenal; you couldn't see the water, there were carp gasping for breath and crayfish crawling onto the bank.*" Counting the dead fish passing Bourke Weir at 100/sec. Geoff Wise estimated 8 million per day and the event continued for 5 days; 40 million dead fish was said to be an underestimate. It was described as a 'Black Water' event and attributed to lack of

²⁹ <http://www.sciencedirect.com/science/article/pii/S0025326X14000228>

³⁰ <http://websvr.infopest.com.au/LabelRouter?LabelType=L&ProductCode=70096>

³¹ http://www.sumitomo-chem.com.au/sites/default/files/pdf/labels/shield_label.pdf

³²

http://www.water.nsw.gov.au/_data/assets/pdf_file/0003/549282/menindee_lakes_management_community_summary.pdf

oxygen from organic material being washed down the river following flooding of a plain. But beekeepers suspected otherwise: *“why were the crayfish trying to escape the water if it was only due to lack of oxygen?”*³³ Agricultural land borders 2,500 km of the Darling River. Cotton is grown in the area; at the time, more than 95% was seed-treated GMO and 96% was imidacloprid treated. BUT OF COURSE GLYPHOSATE WOULD HAVE BEEN PRESENT IN THE WATER TOO. Two further ecological disasters have occurred down the Queensland Coast after the floods in December 2010 and January 2011. In July 2011 *“the northern coast of Queensland has become littered with sick and dying turtles and dugongs (sea cows).”* It was attributed to run-off of nutrients into the ocean *“potentially killing the sea grass that both turtles and dugongs feed on.”*³⁴

On September 19 2011 in Gladstone Harbour many sick fish were discovered; barramundi and bream were found with sores, skin rashes and infected eyes.³⁵ Capricorn Conservation Council suspected industrial pollution, so fishing was prohibited.

According to beekeeping sources, the entire Queensland Coast above Gladstone are the biggest areas for sugar cane in Australia and clothianidin (Sumitomo Shield Systemic insecticide) has been granted registration by APVMA for use on these very low-lying sugar cane farms.

“A sudden mass starvation of turtles and dugongs, a rare sea mammal, off the coast of Queensland has prompted warnings of a long-term natural disaster in the normally sheltered waters just inshore of Australia's Great Barrier Reef.”

Hawaii to experience worst-ever coral bleaching due to high ocean temperatures

Warmer-than-normal ocean temperatures around Hawaii this year will likely lead to the worst coral bleaching the islands have ever seen, scientists said.³⁶

Many corals are only just recovering from last year's bleaching, which occurs when warm waters prompt coral to expel the algae they rely on for food, said Ruth Gates, the director of the Hawaii Institute of Marine Biology. The phenomenon is called bleaching because coral lose their color when they push out algae.

The island chain experienced a mass bleaching event in 1996, and another one last year. This year, ocean temperatures around Hawaii are about 3F to 6F warmer than normal, said Chris Brenchley, meteorologist for the US National Weather Service (NWS) in Honolulu.

Bleaching makes coral more susceptible to disease and increases the risk they will die. This is a troubling for fish and other species that spawn and live in coral reefs. It is also a concern for Hawaii's tourism-dependent economy.

Worldwide Fund for Nature's (WWF) Living Blue Planet Report on the state of the world's oceans

WWF Living Blue Planet Report - an updated study of marine mammals, birds, reptiles and fish - shows that marine populations have declined by 49% between 1970 and 2012.³⁷

It was published in September 2015 and painted a bleak picture of the state of the world's oceans: marine populations, including reef ecosystems, have halved in size since 1970 and some species are teetering on the brink of extinction.³⁸ Coral reef cover has declined by 50% in the last 30 years and reefs could disappear by as early as 2050, the report says, if current rates of ocean warming and acidification continue. WWF estimates that 850 million people

³³ <http://www.theabk.com.au/article/neonicotinoids-australia>

³⁴ <http://www.telegraph.co.uk/news/worldnews/australiaandthepacific/australia/8753630/Mass-starvation-of-dugongs-and-turtles-on-Great-Barrier-Reef.html>

³⁵ <http://www.abc.net.au/news/2011-11-09/gladstone-harbour-in-pictures-and-quotes/3650296>

³⁶ <http://www.theguardian.com/us-news/2015/sep/13/hawaii-coral-bleaching-scientists-predict-worst-ever>

³⁷ http://assets.wwf.org.uk/downloads/living_blue_planet_report_2015.pdf

³⁸ <http://www.theguardian.com/global/the-coral-triangle/2015/sep/25/wwf-worlds-richest-reef-system-could-soon-succumb-to-climate-change>

depend directly on coral reefs for their food security - a mass die-off could trigger conflict and human migration on a massive scale.

100 million of these reef-reliant peoples live in the Coral Triangle – singled out in the report as “richer in marine natural capital” than anywhere else on earth. Currently, fisheries exports from the Coral Triangle – which encompasses the waters of Indonesia, Malaysia, Philippines, Papua New Guinea, Solomon Islands and Timor Leste – amount to around \$5bn (£3.3bn), including 30% of the global tuna catch, and a lucrative trade in live reef fish for food markets, which is worth nearly \$1bn (£655m). But there are serious questions about the sustainability of these fisheries.

But the severest threat is to the reef ecosystems themselves: 85% of reefs in the Coral Triangle are classified as threatened, significantly higher than the global average of 60%. More than 40 per cent of coral loss has been caused by outbreaks of the coral-eating crown-of-thorns starfish, which are fuelled by **nutrient run-off from farms** (De’ath et al., 2012). WWF is working with farmers, governments and companies to cut pollution so coral can recover.

Dead zones in the Gulf of Mexico³⁹

Dead zones are defined as large areas of ocean water that are mostly devoid of oxygen. These are a growing problem worldwide. They are claimed to be ‘**nutrient-rich discharges from farms**, sewage treatment plants, and other sources,’ and pose a major threat to marine life. Of the more than 550 dead zones that form each year around the world, the dead zone in the Gulf of Mexico is thought to be the second largest one caused by humans. Scientists have been tracking the size of the dead zone in the Gulf of Mexico for the past 30 years. Data from this year’s survey indicate that the dead zone that formed in 2015 is above average in size, likely because of heavy rains in June.

The 2015 dead zone in the Gulf Mexico was measured at 6,474 square miles (16,768 square kilometers) during a July 28 to August 3 survey cruise. For the past five years, the dead zone has averaged about 5,500 square miles (14,245 square kilometers). Hence, this year’s dead zone is above average in size.

Why are pesticides never mentioned? Are scientists and journalists are paid to avoid using the word?

An Ecomodernist Manifesto⁴⁰ in which the authors advocate agricultural intensification states: *“Intensifying many human activities — particularly farming, energy extraction, forestry, and settlement — so that they use less land and interfere less with the natural world is the key to decoupling human development from environmental impacts.”*

The Ecomodernists are wrong.

- It is not possible to decouple humans from the environment; human health depends on biodiversity
- The large dead zones in places like the Gulf of Mexico are not due to nitrogen eutrophication, but to masses of agricultural chemicals destroying aquatic systems
- Farms in the US where Monsanto’s Roundup® Ready crops are grown are biological deserts

Craig Childs, author of *Apocalyptic Planet*, describes searching for signs of life in 2012 on a farm in Grundy County, Iowa, which was growing Monsanto’s GM Bt Roundup® Ready corn: *“I had come to a different type of planetary evolution. I listened and heard nothing, no bird, no click of an insect. Mr Owen was the farmer who had given us permission to backpack across*

³⁹ <http://earthsky.org/earth/large-2015-gulf-of-mexico-dead-zone>

⁴⁰

<http://static1.squarespace.com/static/5515d9f9e4b04d5c3198b7bb/t/552d37bbe4b07a7dd69fcd9bb/1429026747046/An+Ecomodernist+Manifesto.pdf>

his cornfields. He grew a combination of DuPont and Monsanto stock. We were in DuPont now. It didn't look any different to me."⁴¹

American journalist Robert Krulwich reviewed *Apocalyptic Planet*: "Yet, 100 years ago, these same fields, these prairies, were home to 300 species of plants, 60 mammals, 300 birds, hundreds and hundreds of insects. This soil was the richest, the loamiest in the state. And now, in these patches, there is almost literally nothing but one kind of living thing. We've erased everything else. There's something strange about a farm that intentionally creates a biological desert to produce food for one species: us. It's efficient, yes. But it's so efficient that the ants are missing, the bees are missing, and even the birds stay away. Something's not right here. Our cornfields are too quiet."⁴²

Nature reported emerging pathogens as threats to animal and plant health

Outbreaks of infectious diseases amongst species of wildlife around the world (such as amphibians, honey bees, bumblebees, fish, birds and bats) have occurred over the last 25 years. In general, the public in the US and UK has not been informed.

Since the late 1990's US scientists have written in increasingly desperate tones. In 2012 there were two papers in *Nature*: "Biodiversity loss and the impact on humanity"⁴³ and "Emerging fungal threats to animal, plant and ecosystem health."⁴⁴ "In both animals and plants, an unprecedented number of fungal and fungal-like diseases have recently caused some of the most severe die-offs and extinctions ever witnessed in wild species, and are jeopardizing food security." Authors of this last review had appealed to scientists urgently to find "the elusive magic bullet". Only one paper from California dared to mention pesticides. Davidson *et al.*⁴⁵ reported in 2002 spatial patterns of decline for four California ranid frogs and matched the declines with the distribution of agricultural lands (based on US Geological Survey (USGS) land use maps and key predominant wind directions based on California Air Resources streamline wind maps). The authors stated that "In California, the transport and deposition of pesticides from the agriculturally intensive Central Valley to the adjacent Sierra Nevada is well documented, and pesticides have been found in the bodies of Sierra frogs." The widespread use on agricultural crops of the systemic neonicotinoid insecticides⁴⁶ and the herbicide glyphosate,⁴⁷ both of which cause immune suppression, make species vulnerable to emerging infectious pathogens, driving large-scale wildlife extinctions.

Chytrid fungus has wiped out amphibian populations over five continents

Chytrid fungus, *Batrachochytrium dendrobatidis* has wiped out amphibian populations over five continents. A spokesman for IUCN said: "The IUCN Red List currently considers 31% of the earth's amphibians are threatened with extinction...it's thought that 159 species have vanished forever in recent years." Amphibians, particularly tadpoles, are considered to be environmental indicators of indirect ecosystem effects because of their unique niche at the boundary of the aquatic-terrestrial ecosystems as well as their sensitivity to pollutants. While tadpoles feed on periphyton, adult amphibians are strictly insectivorous. Amphibians

⁴¹ Craig Childs: *Apocalyptic Planet*: Chapter 6 Species Vanish. "How shall the heart be reconciled to its feast of losses?" Stanley Kunitz, American Poet 1905-2006.

<http://www.houseofrain.com/bookdetail.cfm?id=1344621970977>

⁴² Robert Krulwich commenting on Craig Childs' weekend in a field growing Monsanto's Roundup Ready Corn.

<http://www.npr.org/blogs/krulwich/2012/11/29/166156242/cornstalks-everywhere-but-nothing-else-not-even-a-bee>

⁴³ <http://www.nature.com/nature/journal/v486/n7401/full/nature11148.html>

⁴⁴ <http://www.ncbi.nlm.nih.gov/pubmed/22498624>

⁴⁵ <http://www.csus.edu/indiv/d/davidsonc/davidsonc-consbio-compressed-02.pdf>

⁴⁶ <http://www.stmconnect.com/sites/default/files/3-12%20%20JEIT-2014.pdf>

⁴⁷ http://www.fs.fed.us/foresthealth/pesticide/pdfs/seratr01_43_08_04.pdf

were the first group of vertebrates to be affected by the epidemics of diseases caused by uncommon pathogens. Joseph Mendelson an amphibian taxonomist wrote in 2011:⁴⁸ *“The reality of amphibian declines and extinctions has shifted the ecological baseline in so many ecosystems, that an entire generation of biologists is conducting their research in a framework that has been very recently remodelled. I am a taxonomist and I have seen my career vacillate between the thrill of discovering new species and the chill of tracking extinction events—including species that I described.”*

Open Letter from America warning Europe not to use GM crops⁴⁹

Individuals and organizations representing nearly 60 million US citizens – just under 25% of the total adult population – have signed and endorsed the Letter from America which sets out the US experience of GMO food and farming, and warns us not to follow this example.

Is WWF-US totally out of touch with US Citizens, or have they relied on Monsanto’s version of the truth?

Extracts from Open Letter from America:

“Environmental harm: Studies have shown that the increased herbicide use on Roundup® Ready crops is highly destructive to the natural environment. For example, Roundup® kills milkweeds, which are the key food source for the iconic Monarch butterfly and poses a threat to other important insects such as bees. It is also damaging to soil, killing beneficial organisms that keep it healthy and productive and making essential micronutrients unavailable to the plant.

Without healthy soil, we cannot grow healthy plants.

Human Health: GM ingredients are everywhere in our food chain. It is estimated that 70% of processed foods consumed in the US have been produced using GM ingredients. If products from animals fed GM feed are included, the percentage is significantly higher. Research shows that Roundup® Ready crops contain many times more glyphosate, and its toxic breakdown product AMPA, than normal crops.

GM foods were not subjected to human trials before being released into the food chain and the health impacts of having these substances circulating and accumulating in our bodies are not being studied by any government agency, nor by the companies that produce them. Studies of animals fed GM foods and/or glyphosate, however, show worrying trends including damage to vital organs like the liver and kidneys, damage to gut tissues and gut flora, immune system disruption, reproductive abnormalities, and even tumors. These scientific studies point to potentially serious human health problems that could not have been anticipated when our country first embraced GMOs, and yet they continue to be ignored by those who should be protecting us. Instead our regulators rely on outdated studies and other information funded and supplied by biotech companies that, not surprisingly, dismiss all health concerns...

Through our experience we have come to understand that the genetic engineering of food has never really been about public good, or feeding the hungry, or supporting our farmers. Nor is it about consumer choice. Instead it is about private, corporate control of the food system. Americans are reaping the detrimental impacts of this risky and unproven agricultural technology. EU countries should take note: there are no benefits from GM crops great enough to offset these impacts. Officials who continue to ignore this fact are guilty of a gross dereliction of duty.”

The Scandal of Glyphosate Re-assessment in Europe

⁴⁸ http://amphibiaweb.org/refs/pdfs/Mendelson_2011_HerpReview.pdf

⁴⁹ <http://www.theletterfromamerica.org/>

Glyphosate re-assessment in Europe has been described as ‘fraudulent’ and ‘inadequate’

The Institute of Science in Society (I-SIS) Report 07/09/2014

Scandal of Glyphosate Re-assessment in Europe⁵⁰

EU rapporteur state Germany recommends re-approval with daily intake increased by 67 %; its re-assessment was carried out by Monsanto and a consortium of chemical companies in Europe based almost entirely on studies from industry; it should be rejected outright.

*“But BfR and its federal agency partners did not actually review the published toxicology studies. Instead they relied on a summary provided to them by the **Glyphosate Task Force (GTF)**”*

The Glyphosate Task force is a consortium of companies committed to keeping glyphosate registered in the EU.⁵¹

Academic fraud and corruption: University scientists caught conspiring with Monsanto to manipulate public opinion on GMOs⁵²

Dave Murphy EcoWatch, September 12, 2015

Last weekend (September 2015), the New York Times released a stunning expose of how Monsanto and the biotech industry enlisted allegedly independent public university scientists in a deceptive campaign to lobby state legislators in Pennsylvania, interfere with ballot initiatives in Oregon and Colorado and paper over risks of high pesticide usage on the Hawaiian island of Kauai...

According to New York Times investigative reporter Eric Lipton, as the GMO labeling debate was coming to a boil in America in the past three years, Monsanto and their “*industry partners retooled their lobbying and public relations strategy to spotlight a rarefied group of advocates: academics, brought in for the gloss of impartiality and weight of authority that come with a professor’s pedigree*” ...

Lipton’s story details how a University of Illinois professor and longtime GMO promoter Bruce Chassy used his Monsanto connections to lobby the Environmental Protection Agency to abandon its efforts to tighten regulations on insecticidal GMO seeds. If you take a dive into the emails, you can see how Chassy enlisted the help of former advisor to George W. Bush and Hillary Clinton, Nina Federoff in his efforts to influence the EPA’s policies. In the emails, Chassy’s efforts to lobby the EPA for looser regulations were encouraged by a Monsanto lobbyist even as Chassy was negotiating the release of his grant from the company...

For background on how this current story originally broke, you have to go back to Aug. 6, when the international science journal *Nature* reported that more than 4,600 pages of emails from University of Florida plant scientist Kevin Folta “reveal his close ties to the agriculture giant Monsanto ... and other biotechnology-industry interests”...

US journalists have also been paid for writing on behalf of Monsanto⁵³

John Entine founded the Genetic Literacy Project that reported Kevin Folta’s complaints.

Hawaii activists smear campaign against independent Florida scientist Kevin Folta:⁵⁴

September 25, 2013. “When you are an academic scientist that interacts with the public there are a few that are gunning to discredit you at every turn,” writes Kevin Folta, a professor and researcher in the University of Florida’s horticulture program, in his

⁵⁰ http://www.i-sis.org.uk/Scandal_of_Glyphosate_Reassessment_in_Europe.php

⁵¹ <http://www.glyphosetaskforce.org/>

⁵² <http://ecowatch.com/2015/09/12/scientists-conspire-monsanto-gmos/>

⁵³ http://www.naturalnews.com/051393_Monsanto_operatives_Keith_Kloor_Jon_Entine.html

⁵⁴ <http://www.geneticliteracyproject.org/2013/09/25/hawaii-activists-gear-up-smear-campaign-against-independent-florida-scientist/>

independent blog. “The bottom line is, if you are out there communicating science effectively and they can’t address your evidence, they have to engage an *ad hominem* critique of the scientist. I’ve been through this before and described it here.” John Entine suggested that Amy Harmon might like to write a pro-GMO piece in Hawaii in January 2014, when the critical battle about banning GMOs was going on.⁵⁵

Four different patents have been filed for glyphosate in the US by Monsanto (and granted)

- As a chelator of heavy metals (used to clean boilers) and a wetting agent in 1961⁵⁶
- As a herbicide in 1968⁵⁷
- As an antibiotic in 2002⁵⁸
- As an anti-Protozoal agent in 2003⁵⁹

The German Rapporteur Member State recommended re-approval of glyphosate to the European Food Safety Authority (EFSA)

Professor Dr Dr Andreas Hensel President of the Federal Institute of Risk Assessment (BfR) at a Press release in March 2014 said on behalf of BfR: “*These new studies do not suggest that glyphosate has carcinogenic or embryo-damaging properties or that it is toxic to reproduction in test animals. The data do not warrant any significant changes in the limit values of the active ingredient... Worldwide, glyphosate is one of the most common active ingredients in pesticides used to prevent unwanted plant growth in plant cultivation or to accelerate the ripening process of crops (desiccation). Glyphosate inhibits an enzyme (5-enolpyruvylshikimate- 3-phosphate synthase) which is essential for the biosynthesis of certain amino acids. This enzyme is not found in animals and humans.*”⁶⁰

This final statement by the German BfR is wrong: glyphosate poisons humans in the same way as it poisons plants. Humans and animals have exactly the same pathway as in plants; mammals can only absorb nutrients via the bacteria in their gut; the gut microbiome. The gut microbiome is the collective genome of organisms inhabiting our body.⁶¹ Pesticide scientists and plant scientists have based their assessment of herbicides on complete ignorance of human physiology. UK public health experts and physicians in the Wellcome Trust and the Royal Society have failed to question the accuracy of the assessors’ knowledge.

World Health Organisation’s International Agency for Research on Cancer (IARC) has declared glyphosate as a 2A carcinogen (probably carcinogenic in humans)

The IARC reached its decision based on the view of 17 experts from 11 countries, who met in Lyon, France, to assess the carcinogenicity of 5 organophosphate pesticides.⁶²

The WHO/JMPR makes the final decision about the registration of glyphosate

Natural Resources Defense Council (NRDC) wrote to the World Health Organization (WHO)

⁵⁵ http://www.nytimes.com/2014/01/05/us/on-hawaii-a-lonely-quest-for-facts-about-gmos.html?_r=1

⁵⁶ <http://www.google.com/patents/US3160632>

⁵⁷ <http://www.google.com/patents/US3455675>

⁵⁸ <http://www.google.com/patents/US7771736>

⁵⁹ <http://patft.uspto.gov/netacgi/nph->

<Parser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fmetahtml%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=7771736.PN.&OS=PN/7771736&RS=PN/7771736>

⁶⁰

http://www.bfr.bund.de/en/press_information/2014/03/glyphosate_no_more_poisonous_than_previously_assumed_although_a_critical_view_should_be_taken_of_certain_co_formulants-188898.html

⁶¹ <http://www.nature.com/nature/journal/v500/n7464/abs/nature12506.html>

⁶² [http://www.thelancet.com/pdfs/journals/lanonc/PIIS1470-2045\(15\)70134-8.pdf](http://www.thelancet.com/pdfs/journals/lanonc/PIIS1470-2045(15)70134-8.pdf) Carcinogenicity of tetrachlorvinphos, parathion, malathion, diazinon, and glyphosate.

with the list of eight members of this Committee.⁶³ They complained that three members had conflicts of interest.⁶⁴ Angelo Moretti resigned in 2011 from EFSA after he had failed to declare conflicts of interest because he had shares in a company that helped companies needing to comply with EU Regulations.

Prof Alan Boobis is Vice-President of the Board of Directors of the International Life Sciences Institute (ILSI) Europe, Vice Chairman of the Scientific Advisory Committee of ILSI Europe and a Member of the Board of Trustees. He was on the WHO/JMPR Committee when glyphosate was granted approval in 2002.⁶⁵

[NB ILSI represents Global Corporations (including the six Agrochemical Giants) with massive resources that are seeking to control the world's food supply. ILSI is an industry organisation based in Washington, DC, USA. It claims to be "a non-profit, worldwide organization whose mission is to provide science that improves human health and well-being and safeguards the environment" and allegedly has charity status.]

The timetable for the decision about re-registration glyphosate keeps being delayed

Glyphosate Task Force Statement in May 2015: Evaluations carried out by regulatory authorities across the world for over forty years have all confirmed that glyphosate poses no unacceptable risk to humans, animals or the environment.

*The Glyphosate Task Force (GTF) therefore does not accept the recent classification of glyphosate by the International Agency for Research on Cancer (IARC) as a Group 2A carcinogen. The evaluation that has produced this outcome demonstrates serious deficiencies in terms of methodological approach and the overall conclusion is inconsistent with the results of all regulatory reviews concerning glyphosate's safety profile.*⁶⁶

The German Rapporteur Member State BfR said:⁶⁷ *In BfR's opinion it would be inexpedient if BfR as the composer of the assessment report on glyphosate would comment on the IARC monograph.*

In that case, why was Dr Roland Solecki, Head of the BfR, one of the eight experts on the WHO/JMPR?

Why did he and his BfR colleagues write the paper: "A critical review of glyphosate findings in human urine samples and comparison with the exposure of operators and consumers" (accepted 03/11/2014, published online: 08/01/2015)⁶⁸ In it they dismissed the study by Moms Across America and Sustainable Pulse in which they found glyphosate in breast milk⁶⁹ and concluded with this statement: "Thus, the results of this review of urine analysis data confirm the conclusion drawn during re-assessment of glyphosate (EFSA 2014) that the dietary intake as well as occupational exposure is unlikely to present a public health concern."

The European Food Safety Authority (EFSA) in July said that the decision would be made in November.⁷⁰ Meanwhile, the US EPA has extended its time for comment to citizens to October 20th.

The European Commission The latest from Michael Flüh, on behalf of the European Commission⁷¹ puts the time of decision 'by mid-November'.

⁶³ http://www.who.int/foodsafety/areas_work/chemical-risks/list_of_experts1.pdf?ua=1

⁶⁴ http://docs.nrcd.org/health/files/hea_15061501a.pdf

⁶⁵ http://whqlibdoc.who.int/publications/2006/9241665203_eng.pdf?ua=1

⁶⁶ <http://www.glyphosate.eu/gtf-statements/statement-gtf-recent-iarc-decision-concerning-glyphosate>

⁶⁷ <http://www.bfr.bund.de/cm/349/bfr-contribution-to-the-eu-approval-process-of-glyphosate-is-finalised.pdf>

⁶⁸ <http://link.springer.com/article/10.1007%2Fs00003-014-0927-3>

⁶⁹ http://www.momsacrossamerica.com/glyphosate_testing_results

⁷⁰ <http://www.efsa.europa.eu/en/press/news/150730>

The WHO/JMPR The reply from the WHO to the NRDC's letter about conflicts of interest gave little away.⁷² NRDC says: The WHO sent us a five paragraph response letter that does little more than acknowledge the receipt of our letter and reminds us that the WHO systematically "*evaluates any declared interest carefully.*" No explanation was given to NRDC as to whether or how their particular concerns were taken into consideration.

Governments and industry have failed to measure levels of glyphosate and neonicotinoid insecticides in the environment

However, the US Geological Survey has made measurements. Glyphosate and its degradation product AMPA occur frequently, and widely in U.S. soils, surface water, groundwater, and precipitation. This is the conclusion of the latest independent survey from the US Geological Survey (USGS) in 2014.⁷³ "The most comprehensive research to date on environmental glyphosate levels exposes the widespread contamination of soil and water in the US, as well as its water treatment system. Looking at a wide range of geographical locations, researchers from the USGS analysed 3,732 water and sediment samples and 1,081 quality assurance samples collected between 2001 and 2010 from 38 states in the US and the district of Colombia. They found glyphosate in 39.4% of samples (1,470 out of 3,732) and its metabolite aminomethylphosphonic acid (AMPA) in 55% of samples.

We are drowning our world in unsafe and untested chemicals⁷⁴

By Gabrielle Canon 01/10/2015

The International Federation of Gynecology and Obstetrics (FIGO), a group representing OB-GYNs from 125 countries, released a report detailing the detrimental health effects caused by even small exposure to common chemicals like the ones found in pesticides, plastics, and air pollution.⁷⁵ The health problems are even greater for babies exposed in the womb, who face increased risks of cancer, reduced cognitive function, and even miscarriage or stillbirth. The organization cited concerns about the sharp increase over the past four decades in chemical manufacturing, which continues to grow by more than 3 percent every year. Some 30,000 pounds of chemicals were manufactured or imported for every person in the United States in 2012 alone—a whopping 9.5 trillion pounds in total. Annually, the FIGO authors write, chemical manufacturing leads to 7 million deaths and billions in health care costs.

Are there senior members of WWF-US who are part of the depopulation agenda planned by the global élite?

Monsanto CEO, Hugh Grant, declared that genetically modified crops are good for poor people who can't afford organic.

The American Bird Conservancy found neonicotinoids in the US Congress Cafeteria Food⁷⁶

In two rounds of testing—the first in January and the second in May of 2015—nearly all Congressional cafeteria food tested positive for one or more neonicotinoid insecticide residues. Sixty out of a total of 66 food samples, or 91%, tested positive for the chemicals. Forty-seven (or 71%) of the foods had two or more neonicotinoids. These are bee- and bird-killing pesticides.

⁷¹ Ares(2015)3893695

⁷² http://docs.nrdc.org/health/files/hea_15091301a.pdf

⁷³ <http://onlinelibrary.wiley.com/doi/10.1111/jawr.12159/abstract>

⁷⁴ <http://www.motherjones.com/environment/2015/10/human-reproduction-threatened-pollution>

⁷⁵ http://www.igo.org/sites/default/files/uploads/News/Final%20PDF_8462.pdf

⁷⁶ http://abcbirds.org/wp-content/uploads/2015/07/CongressionalDiningHallReport_July2015.pdf

Many independent scientists have demonstrated that the neonicotinoid insecticides have effects on the mammalian brain, particularly in the foetus

In 2000, Tomiwaza *et al.* showed that neonicotinoids acted on mammalian nicotinic acetylcholine receptors as well as those of insects, but considered that the selective nature of its binding (i.e. less affinity than in insects) made it safe for human exposure.⁷⁷ However, they are so widespread in the environment and long acting. Clothiandin, for example, has a half-life in soil of up to 1386 days so it accumulates in the soil, yet farmers apply neonicotinoids blindly the next year, when they have no idea what residues are in the soil.

The so-called 'global élite' seem to be inadvertently poisoning them-selves and their children

The élite might think that they can survive by eating organic food, as suggested by Monsanto's CEO Hugh Grant, but they cannot evade the pollution of water, soil and air by these chemicals...and the total loss of biodiversity, without which human life would collapse. These silent poisons are toxic to rich and poor alike; they do not distinguish between Presidents or Prime Ministers, media moghuls or their journalists, Monsanto Executives or Pesticide Regulators, Lords, MPs or citizens of the UK, Members of US Congress, the House of Representatives or US citizens. None of them is guaranteed to be safe.

Accelerated modern human-induced species losses: Entering the sixth mass extinction

In Science Advances June 2015, Ceballos *et al* calculated the average rate of vertebrate losses over the last century and compared it with the background rate of losses. They estimated it to be up to 114 times the background rate. They said that this rate of loss of biodiversity indicated that a sixth extinction is already underway. The authors described themselves variously as ecologists, field biologists, paleo-biologists or population biologists. However, all had two common beliefs. That the conservation of natural ecosystems is essential to human health, but that the accelerated losses of biodiversity were as a result of human activity.

Yours sincerely

Rosemary Mason
Former WWF-UK Guardian

⁷⁷ <http://pubs.acs.org/doi/abs/10.1021/jf000873c>