



Works in Progress

Conserving Coastal Georgia's Natural Heritage, Investing in Our Children's Future

Fall 2012

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Science versus Dogma in Climate Change: Long-term Thinking Instead of Knee-Jerk Reactions

As the record of recent weather extremes and their consequences accumulates across the nation, evidence of climate change would seem to be convincing.

This summer has seen more record-high temperatures than any year since such data was first recorded, and drought is taking an enormous toll on critical crops. Flow in some rivers has been lowered by drought to such an extent that power plants needing cooling water from those waterways have had to drastically cut back operations or shut down altogether.

Oceans are becoming more acidified, and coral reefs are undergoing rapid decline. Millions of acres of forests are being destroyed by wildfire worldwide, producing a substantial loss of natural landcover needed to sequester carbon to partially offset continued warming.

Yet, southern states lead the nation in stubbornly denying that climate change is related to human activities. While most states, including Georgia and most of our southern neighbors, are taking steps to “adapt” to the impacts of rising sea level – a direct consequence of warming temperatures worldwide – denial persists about the role of fossil fuel combustion in producing the warming trend.

According to one analyst writing on the topic¹, denial of climate change is based largely on the misinformed belief that confronting the issue will produce policies handicapping economic recovery, much less economic growth.

A closer examination of the remedies for climate change suggests that nothing could be further from the truth.

Yes, cutting back on burning fossil fuels will reduce jobs that are closely tied to burning and processing oil, coal, and gas, but far more employment opportunities will be created by rapid conversion to clean energy and building a ‘smart-grid’ network to efficiently use it.

The question is, “What can be done to redirect energy policies so that our nation gains the maximum benefit from this grand transition to new forms of power as soon as possible?”

The answer to that question has special relevance in Georgia, where hundreds of millions of gallons of water are squandered daily to cool power plants, while at the same time, the state struggles to solve water-supply problems.

The longer we indulge the oil and gas industry – and nuclear power – with subsidies and other policies that restrain development of cleaner alternatives like wind and solar, the worse our outlook becomes – for the U.S. economy, environment, and quality of life.

Even some of those who allegedly favor conversion to alternative sources of energy are overly skeptical about how quickly alternatives can be put into use.

By underestimating the rate of conversion, such skeptics are prolonging the costly emission of fossil-fuel pollutants and water-robbing power plants, with resulting climatic, infrastructure, and health problems.

We often hear of ‘stepping-stone’ energy sources that can serve to reduce emissions in the interim, while we slowly but steadily switch to solar and wind power. Foremost among the touted transition fuels is natural gas.

Upon careful evaluation, however, greatly expanding use of natural gas is likely to subvert any responsible effort to achieve expedient conversion to truly clean energy.

So vast are the natural gas reserves made available by ‘fracking’ methods, that once these destructive techniques are widely implemented, the world market will be flooded with yet another artificially cheap fossil fuel – with dire penalties, including costly delays in switching to clean alternative energy.

If this happens, a stepping stone will become a stumbling block.

It is vitally important to recognize the grossly misleading basis for the claim that natural gas would be cheap. The only reason fracking-derived natural gas appears to be inexpensive is because massive “external” costs are excluded from the calculation.

Once the consequences of groundwater pollution, geological disturbances (including subsidence and localized earthquakes), and methane leaks² are tabulated, it is almost certain that natural gas produced from these sources would be far more costly than now being asserted.

Similar false conclusions are revealed when evaluating the use of nuclear power. Aside from the obvious risks of transporting and storing highly dangerous radioactive materials, the

costs of building, operating, and safely closing down nuclear power plants are simply not justifiable.

Moreover, recent studies suggest that with prolonged and recurring drought on the rise, high-temperature power plants (primarily coal and nuclear powered) can no longer reliably operate at their designed capacities because cooling water will be too scarce. Therefore, whatever their theoretical efficiencies, the actual operating costs will be much higher than previously anticipated.

We cannot afford being fooled about the false benefits of interim options that will cause delays in the use of clean energy.

¹ *Southern states fight estimates of sea level rise* by Allen Reed, Associated Press, August 5, 2012

² Environmental Defense Fund reports that if more than one-percent of natural gas is leaked into the atmosphere as methane, the environmental benefit of burning it instead of coal is completely lost. These leaks could occur at the production site, in distribution lines, or at the point of use – homes, factories, or vehicles. “Getting Natural Gas Under Control,” in *EDF Solutions*, Summer 2012.



Photograph by Rick Silva, AP

Like some other reptile species, [leatherback sea turtles](#)' gender is affected by temperature – warmer average temperatures during egg development tend to produce more females. This means global warming has the potential to throw breeding populations out of whack, according to a report of the International Union for Conservation of Nature (IUCN).

In a warmer world, the already critically endangered sea turtles must also try to nest on beaches severely eroded by extreme storms, which have been linked to rising sea-surface temperatures.

Source: *National Geographic*

Center helps expose risks & costs of nuclear power

WASHINGTON, D.C. – June 18, 2012

The Nuclear Regulatory Commission (NRC) must stop moving ahead on 35 reactor projects on its docket until it has completed a rulemaking action on the environmental impacts of spent reactor fuel storage and disposal, as required under the major Waste Confidence Rule decision of June 8th by the U.S. Court of Appeals for the D.C. Circuit, according to a petition filed today.

Although the Center for a Sustainable Coast was not among the non-profit groups that participated in this action, we have raised similar concerns at Plant Hatch on the Altamaha River and Plant Vogtle on the Savannah River.

The Nuclear Regulatory Commission (NRC) has set a precedent for suspending its licensing decisions while it reviews spent fuel storage and disposal impacts.

The Center believes that until the dangerous problem of storing radioactive waste is resolved, no nuclear powerplants should be built or expanded.

In the re-licensing case for the Indian Point [New York] reactors, the NRC promised in 2010 that it would not re-license the reactors until it completed its pending “waste confidence” rulemaking. Now that the court has upended the “Waste Confidence Rule,” the NRC must continue to hold up its re-licensing decision until it finishes an expanded environmental analysis.

On June 8th, the Court rejected the NRC rule that permitted licensing and re-licensing of nuclear reactors based on the unfounded supposition that:

- (a) the NRC will find a way to dispose of spent reactor fuel to be generated by reactors at some time in the future when it becomes “necessary” and
 - (b) in the meantime, spent fuel can be stored safely at reactor sites.
- The court noted that, after decades of failure to site a repository, including twenty years of working on the now-abandoned Yucca

Mountain repository, the NRC “has no long-term plan other than hoping for a geologic repository.” Therefore it is possible that spent-fuel will be stored at reactor sites “on a permanent basis.” Under the circumstances, the NRC must examine the environmental consequences of failing to establish a repository when one is needed.

The Court also rejected NRC’s decision minimizing the risks of leaks or fires in spent-fuel stored in reactor pools during future storage, because the NRC had not demonstrated that these future impacts would be insignificant.

The Court found that past experience with pool leaks was not an adequate predictor of future experience. It also concluded that the NRC had failed to demonstrate that catastrophic pool fires were so unlikely that their risks could be ignored.

Not only are these plants expensive and dangerous, but they divert vital funds away from safer, cleaner forms of power like wind, solar, and tidal energy technologies.

Cost of Nukes Needs Airing, Too

Few among the public seem to grasp just how much government money is used to prop up nuclear power. Many who support nukes are unaware that billions of tax dollars are spent to cover both liability risks and enormous cost overruns, not to mention expensive research that, after more than a half century, has failed to find a safe way to store radioactive waste.

“When nuclear energy was an emerging technology, public support made some sense. But more than 50 years (and two public bailouts) after the opening of the first U.S. commercial nuclear plant, nuclear power is a mature industry that should be expected to stand on its own.

Instead, the industry has responded to escalating costs with escalating demands for government support. A 2009 report by the Union of Concerned Scientists estimated that taxpayers could be on the hook for anywhere from \$360 billion to \$1.6 trillion if then-current proposals for nuclear expansion were realized.”

By some estimates, the public costs alone for these facilities exceed the value of power generated by nuclear plants.

Under these circumstances, nukes are clearly not affordable, despite claims to the contrary that hide giant taxpayer burdens.

In effect, the public is baling out power company investors.

- Center for a Sustainable Coast, quoting Union of Concerned Scientists

CONSTRUCTION STARTS		AVERAGE OVERNIGHT COSTS*		
YEAR INITIATED	NUMBER OF PLANTS ^a	UTILITIES' PROJECTIONS (THOUSANDS OF DOLLARS PER MW)	ACTUAL (THOUSANDS OF DOLLARS PER MW)	OVERRUN (PERCENT)
1966-1967	11	612	1,279	109
1968-1969	26	741	2,180	194
1970-1971	12	829	2,889	248
1972-1973	7	1,220	3,882	218
1974-1975	14	1,263	4,817	281
1976-1977	5	1,630	4,377	169
OVERALL AVERAGE	13	938	2,959	207

Source: Union of Concerned Scientists

Center & SELC Dispute Justification for Savannah Port Deepening Project

On June 5, 2012, on behalf of the Center and other groups, Southern Environmental Law Center filed extensive comments responding to the final Environmental Impact Statement (EIS) on the proposed Savannah harbor deepening project.

The EIS was prepared by the Corps of Engineers (Savannah District) under requirements of federal law (the National Environmental Policy Act – NEPA). The project is expected to cost some \$620 million, to be paid with some combination of federal and state funding.

These comments presented an array of troubling concerns describing the inadequacies of the Corps' analysis. Many of these problems were considered in a decade-long review process conducted by a stakeholder advisory group, but some basic issues were never resolved.

Among the issues raised in the SELC review were:

- Errors in the computer model used to predict impacts and evaluate mitigation steps – thus raising serious doubts about the accuracy of all aspects of assessment.
- Contradictions in the logic for justifying the project, above all questions about added port commerce or jobs to be created. If added commerce is expected due to the project, more environmental analysis will be needed to evaluate impacts caused by higher traffic volumes of trucking and rail used for distribution.
- If improved efficiency of commerce is the justification for the project, there is doubt that U.S. taxpayers will be the primary beneficiaries. Foreign exporters and shipping companies are likely to gain more.
- Without a comprehensive analysis of port development alternatives and commodity distribution needs throughout the Southeast, a series of individual port projects is likely to cause financial waste and

avoidable environmental damage on a massive scale.

- Proposed “mitigation” steps (actions to reduce project damage), such as injecting oxygen into the Savannah River to compensate for reductions caused by the project, are not conclusively proven to work under applicable conditions.



- Control of the project's impacts proposed by the Corps using “adaptive management” is flawed by cumbersome decision-making procedures, monitoring methods that cannot quickly target environmental damage and lengthy budgeting delays if the costs of correcting problems are too high.

Although Georgia officials are aggressively seeking to win approval for the project, the harbor deepening is not a “done deal” by any means.

Aside from formidable budget hurdles in Congress, unless critical environmental and policy disputes can be resolved, several legal challenges – to be filed against the Corps on the basis of the EIS and related documents – are likely.

It seems improbable that the economic benefits of the Savannah port will be adversely affected if the project is not built, and great risk to coastal resources would be avoided. There will continue to be a need for regional ports, just as there is vital service provided by regional airports.

As huge cargo ships become a more common form of global transport,

they will provide the basis for transshipment from “hub” ports to a number of regional ports. For a variety of reasons, Savannah is not well-suited to serve as a hub.

Unless a credible multi-port analysis is completed, rational decisions about the use of public funds to build these massive projects cannot be ensured and enormous waste will result. We

are convinced that Savannah's port, as important as it is to the regional economy, does not measure up as a mega-port and should not be further deepened.

We at the Center view this project as having doubtful environmental trade-offs and unconvincing justification. Beyond that, we believe that this and other deepening projects will waste billions of tax-payer dollars due to the lack of comprehensive analysis of ports throughout the Southeast. Such a study is essential to determining how much added capacity is needed for “mega-ships” and exactly where they should be.

Jekyll Island Master Plan

The official update of the 1996 Jekyll Island State Park Master Plan was launched on April 15th with the initial meeting of the “65/35 Task Force,” which is one of six working groups formed by the Jekyll Island Authority (JIA) and its consultant, the University of Georgia’s Fanning Institute, to help revise the Master Plan.

The term ‘65-35’ refers to the limited proportion of Jekyll Island’s land area that can be developed, that being 35% – set by state legislation.

The other task forces—Environmental Planning, Historic/Cultural Resources, Land Use, Sustainability, and Recreation Planning—held their opening meetings on April 27th.

Among the issues up for discussion, two stand out: 1) the definition of the terms developed and “undeveloped” land in relation to the legal requirement that no more than 35 percent of the land area of Jekyll Island may be developed; and 2) the determination of whether marshland may be counted as part of the island’s land area when calculating the number of acres eligible for development under the 65/35 law.

Is a golf course “developed” land?

Central to the ‘definitions’ issue is the Master Plan’s classification of the 65 acres of lakes/ponds on Jekyll’s golf courses as undeveloped/natural land, a decision which has been questioned for various reasons:

- The golf course lakes are man-made, having originated as massive borrow pits dug to provide fill dirt to contour the golf courses when they were built.
- The lakes serve as water hazards/penalty stroke areas, which add to the degree of difficulty of the golf course holes that have been designed around

them and are thus an integral part of the courses’ design.

- The banks/rims of the lakes are mowed or otherwise trimmed and some have been bulk-headed, which are characteristics of a maintained area rather than a natural one.
- The National Resource Inventory (NRI) and the Land-Based Classification Standards (LBCS), which are the leading land use classification systems in America, classify artificial water bodies as developed land.
- Both the NRI and LBCS also classify a golf course – all of it - as “an active use recreational area,” which they define as developed land.

Is marshland part of Jekyll Island’s “land area?”

The need for an accurate calculation of Jekyll’s acreage stems from a 1971 law, still in force, limiting development to not more than 35 percent of “*the land area of Jekyll Island which lies above water at mean high tide.*” The 1996 Master Plan interpreted “land area” as including marshland even though the author of the 1971 law, State Rep. Mike Egan, had informed the Jekyll Island Authority that the law limiting development pertained to the highland portion of Jekyll Island only and that 65 percent of the island’s highland and all of the marsh were to be left in their natural states.

In misinterpreting the intent of the 1971 Mike Egan law, the 1996 Master Plan included 367 acres of salt marsh as part of Jekyll Island’s land area, thus increasing by 128 the number of acres eligible for development. Today, 55 acres eligible for development before the 35 percent

cap is reached, according to the Jekyll Island Authority.

Why are the ‘definitions’ and marshland issues so important?

If the man-made lakes and ponds/water hazards within the golf course complex were reclassified as developed land, then the 35 percent development limit would have been topped and no further new development of the island would be allowed by law. The same would hold true if marshland were to be excluded from the calculation of the land area of Jekyll Island.

A key point to note here is that if the Jekyll Island State Park Master Plan were to be amended as described above, a reduction of the developed portion of the island would **not** be required, as the law does not mandate a “give back” of developed land if the 35 percent limit has been topped. Furthermore, the Authority’s right to redevelop land that has already been developed and to develop land that has already been platted but is currently undeveloped would **not** be affected.

How can you help?

Over the next few months, IPJI will be providing its members and supporters with information on task force recommendations and about how the public can participate in the Master Plan Update process, including, but not limited to, how to provide input regarding the definitions and land area issues. **Your involvement in this important initiative is crucial if we are to help ensure that the revised Master Plan will provide a foundation for effective management and preservation of Jekyll Island State Park for decades to come.**

Reservoirs: Public water supply or bonanza for speculators? *Published in the Atlanta Journal Constitution on August 17.*

There's a troubling tendency for water projects in Georgia to be exploited for opportunistic land speculation and development schemes.

Reservoirs are promoted as solutions for ensuring water supply needed to sustain Georgia's growing population. Yet, meanwhile major water users – and wasters – are held largely unaccountable.

Local ordinances may require low-flow toilets and showers in new homes, while power companies are allowed to literally vaporize hundreds of millions of gallons of water daily, taken from Georgia's rivers to cool high-temperature generators at coal and nuclear plants.

Available new technologies for water- efficient cooling and power production are neglected, as if they don't exist.

In fact, power plants use so much water that it's estimated that many Georgians – unknowingly – may use more water at home by burning electricity than in drinking, bathing, washing clothes, and watering their lawns.

Water squandered is not only a lost opportunity to meet demand of a growing population at comparatively low cost, but it can be a train-wreck for the environment. When reservoirs are built to increase water supply while enormous amounts of water are being wasted, it is a travesty for both nature and taxpayers.

Clearing land to build reservoirs may remove hundreds of acres of native forests, causing both temporary and long-term erosion (thus degrading water quality and fish habitat), and reduce flow permanently by increasing evaporation losses. Development around these water bodies causes still more loss of native vegetation, wildlife habitat, and water quality.

Yet, man-made lakes – reservoirs by another name –

have become great sources of private profit-making. Land previously valued at less than \$10,000 an acre may be worth ten or twenty times that much once a body of water is made available nearby.

Those who have influence over decisions about when and where to build reservoirs are in a position to gain huge financial payouts. When public funds are used to finance reservoirs – helped by a bill passed in last year's General Assembly – enormous profits can be grabbed by a few private investors while the ordinary tax-payers unwittingly foot the bill.

Land speculation has a recurring yet often overlooked downside. As land surrounding reservoirs is subdivided and sold for quick profits, a given piece of property may change hands many times before it's occupied, ramping up demand and prices until the market collapses. Speculators holding land when the collapse occurs, as well as the banks that made loans to them, can suffer huge financial losses.

Unfortunately, such penalties spread throughout the local and regional economy, harming many who never had anything to do with real-estate deals.

Largely as a result of policies that encourage development speculation, in recent years Georgia has had more bank failures than any other state, and it often leads the nation in property foreclosures.

And it is no coincidence that Georgians are ranked the least financially secure of all U.S. citizens. Reckless policies supporting speculation and irresponsible use of natural resources deprives Georgians of greater control over both their quality of life and income sources.

What this amounts to is subsidizing opportunistic business practices that are unfairly exploitative – whether water-squandering power production or over-leveraged land deals – at the public's expense.

Worse yet, those who benefit from such practices may have their financial risks greatly reduced by taxpayer bail-outs of one kind or another.

The true consequences of these policies are seldom evaluated, either before or after making legislative or funding decisions that produce them.

If Georgia is to safeguard the interests of all citizens, unfair provisions benefitting the privileged few – whatever the pretext – must be eliminated.

David Kyler
Executive Director

How drought affects coastal Georgia

- ✓ **Excessive salinity in the inter-tidal area** – When the downstream flow of freshwater into coastal estuaries is reduced, these waters become saltier, or more saline. Species that inhabit the estuaries that are adapted to a normal range of salinity, like blue crabs, become weakened when waters get too salty. More of their metabolic energy is spent just surviving, which reduces their ability to ward off infections. As a result of drought, there has been an marked increase in deadly opportunistic diseases among blue crab, and it is suspected that there are other important species similarly harmed. Research also strongly suggests that marsh die-off is caused when too little fresh water enters the estuary.
- ✓ **Drought intensifies political focus on water shortages** – In combination with existing water management problems the state now faces, drought brings public pressure to find more water to meet growing demand as rainfall is diminished. The upside of this is that water conservation efforts are taken more seriously. The downside is that Georgia's existing water conservation law only requires conservation by residential and commercial water customers who are not the major users. Consequently, available water supplies are reduced and drought hits harder and sooner than it would if dominant water users like power producers were held accountable. The misinformed public is told that expensive and damaging infrastructure projects like reservoirs are the only recourse.
- ✓ **Unjustified public debt and alteration of river systems** – There are now more than twenty reservoirs at various stages of proposal in Georgia, having a current estimated tab of several *billion* dollars. Experts say that actual costs could be double or triple that estimate, given recent experiences with reservoir construction – \$10 billion or more. Each of these reservoirs will significantly disrupt the natural benefit and movement of water within their watersheds, causing weighty risks to habitat and recreational benefits important to income and quality of life – especially to Georgians living downstream on the coast. To a great extent, water shortages, made worse by drought, are caused by Georgia's biased policies favoring power companies. Thus, taxpayers are being expected to assume huge debt made necessary by wasteful energy policy, causing unjustified threats to those downstream.

THE DIRTY DOZEN

WHAT IT IS

Georgia Water Coalition's "Dirty Dozen" highlights the worst offenses to Georgia's water—offenses that are the consequences of an under-funded state environmental agency and a lack of political will to aggressively enforce laws that protect our water, land, air and people.

WHAT IT SAYS

What unites each of our Dirty Dozen examples is that in practically every case our waters are being abused in ways that benefit a few, but harm many, including property owners, downstream communities, fish and wildlife, hunters and anglers, boaters and swimmers, and more.

WHY WE PUBLISHED IT

The Georgia Water Coalition publishes this list as a call to action for our state's leaders and its citizens to come together to correct the pollution problems and threats to our water – by fixing a broken system meant to protect our waterways.

A BROKEN SYSTEM

- A broken system allows these problems to occur and continue without resolution, often with catastrophic consequences.
- Georgia's Environmental Protection Division has seen its funding cut by 44 percent since 2008, seriously jeopardizing its ability to enforce the state's environmental laws.
- More problematic is the political cronyism that puts business and industry interests on the DNR Board - the state board that oversees EPD—the agency that regulates those same businesses.
- Even the current Director of EPD, another political-appointee, was previously a partner at a law firm that represents regulated industries, some of which are on the Dirty Dozen list.
- In such a system, the political will to fully enforce Georgia's environmental laws and implement policies that protect our water, land and air will always be lacking.

WHO WE ARE

The Georgia Water Coalition is a consortium of more than 180 conservation and environmental organizations, hunting and fishing groups, businesses, and faith-based organizations that has been working to protect Georgia's water since 2002. Collectively, these organizations represent more than 300,000 Georgians.

When you say "benefits a few," don't many jobs come from these industries?:

We're not talking about eliminating the industry or the jobs they create, what we're talking about won't harm an industry or a job – this is about no longer allowing our system and polluters to place bigger and greater profits ahead of protecting a public resource, and protecting the rights of the many people who depend on that public resource.



*Help create a living legacy with your generous donation --
A healthy environment for Georgia's wonderful coast!*

NOW DOUBLE YOUR HELP FOR GEORGIA'S COAST!

For a limited time, the Center is able to offer an extra boost to your donation through a generous matching grant.

Until further notice, your membership renewal or other tax-deductible contribution will provide twice the benefit to Georgia's coast.

You can contribute online at www.sustainablecoast.org using your credit card by clicking on the "Network-for-Good" icon.

OR

You can send your tax-deductible check to:

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