

Fall 2014

AIR QUALITY REPORT

September, 2014

By Charlotte Read

The US Supreme Court in April upheld EPA regulations that protect cities and states from pollution coming from other states, known as the cross-state air pollution rules, because the pollution they produce blows into other states. Most affected by these rules will be states located in the Eastern United States.

Two weeks ago, EPA released its Second Integrated Urban Air Toxics Report to Congress, the final of two required reports under the Clean Air Act. This report informs Congress of EPA actions and progress in reducing public health risks from urban air toxics. The report's conclusion: substantial progress has been made in reducing millions of tons of toxic pollutants since the passage of the Clean Air Act amendments of 1990 and the development of the Integrated Urban Air Toxics Strategy in 1999. Between 1990 and 2012 EPA has issued 97 technology-based standards covering 174 major source categories—including gasoline distribution facilities, chemical plants, petroleum refineries and utilities; and rules for 68 source categories such as dry cleaners, electric arc furnaces, and small PVC manufacturers – addressing 90% of the worst urban hazardous air pollutants. Mobile source regulations like the 2007 mobile source air toxics rule and the recently finalized tier 3 vehicle and fuel standards, have also achieved substantial air toxic reductions.

Some specific results achieved through EPA's air toxics regulations include a 66% reduction in benzene; almost 60% reduction in mercury from man-made sources like coal-fired power plants; an 84% decrease of lead in outdoor air; an estimated reduction of 1.5 million tons of hazardous air pollutants per year, and almost 3 million tons per year of criteria pollutants as a co-benefit of HAP reductions; and removal of an estimated 1.5 millions tons per year of HAPS from mobile sources, which represents a 50 % reduction in mobile source HAPs emissions

Even with this progress EPA states that additional work remains to improve our understanding of air toxics and to effectively reduce remaining risks, particularly in overburdened communities, and more research into the cumulative impacts of exposure to air toxics on human health.

In June of this year the US Supreme Court upheld EPA's Proposed Clean Power Plan. Under the proposed rules EPA is seeking a 30% reduction of carbon dioxide emissions from existing electric generating plants across the United States by the year 2030 compared to emissions from 2005. Indiana, like other states, has been provided with a proposed limit in pounds of CO₂ per megawatt hour. The limit is based on the fuels used by current 2012 fleet of electric generating unit in each state and the average CO₂ emissions released from these units.

In IDEM's August 2014 Air Quality Report, Office of Air Quality Director, Keith Baugues explains that Indiana is assigned a target by EPA of a 20% decrease in the pounds per megawatt hour from a 2012 baseline.

According to Baugues, the goal of this rule is to decarbonize our energy supply. In other words, reduce the use of coal. And he adds that Indiana has seen a reduction in actual CO₂ emissions from 2005 to 2012 due to closing of some coal fires units, switching to natural gas, and the use of renewable energy. He does not mention the Governor's decision to end Indiana's renewable energy program by the end of this year. He also points out that additional reductions can be expected as utilities make adjustments to meet other regulations, such as the mercury and air toxics standard and the one-hour sulfur dioxide standard.

Baugues is pessimistic at best about the rule. He is unsure whether Indiana can meet the rule's goal. "We are still looking at options and do not have a definitive answer at this time," he states. He projects impacts on Indiana and its citizens, and repeats utility and chamber of commerce projections of up to a 30% increase in electric bills. He also mentions that higher electric rates may force some Indiana businesses to move out of state or to foreign countries that do not require CO₂ reductions. "This could increase global greenhouse gas emissions."

In his September 2015 Air Quality Report he continues pessimistically. He criticizes the four building blocks EPA relies on in setting a 20% reduction for Indiana.

First, EPA relies on heat rate improvements: Utilities are expected to make improvements that will result in more energy output per amount of coal that they burn.

Second, is to dispatch up to 70% of the natural gas generating capacity available.

Third is renewable energy. EPA expects Indiana to get 7% of its electricity from renewable energy by 2030. Remember, Indiana's current program ends Dec. 31.

Fourth is demand side efficiency. For example, a utility offering a rebate for buying a new [more energy efficient] refrigerator and having the old refrigerator removed, and receiving a check from the utility. EPA expects an 11.1% energy reduction.

Many states believe that only heat rate improvement is legal because it deals with the source of emissions. Going outside the fence to control other sources is not within UW EPA's authority. This issue will be tried in the courts.

EPA is accepting comments on this proposed rule until October 16. Baugues is planning to comment on the proposed rule, discussing some of his concerns.

DEER COMMITTEE TESTIMONY

By Chuck Bauer

August 26

The Indiana Division of the Izaak Walton League of America (IWLA) has over 4,800 members. Most members are hunters; others are fishers, wildlife watchers, campers, hikers, and conservationists. We adamantly oppose high fence shooting operations in Indiana. We believe they are against our current laws and should remain so.

The historic American wildlife legacy holds our wildlife resources in the "Public Trust," belonging to the people and the land, and not belonging to landlords or landowners. Just because you capture, confine, breed and sell wildlife does not remove it from being wildlife.

Recently, wild deer and elk, family Cervidae, have been captured, confined, bred, penned and shot, violating our wildlife legacy. The Indiana IWLA believes that Cervidae are an important part of Indiana's Natural Resources, not for sale and not for purchase, and should be managed by the Indiana Division of Natural Resources. Imports of live deer and elk should be banned and the risks of disease such as CWD seriously watched and controlled by all means necessary to prevent introduction and spread of disease to our wild deer in Indiana. Disease in a captive herd can be managed by quarantining or euthanasia and ceasing imports and exports. The League knows of no example where large scale CWD has been eradicated from a free roaming deer herd. A decade ago the industry pointed to the fact that Colorado had CWD in wild white tails for many years in a small area. It has since jumped the mountains and the infected area is expanding.

If cervid farms are allowed to continue in Indiana we do need to address fencing regulations. One issue of agreement between deer farmers and hunters and conservationists is that it is important to keep the wild white tail population separate from captive cervids to prevent disease transmission. The Advisory Council on Captive Cervids in 2004 contacted state deer biologists as well as other knowledgeable professionals and all agreed that a single eight foot containment fence was not adequate to keep wild whitetails separated from captive cervids. A male whitetail in pursuit of a female will jump an 8 foot fence with ease. It will jump a 10 foot fence very seldom. A single fence also allows "nose to nose" contamination through a fence. The Council authored a proposed fencing requirement requiring either one 10 foot fence or two 8 foot fences with a 10 to 30 foot mowed buffer between. Since the council could not reach agreement on shooting confined animals these fencing requirements were not implemented.

[Given to the Indiana General Assembly Interium Study Committee on High Fence Shooting.]

COMBAT CLIMATE CHANGE

[Reprinted with permission from the Fall 2014 issue of 'Earthwise', a publication of the Union of Concerned Scientists.]

In June, the Environmental Protection Agency [EPA] proposed a new rule that would reduce existing power plants' heat-trapping carbon dioxide emission approximately 30 percent below 2005 levels by 2030. The electricity sector is the United States' largest source of global warming emissions, so this standard will help combat climate change and the impacts that threaten our health, environment, and economy. Although this is a meaningful first step, the reduction goals are not strong enough to meet the challenge of global warming; we need to seize the opportunity to strengthen this standard and achieve even deeper and more cost-effective emissions reductions from the power sector.

UCS analysis shows that a combination of strong federal energy policies could drive a more ambitious carbon standard; one that would cut the power sector's emissions 47 percent below 2005 levels by 2020 and more than 60 percent by 2030. Efficiency standards would reduce electricity demand; renewable energy standards would meet the remaining demand with zero-emissions electricity. Wind and solar power are already delivering safe, reliable, and affordable power to consumers across the country, and providing a source of new jobs.

The proposed standard gives states the flexibility to include renewable energy and energy efficiency in their compliance plans, and to pool their resources for the purpose of acquiring clean energy. In so doing, states can achieve deep emissions reductions cost-effectively while avoiding an over-reliance on natural gas, which comes with serious climate, health, consumer, and environmental risks (see www.ucsusa.org/gasceiling to learn more).

Write to the EPA today and urge the agency to raise its carbon emissions reduction targets to at least 50 percent below today's levels by 2030. Send your comments via the online UCS Action Center at www.ucsusa.org/action, or mail them to:

Environmental Protection Agency
EPA Docket Center (EPA/DC)
Mailcode: 28221T
Attn: Docket ID no. OAR-2013-0602
1200 Pennsylvania Avenue NW
Washington, DC 20460

TOP TEN POLICIES FOR A STEADY STATE

By Herman Daly

[Reprinted from Population Press, a publication of Blue Planet United:
www.populationpress.org . May 10, 2014]

Let's get specific. Here are ten policies for ending un-economic growth and moving to a steady-state economy. A steady-state economy is one that develops qualitatively (by improvement in science, technology, and ethics) without growing quantitatively in physical dimensions; it lives on a diet – a constant metabolic flow of resources from depletion to pollution (the entropic throughput) maintained at a level that is both sufficient for a good life and within the assimilative and regenerative capacities of the containing ecosystem.

Ten is an arbitrary number – just a way to get specific and challenge others to suggest improvements. Although the whole package here discussed fits together in the sense that some policies supplement and balance others, most of them could be adopted singly and gradually.

1. Cap-auction-trade systems for basic resources. Caps limit biophysical scale by quotas on depletion or pollution, whichever is more limiting. Auctioning the quotas captures scarcity rents for equitable redistribution. Trade allows efficient allocation to highest uses. This policy has the advantage of transparency. There is a limit to the amount and rate of depletion and pollution that the economy can be allowed to impose on the ecosystem. Caps are physical quotas, limits to the throughput of basic resources, especially fossil fuels. The quota usually should be applied at the input end because depletion is more spatially concentrated than pollution and hence easier to monitor. Also the higher price of basic resources will induce their more economical use at each upstream stage of production, as well as at the final stages of consumption and recycling. Ownership of the quotas is initially public – the government periodically auctions them to individuals and firms. There should be no “grandfathering” of quota rights to previous users, nor “offshoring” of quotas for new fossil fuel power plants in one by place by credits from planting trees somewhere else. Reforestation is a good policy on its own. It is too late for self-canceling half measures – increased carbon sequestration and decreased emissions are both needed. The auction revenues go to the treasury and

are used to replace regressive taxes, such as the payroll tax, and to reduce income tax on the lowest incomes. Once purchased at auction the quotas can be freely bought and sold by third parties, just as can the resources whose rate of depletion they limit. The cap serves the goal of sustainable scale; the auction serves the goal of fair distribution; and trading allows efficient allocation – three goals, three policy instruments. Although mainly applied to nonrenewable resources, the same logic works for limiting the off-take from renewable resources, such as fisheries and forests, with the quota level set to approximate a sustainable yield.

2. Ecological tax reform. Shift the tax base from value added (labor and capital) to “that to which value is added,” namely the entropic throughput of resources extracted from nature (depletion), and returned to nature (pollution). Such a tax shift prices the scarce but previously un-priced contribution of nature. Value added to natural resources by labor and capital is something we want to encourage, so stop taxing it. Depletion and pollution are things we want to discourage, so tax them. Payment above necessary supply price is rent, unearned income, and most economists have long advocated taxing it, both for efficiency and equity reasons. Ecological tax reform can be an alternative or a supplement to cap-auction-trade systems.

3. Limit the range of inequality in income distribution with a minimum income and a maximum income. Without aggregate growth poverty reduction requires redistribution. Unlimited inequality is unfair; complete equality is also unfair. Seek fair limits to the range of inequality. The civil service, the military, and the university manage with a range of inequality of a factor of 15 or 20. Corporate America has a range of 500 or more. Many industrial nations are below 25. Could we not limit the range to, say, 100, and see how it works? This might mean a minimum of 20 thousand dollars and a maximum of two million. Is that not more than enough to give incentive for hard work and compensate real differences? People who have reached the limit could either work for nothing at the margin if they enjoy their work, or devote their extra time to hobbies or public service. The demand left unmet by those at the top will be filled by those who are below the maximum. A sense of community, necessary for democracy, is hard to maintain across the vast income differences current in the United States. Rich and poor separated by a factor of 500 have few experiences or interests in common, and are increasingly likely to engage in violent conflict.

4. Free up the length of the working day, week, and year – allow greater option for part-time or personal work. Full-time external employment for all is hard to provide without growth. Other industrial countries have much longer vacations and maternity leaves than the United States. For the classical economists the length of the working day was a key variable by which the worker (self-employed yeoman or artisan) balanced the marginal disutility of labor with the marginal utility of income and of leisure so as to maximize enjoyment of life. Under industrialism the length of the working day became a parameter rather than a variable (and for Karl Marx was the key determinant of the rate of exploitation). We need to make it more of a variable subject to choice by the worker. Milton Friedman wanted “freedom to choose” – OK, here is an important choice most of us are not allowed to make! And we should stop biasing the labor-leisure choice by advertising to stimulate more consumption and more labor to pay for it. At a minimum advertising should no longer be treated as a tax-deductible expense of production.

5. Re-regulate international commerce – move away from free trade, free capital mobility, and globalization. Cap-auction-trade, ecological tax reform, and other national measures that internalize environmental costs will raise prices and put us at a competitive disadvantage in international trade with countries that do not internalize costs. We should adopt compensating tariffs to protect, not inefficient firms, but efficient national policies of cost internalization from standards-lowering competition with foreign firms that are not required to pay the social and environmental costs they inflict. This “new protectionism” is very different from the “old protectionism” that was designed to protect a truly inefficient domestic firm from a more efficient foreign firm. The first rule of efficiency is “count all the costs” – not “free trade,” which coupled with free capital mobility leads to a standards-lowering competition to count as few costs as possible. Tariffs are also a good source of public revenue. This will run afoul of the World Trade Organization/World Bank/International Monetary Fund, so....

6. Downgrade the WTO/WB/IMF. Reform these organizations based on something like Keynes’s original plan for a multilateral payments clearing union, charging penalty rates on surplus as well as deficit balances with the union – seek balance on current account, and thereby avoid large foreign debts and capital

account transfers. For example, under Keynes's plan the U.S. would pay a penalty charge to the clearing union for its large deficit with the rest of the world, and China would also pay a similar penalty for its surplus. Both sides of the imbalance would be pressured to balance their current accounts by financial penalties, and if need be by exchange rate adjustments relative to the clearing account unit, called the "bancor" by Keynes. The bancor would also serve as the world reserve currency, a privilege that should not be enjoyed by any national currency, including the U.S. dollar. Reserve currency status for the dollar is a benefit to the U.S. – rather like a truckload of free heroin is a benefit to an addict. The bancor would be like gold under the gold standard, only you would not have to tear up the earth to dig it out. Alternatively a regime of freely fluctuating exchange rates is a viable possibility requiring less international cooperation.

7. Move away from fractional reserve banking toward a system of 100% reserve requirements. This would put control of the money supply and seigniorage (profit made by the issuer of fiat money) in the hands of the government rather than private banks, which would no longer be able to live the alchemist's dream by creating money out of nothing and lending it at interest. All quasi-bank financial institutions should be brought under this rule, regulated as commercial banks subject to 100% reserve requirements. Banks would earn their profit by financial intermediation only, lending savers' money for them (charging a loan rate higher than the rate paid to savings or "time-account" depositors) and charging for checking, safekeeping, and other services. With 100% reserves every dollar loaned to a borrower would be a dollar previously saved by a depositor (and not available to him during the period of the loan), thereby re-establishing the classical balance between abstinence and investment. With credit limited by prior saving (abstinence from consumption) there will be less lending and borrowing and it will be done more carefully – no more easy credit to finance the massive purchase of "assets" that are nothing but bets on dodgy debts. To make up for the decline in bank-created, interest-bearing money the government can pay some of its expenses by issuing more non-interest-bearing fiat money. However, it can only do this up to a strict limit imposed by inflation. If the government issues more money than the public voluntarily wants to hold, the public will trade it for goods, driving the price level up. As soon as the price index begins to rise the government must print less and tax more. Thus a policy of maintaining a constant price index would

govern the internal value of the dollar. The Treasury would replace the Fed, and the target policy variables would be the money supply and the price index, not the interest rate. The external value of the dollar could be left to freely fluctuating exchange rates (or preferably to the rate against the bancor in Keynes's clearing union).

8. Stop treating the scarce as if it were free, and the free as if it were scarce.

Enclose the remaining open-access commons of rival natural capital (e.g., the atmosphere, the electromagnetic spectrum, and public lands) in public trusts, and price them by cap-auction-trade systems, or by taxes. At the same time, free from private enclosure and prices the non-rival commonwealth of knowledge and information. Knowledge, unlike the resource throughput, is not divided in the sharing, but multiplied. Once knowledge exists, the opportunity cost of sharing it is zero, and its allocative price should be zero. International development aid should more and more take the form of freely and actively shared knowledge, along with small grants, and less and less the form of large interest-bearing loans. Sharing knowledge costs little, does not create un-repayable debts, and increases the productivity of the truly rival and scarce factors of production. Patent monopolies (aka "intellectual property rights") should be given for fewer "inventions," and for fewer years. Costs of production of new knowledge should, more and more, be publicly financed and then the knowledge freely shared. Knowledge is a cumulative social product, and we have the discovery of the laws of thermodynamics, the double helix, polio vaccine, etc. without patent monopolies and royalties.

9. Stabilize population. Work toward a balance in which births plus in-migrants equals deaths plus out-migrants. This is controversial and difficult, but as a start contraception should be made available for voluntary use everywhere. And while each nation can debate whether it should accept many or few immigrants, and who should get priority, such a debate is rendered moot if immigration laws are not enforced. We should support voluntary family planning and enforcement of reasonable immigration laws, democratically enacted.

10. Reform national accounts – separate GDP into a cost account and a benefits account. Natural capital consumption and “regrettably necessary defensive expenditures” belong in the cost account. Compare costs and benefits of a growing throughput at the margin, and stop throughput growth when marginal costs equal marginal benefits. In addition to this objective approach, recognize the importance of the subjective studies that show that, beyond a threshold, further GDP growth does not increase self-evaluated happiness. Beyond a level already reached in many countries, GDP growth delivers no more happiness, but continues to generate depletion and pollution. At a minimum we must not just assume that GDP growth is economic growth, but prove that it is not uneconomic growth.

Currently these policies are beyond the pale politically. To the reader who has persevered this far, I thank you for your willing suspension of political disbelief. Only after a significant crash, a painful empirical demonstration of the failure of the growth economy, would this ten-fold program, or anything like it, stand a chance of being enacted.

To be sure, the conceptual change in vision from the norm of a growth economy to that of a steady-state economy is radical. Some of these proposals are rather technical and require more explanation and study. There is no escape from studying economics, even if, as Joan Robinson said, the main reason for it is to avoid being deceived by economists. Nevertheless, the policies required are far from revolutionary, and are subject to gradual application. For example, 100% reserve banking was advocated in the 1930s by the conservative Chicago School and can be approached gradually, the range of distributive inequality can be restricted gradually, caps can be adjusted gradually, etc. More importantly, these measures are based on the impeccably conservative institutions of private property and decentralized market allocation. The policies here advocated simply reaffirm

forgotten pillars of those institutions, namely that: (1) private property loses its legitimacy if too unequally distributed; (2) markets lose their legitimacy if prices do not tell the truth about opportunity costs; and as we have more recently learned (3) the macro-economy becomes an absurdity if its scale is required to grow beyond the biophysical limits of the Earth.

Well before reaching that radical biophysical limit, we are encountering the classical economic limit in which extra costs of growth become greater than the extra benefits, ushering in the era of uneconomic growth, whose very possibility is denied by the growthists. The inequality of wealth distribution has canceled out the traditional virtues of private property by bestowing nearly all benefits of growth to the top 1%, while generously sharing the costs of growth with the poor. Gross inequality, plus monopolies, subsidies, tax loopholes, false accounting, cost-externalizing globalization, and financial fraud have made market prices nearly meaningless as measures of opportunity cost. For example, a policy of near zero interest rates (quantitative easing) to push growth and bail out big banks has eliminated the interest rate as a measure of the opportunity cost of capital, thereby crippling the efficiency of investment. Trying to maintain the present growth-based Ponzi system is far more unrealistic than moving to a steady-state economy by something like the policies here outlined. It is probably too late to avoid unrealism's inevitable consequences. But while we are hunkered down and unemployed, enduring the crash, we might think about the principles that should guide reconstruction.

[See: <http://steadystate.org/top-10-policies-for-a-steady-state-economy/>]

ENVIRONMENTAL RULES BOARD

Karen Griggs testimony September, 2014

Dear Ms. Pittman: Please enter this statement into the public hearing record on the manure rule.

The mission of the Indiana Division Izaak Walton League is to strive for the protection of air, soil, water, woods, and wildlife. Our 2

23 Indiana chapters with over 4200 members depend on the strict implementation and enforcement of the Clean Water Act, with special attention to the Great Lakes water quality.

Our shared public policy goal is zero discharge of pollution.

However, pollution from manure is a serious and growing public health problem. Furthermore, the aquatic ecology is disrupted by the bacteria and solids from manure runoff.

Water pollution from animal manure is a serious problem that impacts Indiana waters, from contaminated wells in northeast Indiana to cattle wading in the creek southeast of Greenfield. Even the drinking water supply of Toledo, Ohio was contaminated due to the huge algae bloom in the Western Basin of Lake Erie in 2014. Livestock farms in the Fort Wayne, Indiana area, combined with sewer overflows and gross manure pollution from confined animal feedlot operations in northwest Ohio actually over-fertilize Lake Erie. Then, the algae dies and pollutes the lake. I have seen wind-deposited algae over six feet thick on the shore, with little trees growing in it.

We support a strict rule that will prevent water pollution and recycle nutrients into the soil with the best management practices such as large storage so that the land application will take place at the best time of year. Jim Brand, a dairy farmer north of Waterloo, Indiana, told me that when his large dairy farm had to build a manure storage pit that he built it twice as large as required, for 180 days so that he had more “flexibility” which means that he could delay the manure spreading until dry weather and unfrozen ground.

I urge you to consider a memorandum of understanding with the Purdue Extension experts who design pollution prevention systems and conservation practices that are enormously practical for farmers. In this way, you can access the latest research and applications that are effective to protect our groundwater, creeks, and streams.

Thank you very much for the opportunity to testify.

2014 YOUTH CAMP

By Stan Jarosz

The IWLA youth Camp was held from July 20 to the 26th at Tippecanoe River State Park in Winamac, Indiana. We had 119 kids attend camp this year, and there were seven on a waiting list hoping for someone to cancel at the last minute. We had amazing weather with only the first couple days being hot, but the rest of the week was pleasant. The nights were very nice considering it was the month of July. We had evening temperatures that dipped into the fifties which made it great for sleeping. The classes that were held this year were: Archery, Canoeing, Crafts, Endangered Species, First Aid, IWLA, Leave No Trace, Night Walks, and Together Everyone Achieves More [TEAM].

We did two different craft projects this year. The kids made 'Para-cord' bracelets in one class, and in the other class we made Wood Duck boxes. We received a National Endowment Grant for this project which made it possible because the material is very costly. We donated fifteen of these duck boxes to the state park, and they are installing some in Tippecanoe State Park and the rest will go to Winamac Fish & Wildlife Area.

All the classes were well received by the campers, and there good participation as well. Our 50/50 raffle was another great success this year. We gave \$982.00 to John Wirthwein from Evansville, Indiana. Congratulations to John, and thank you to everyone for participating by purchasing or selling the raffle tickets. The dates for the 2015 Youth Camp are July 19 to July 25. Applications will be available after March 1, 2015, and they will be mailed to all campers who attended in 2014. Finally, I would like to thank all the staff [45] for making it possible to have this camp. If it wasn't for all these people we couldn't have this camp. Thank you everyone and we will see you next year.

GRAIN HARVEST FACT SHEET

Earth Policy Release

August 19, 2014

With grain providing much of the calories that sustain humanity, the status of the world grain harvest is a good indicator of the adequacy of the food supply.

More than 2 billion tons of grain are produced each year worldwide, nearly half of it in just three countries: China, the United States, and India.

Corn, wheat, and rice account for most of the world's grain harvest. Whereas rice and most wheat are consumed directly as food, corn is largely used for livestock and poultry feed, and for industrial purposes.

Global grain consumption has exceeded production in 8 of the last 14 years, leading to a drawdown in reserves.

Population growth is the oldest source of increasing grain demand. In recent years, the annual growth in grain use has doubled, largely a result of increased use for fuel ethanol and livestock and poultry feed.

In 2013, the United States harvested more than 400 million tons of grain. Of this, 129 million tons (30 percent) went to ethanol distilleries.

Rising yields are the key to expanding the grain harvest as there is little unused cropland. Since 1950, over 93 percent of world grain harvest growth has come from raising yields.

The global grain area planted per person has shrunk from about half an acre (0.2 hectares) in 1950 to a quarter acre (0.1 hectares) in 2013.

At 10 tons per hectare, U.S. corn yields are the highest of any major grain anywhere. In Iowa, some counties harvest up to 13 tons per hectare.

Global average grain yields more than tripled from 1.1 tons per hectare in 1950 to 3.5 tons per hectare in 2013. However, yield growth has slowed from 2.2 percent a year between 1950 and 1990 to 1.4 percent in the years since.

In France, Germany, and the United Kingdom, wheat yields have been flat for more than a decade. The story is similar for rice in Japan and South Korea.

World fertilizer use climbed from 14 million tons in 1950 to 181 million tons in 2013. But in many countries, fertilizer use has reached diminishing returns.

Since 2007, the world has experienced three major grain price spikes. The U.N. Food Price Index indicates that grain in 2014 was twice as expensive as in 2002–04.

Rising global temperatures threaten the world's major food crops; the “rule of thumb” is that each 1-degree-Celsius rise in temperature (1.8 degrees Fahrenheit) above the growing season optimum can cut productivity by at least 10 percent.

[Data and additional resources available at www.earth-policy.org .]

PASSENGER PIGEON

It has been estimated that the Passenger Pigeon was once the most abundant land bird in North America. Numbers ranged between three and five billion. Populations were primarily east of the Rocky Mountains.

Despite these vast numbers, the pigeon was extinct in the wild by the end of the 19th century. Its last representative, named Martha, died on September 1, 1914 in the Cincinnati Zoo.

The extinction took only 40 years due to exploitation, as commerce and sport with human disruption of essentially every nesting colony.

A cautionary tale, to be sure. One wonders if we humans have learned anything from this.

NATIONAL AWARDS TO INDIANA IKES

By Jim Sweeney

At their 2014 national convention in Buena Park, California, the Izaak Walton League of America (IWLA) honored northwest Indiana members for their commitment to conservation and ensuring outdoor America's future.

Herb and Charlotte Read of Chesterton, Terry McCloskey of LaPorte, and Stan and Patty Jarosz of Hobart were all honored with Izaak Walton League Hall of Fame Awards.

The Reads were previously honored for their work and long commitment to the ideals of the League as individuals, but this award is for their work as a couple, including creating the Indiana Dunes National Lakeshore. The Izaak Walton League prides itself on the many couples and families that have shown extraordinary commitment to the goals of the organization.

Herb and Charlotte Read are legends in Indiana. Both now in their 80's, they are as much engaged in local conservation matters as they ever were and still fully engaged in the business of the Indiana Division and conservation in Indiana.

Herb founded the Porter County Chapter (PCC) in 1958 to help create the Indiana Dunes National Lakeshore and has used his expertise on any number of chapter campaigns and committees. He is still active on the state and national IWLA Sustainability Committees.

Charlotte was the Executive Director of the Save the Dunes Council for 18 years and still serves on the League's Great Lakes Committee, the Division Air Quality Committee and the Indiana Heritage Trust committee that oversees the spending of state funds raised to protect more land in Indiana. She is a past executive director of the Shirley Heinze Land Trust that owns over 1000 acres of high quality land in the Lake Michigan watershed in Indiana.

PCC is among a select few organizations that can be directly credited with creating the Indiana Dunes National Lakeshore, 15,000 acres of sand dunes, wetlands, forests, and prairies right on the southern shore of Lake Michigan and scattered among some of the most industrialized lands in the nation.

Herb is an architect by training and has used his talents to not only promote protection of the Dunes but to fight, unsuccessfully, an Indiana deep water port in

the dunes and lining the entire 45 mile Indiana shoreline with factories. Advocates for the Indiana Dunes did protect over half the shoreline.

The Reads were vital to the successful fight to prevent a nuclear power plant being built on the Lake Michigan shoreline in the 1970's.

Charlotte's quiet demeanor is deceptive; she researches topics thoroughly and has an incredible memory. She knows state and federal legislation and is a wealth of information. When she cites legislation or past actions, know that she will be accurate.

In environmental circles, it is common to find leaders that either excel in the pollution and the legal circus that goes along with it or they excel in the arena of nature conservation, land protection, legislation, and programs. With Herb and Charlotte Read, you get that expertise in both.

Tom Dustin, another League legend, said this about the Reads, "I have never known more fearless people. Resolute determination, exceptional expertise, the ability to endure combat and to strike two blows for every one received are among their characteristics."

The list of the awards garnered by the Read's is too long to list but include a Lifetime Achievement Award from the Hoosier Environmental Council, the Gold Cup Award from the Hoosier Chapter of the Sierra Club, Hall of Fame awards by the IWLA, the Paul H. Douglas Awards from the Save the Dunes Council, and the Sagamore of the Wabash, the highest award presented by the Governor of Indiana.

If the Reads show up for a public meeting, which they do all the time, expect both to submit substantive comments on whatever is the issue of the day. It could include a impassioned plea from Herb in support of sound conservation policy or a well-researched and polite lecture from Charlotte on the legal requirements for the law or the rules in question. When the Reads talk, people listen.

Since creating the chapter, Herb has served as president many times, always stepping up when needed. Charlotte has always held an important position too, as president, secretary, or treasurer. Both are now Division Directors-at-large.

The Reads were one of the “Nine Tales of Environmental Heroism in Indiana” featured in “Eternal Vigilance” authored by Steven Higgs and published by the Indiana University Press in 1995. Their story was Chapter 9 on their involvement in the creation of the Indiana Dunes National Lakeshore.

Terry McCloskey was raised in Lansing, Illinois, ran a business in Hammond, and has lived in LaPorte since 1984. “Terry knows the land of northwest Indiana like few people do,” said League National Director Jim Sweeney, “and he is the point person for a big conservation effort on the East Branch of the Little Calumet River.” The Porter County Chapter of the IWLA hopes to bring back brook trout to the area, protect federally endangered species, and restore prairie and forest habitats.

Stan and Patty Jarosz of Hobart, Indiana, were honored for their life-long commitment to the IWLA Indiana Division’s annual Youth Camp held at the Tippecanoe River State Park in Winamac, Indiana, since 1962. “Thousands of kids have been through that camp over the years and many come back as counselors. Many of the parents of the current campers attended the camp when they were young,” said Sweeney. Stan’s father took him to the camp when he was 12 and he has been there ever since. He has been the camp director for 20 years. He brought Patty to camp when they were dating and twenty-some years later, they are still there, and their two children are now senior counselors.

Sweeney said, “The Izaak Walton League sincerely appreciates the decades of commitment these members have shown to the League. Northwest Indiana is a better place because of their work.”

Population Fact Sheet

Earth Policy Release

July 16, 2014

When assessing the adequacy of basic resources such as land or water over time, population is the universal denominator: as population expands, per capita availability shrinks. Overpopulation

The world population took until the start of the 19th century to reach 1 billion people. As population growth has picked up momentum, we have passed new milestones much more quickly. In 2011, the world reached 7 billion.

Tonight 219,000 people will be at the dinner table who were not there last night—many of them with empty plates.

While world population growth has slowed from the peak of 2.1 percent in 1967 to 1.1 percent in 2014, the global population is still projected to grow to 9.5 billion by 2050.

With populations stabilizing in much of the industrial world, almost all population growth in the near future is expected to occur in developing countries.

A major consequence of explosive population growth is that human demands outrun the carrying capacity of the economy's support systems—its forests, fisheries, grasslands, aquifers, and soils.

Half of the world's people now live in countries that are depleting their aquifers by overpumping, including China, the world's most populous, and India, which is expected to surpass China by 2028.

As human populations grow, so typically do livestock populations.

Nigeria, geographically not much larger than Texas, now has 178 million people and is projected to double by 2041, reaching 440 million in 2050.

Ethiopia, one of the hungriest countries, could grow from 96 million to 188 million by 2050.

Pakistan, with 185 million people living on the equivalent of 8 percent of the U.S. land area, is projected to reach 271 million by 2050—nearly as many people as in the United States today.

More than 200 million women around the world would like to prevent or delay pregnancy but lack access to family planning information or effective contraception.

Iran experienced one of the fastest rates of fertility decline in world history, dropping growth from 4.1 percent in 1985 to 1.3 percent in 1995 by supporting education and family planning.

REMEMBERING ART JANOVSKY

By Bobby Wright

Arthur Janovsky passed away July 15. He was 97 years old. He worked on the assembly line at Smith-Victor Corporation in Griffith where he met Eileen Koeneman. They were married for 66 years.

He was a member then of a conservation club in East Chicago that evolved into the Griffith Chapter of the IWLA.

He started on the Chapter Board of Directors in 1947 and held several offices, including Second Vice President, President, Chapter Director First Vice President and stints on the Board as well as serving on several Chapter and Division committees.

Art worked on the numerous events held at the chapter and often remarked as he cleaned up afterwards that the chapter would be a much greater place to visit if more members supported their chapter. Sound advice for all members.

Art, along with others, served on the chapter conservation committee and got land donated to the chapter. As far as is known, Arthur Janovsky was the last surviving charter member of the original 35.

Worldwide 44 countries, including nearly all those in both Western and Eastern Europe, have reached population stability as a result of gradual fertility decline over the last several generations.

Data and additional resources available at www.earth-policy.org .

WATER QUALITY REPORT

By Karen Griggs

June, 2014

Leaky Chemical Storage Tanks:

Gross pollution from a West Virginia chemical storage tank spill affected local drinking water and contaminated the Ohio River for 300 miles downstream. Indiana and most other states, have no program to inspect and control leaks and spills from above-ground storage tanks (ASTs), according to Jeanette Neagu, a Great Lakes expert with the League of Women Voters. She advocates a strict on-site inspection by experts from the Indiana Department of Environmental Management. Bruce Palin, Assistant Commissioner, Office of Land Quality, highlighted the impact of the West Virginia spill: 300,000 people in nine counties were told to avoid using their drinking water. The contamination caused Louisville, Kentucky to add water treatment. When the plume arrived in Evansville, it was diluted. Palin says that Indiana has 9,581 above-ground storage tanks, including 462 in Zone 1 at 120 drinking water facilities. Palin said that inspections and rule revisions may be necessary as well as action by local emergency planning committees and drinking water suppliers. Neagu said that a survey of the above-ground storage tank owners would be worthless.

Microbeads Cause Pollution:

Cosmetics with abrasive plastic microbeads have caused gross pollution in the Great Lakes this year. According to Charlotte Read, Committee Member, the “scrub” cleansers for skin care have tiny plastic bits to rub away dry or calloused skin; however, they do not degrade. Two states have asked the manufacturers to stop production or use natural products. Dr. Sherry Mason, Environmental Sciences Program Coordinator at State University of New York, Fredonia, Ohio, conducted the first survey of plastic pollution in the Great Lakes. The plastic beads may be mistaken for fish food, she said in an article on her website. A radio news story on National Public Radio said that Lake Ontario had the greatest plastic concentration.

Asian Carp:

Invasive species of plants and aquatic organisms have been increasing in the Great Lakes region. Dr. Reuben Goforth, a Purdue University associate professor of aquatic community ecology, said that the Asian carp is actually four different fish: the bighead, the silver, grass, and black carp. They do not eat the smaller fish, but they do compete with native fish and their young. The bighead carp eats zoo plankton; those are tiny crustaceans. The silver carp eat algae and rotifers, tiny microplankton. The food shortage would affect bass, bluegill, perch, and other game fish. The black carp is a molluscivore; it eats snails, mussels, and freshwater clams. The triploid grass carp is sterile due to a unique third chromosome. The common carp is a bottom feeder and is not considered an Asian carp at all.

He characterized the carp as a prolific breeder, spawning in great numbers. He got a telephone call in 2013 from a graduate student who reported an estimated 12,000 eggs per cubic foot of water.

Carp Barrier:

In an attempt to prevent the Asian carp from moving into the Great Lakes, a wide berm will be constructed in a wetland in Allen County near the Little River Wetlands, according to Amy Silva, Executive Director of the Little River Wetlands environmental group.

Coalition Protests Stone Quarry:

Citizens in the Americus area have collected over 1,000 names on their petition to stop the development of a large limestone quarry across the river from Prophetstown State Park. They protest the Rogers Group plans to excavate a farm between Delphi and Americus, leading to noise, traffic, and the loss of seven small businesses, including Wolfe's Leisure Time Campground on the Wabash River. Over 200 local residents fear the loss of their well water and the release of radon from the fractured bedrock if blasting occurs.

The Indiana Department of Natural Resources issued a permit for the limestone quarry; the protesters appealed. The Board of Zoning Appeals will hold a public hearing. For more information, call Bill and Kay Miller, co-presidents (765) 564-3546.

[Water Quality Committee members are Karen Griggs, chair., Charlotte Read, and Jim Sweeney. We meet during the quarterly Indiana Division IWLA Board of Directors. If you are interested in doing research, monitoring government meetings, and writing, call Karen Griggs at (765) 463-5215 or Jim Sweeney at (219) 322-7239.]

WATER RESOURCES FACT SHEET

Earth Policy Release

July 30, 2014

Water scarcity may be the most underrated resource issue the world is facing today. Seventy percent of world water use is for irrigation.

Each day we drink nearly 4 liters of water, but it takes some 2,000 liters of water—500 times as much—to produce the food we consume. 1,000 tons of water is used to produce 1 ton of grain.

Between 1950 and 2000, the world's irrigated area tripled to roughly 700 million acres. After several decades of rapid increase, however, the growth has slowed dramatically, expanding only 9 percent from 2000 to 2009. Given that governments are much more likely to report increases than decreases, the recent net growth may be even smaller.

The dramatic loss of momentum in irrigation expansion coupled with the depletion of underground water resources suggests that peak water may now be on our doorstep.

Today some 18 countries, containing half the world's people, are overpumping their aquifers. Among these are the big three grain producers—China, India, and the United States.

Saudi Arabia is the first country to publicly predict how aquifer depletion will reduce its grain harvest. It will soon be totally dependent on imports from the world market or overseas farming projects for its grain.

While falling water tables are largely hidden, rivers that run dry or are reduced to a trickle before reaching the sea are highly visible. Among this group that has limited outflow during at least part of the year are the Colorado, the major river in the southwestern United States; the Yellow, the largest river in northern China; the Nile, the lifeline of Egypt; the Indus, which supplies most of Pakistan's irrigation water; and the Ganges in India's densely populated Gangetic basin. Many smaller rivers and lakes have disappeared entirely as water demands have increased.

Overseas "land grabs" for farming are also water grabs. Among the prime targets for overseas land acquisitions are Ethiopia and the Sudans, which together occupy three-fourths of the Nile River Basin, adding to the competition with Egypt for the river's water.

It is often said that future wars will more likely be fought over water than oil, but in reality the competition for water is taking place in world grain markets. The countries that are financially the strongest, not necessarily those that are militarily the strongest, will fare best in this competition.

Climate change is hydrological change. Higher global average temperatures will mean more droughts in some areas, more flooding in others, and less predictability overall.

[Data and additional resources available at www.earth-policy.org .]

WHY BUY HUNTING AND FISHING LICENSES

By Dean Farr

As I write this, I think of the two guarantees in life: death and taxes. Sometimes I think we sports persons liken our licenses to taxes when in reality they help pay for our outdoor adventures. I really think of these licenses as user fees for my benefit.

A few years ago, I remember having a discussion with Dick Mercier of Indiana Sportsmen's Roundtable. The conversation went something like this. Dick commented that most hunters and fishermen just wanted to go the woods or lake and hunt or fish. They did not want to get involved, be bothered, and many felt

that licenses were not necessary. The long and short of it, they did not like having to pay to hunt or fish. Unfortunately, the reality today is that there is "no free lunch" when it comes to hunting or fishing.

What do hunting and fishing licenses pay for? Many things. From the acquisition and maintenance of wildlife management areas, to private lands programs, to fish hatcheries and stocking programs, to access points on lakes and streams. Over the years, game management has brought back and maintained game species so today we can enjoy our outdoor pursuits. Even private landowners benefit from many of these game management programs. So even if you are fortunate enough to hunt private lands, you too benefit.

Where does all this money come from? Our license fees alone are not enough. What really helps are the federal matching programs like Dingell/Johnson and Pittman/Robertson, which can provide up to a 3 to 1 match. Meaning for every license dollar we invest (pay), Uncle Sam matches with three federal tax dollars collected on sporting equipment. We pay it so we should take advantage and bring this money back home to invest in our hunting and fishing.

I am one of those disabled veterans that is entitled to a low cost fishing and small game license. I chose though to buy a comprehensive lifetime hunting and fishing license. (For the record I did this right after the last price increase while the program still existed.) To me, it's a well paid investment which allows me to hunt and fish. I remind my fellow veterans we need to invest in hunting and fishing so that the next generation of veterans have the same opportunity we have today. I remind seniors as well that to enjoy fishing with their grand kids, they need to invest by voluntarily purchasing a "fish for life license." That \$17 license fee will bring several more dollars in federal match, creating a strong investment in fishing programs.

Why did I buy a hunting and fishing license? Two reasons: one for my personal benefit and enjoyment of the out-of-doors, second and more importantly, an investment for my son and his generation. I hope to pass the hunting and fishing legacy on to the next generation as my father and grandfathers did for me.

Finally, I want to commend the Indiana Department of Natural Resources. They do a great job in managing our license fees. They use prudent financial practices

to get the "most bang for the buck." They are also very sensitive to market factors and the cost to us sportsmen. We need to support IDNR in their efforts.