

Green Your Scene
Remarks by Aimée Christensen
March 12, 2008

Those of you who know me, know that I am an optimist – I believe in and hope for the best of humanity, the potential we all have to come together to address the challenge of climate change, and the incredible power of nature to restore herself when given the chance – but today I wanted to provide a bit of a reality check, an urgency for us, and to talk with you about how Idaho and the Pacific Northwest can be part of the solution.

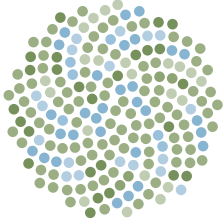
The widespread degradation of our planet's natural systems now threatens the sustained survival of civilization: we are consuming the planet's resources faster than the earth can renew them, at a rate unprecedented in human history. Our action and leadership cannot come too soon: this path is leading us toward the exhaustion of our ecological assets and even large-scale ecosystem collapse. This is undermining efforts to alleviate poverty, growing new sources of instability and conflict, and now global warming is dramatically exacerbating these threats. Global warming and the competition over resources are increasingly cited as the underlying causes of global instability greatest in need of attention from world leaders. We have a profound opportunity to immediately set a new course that promises greater and more equitable human well-being, planetary health, and security. Restoring our planet will also restore ourselves, our communities, our nations, and our global relationships.

Eight years ago, then-United Nations Secretary General Kofi Annan commissioned a global assessment of the state of the world's ecosystems and the consequences of global ecosystem change for human well-being. 1400 scientists in 95 countries conducted a global inventory of ecosystem functions such as the ability of soils to produce food, of forests and wetlands to filter and store fresh water, of coastal mangroves to protect from storm impacts, of coral reefs to sustain life. According to the assessment, nearly two-thirds of the planet's ecosystem services are degraded as a result of human activities such as polluting the atmosphere with excess greenhouse gases, draining freshwater aquifers, over-harvesting our forests and fisheries, polluting our oceans and introducing alien species to new regions.

As a result, 20 per cent of the world's coral reefs have been lost, 40 per cent of the planet's rivers have been fragmented, and our climate has been disrupted. Due to increased ocean temperatures, at this rate less than 5% of the Great Barrier Reef – the incredible coral ecosystem, will remain by 2050. Coral reefs provide a home to over 25% of all marine life. They are vital for people and business. They provide nurseries for many species of commercially important fish, protection of coastal areas from storm waves, and are a significant attraction for the tourism industry.

A recent report by the Global Footprint Network and World Wildlife Fund found we are consuming the planet's resources 25 percent faster than the earth can renew them, a rate unprecedented in human history. To keep it up, "we'll need two planet's worth of natural resources by mid-century, and 'exhaustion of ecological assets and large-scale ecosystem collapse become increasingly likely'... Humanity's ecological footprint more than tripled between 1961 and 2003, outpacing the global population, which more than doubled in that time period."

Unfortunately we are already paying the financial cost of this degradation. Without functioning ecosystems to provide clean water, without fertile soils to provide food, we have to add human-engineered solutions and pay for these items ourselves, and we are much less efficient at providing these services. For instance, when New York City needed more clean water, they considered building a new water treatment facility at a cost of over \$7 billion whereas restoring the watershed upstate by planting more trees would cost just \$1



billion. They chose the latter for obvious reasons – it's cheaper because nature does it better. Without nature, we will have to pay much more for these services, money that otherwise could further address poverty and further improve quality of life.

And it is the poor who rely most on the free services provided by planet's ecosystem services –

- 2 billion live in dry regions at risk, and lack reliable access to clean water;
- Floods threaten those least able to protect themselves, and trees and vegetation hold soils and store water;
- As we saw with the Asian Tsunami, mangroves and wetlands protect coastal villages from disaster and weather impacts; and
- Medicinal plants provide health services to impoverished communities without access to health clinics.

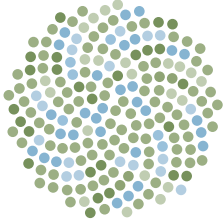
Perhaps the most important message from the Millennium Ecosystem Assessment is that our ability to meet the Millennium Development Goals is at grave risk as a direct result of the increasing cost we have to pay for poverty alleviation without being able to rely on the free services nature provides. And with increasing impacts from global warming, instead of fighting chronic challenges like poverty, dollars will flow to emergency matters like floods, storms, droughts, and climate refugees – from inundated islands as well as drought ridden areas.

So, the final piece of my reality check are five current climate change tipping points that make clear that words and policies will no longer matter if we do not act now.

1. **Methane – with twenty times the global warming potential of CO₂** – is rapidly escaping from Siberian permafrost;
2. **Carbon stored in our forests is rapidly being lost:** forest fires from drought and heat are up four times in the U.S., and forests are being decimated by exploding numbers of native insects that have longer seasons in which they survive and do their damage;
3. **The Arctic ice is melting fast:** it reflects 80 percent of the incoming energy back into space, but if current trends continue, within 10 years we will have a four-fold increase in the rate of melt, and ALL the Arctic ice will be gone by 2040 during late summer;
4. **Ice on Greenland is acting badly:** Greenland used to lose and regain the same amount of ice each year. Ten years ago, Greenland was melting about 1 Nile River per year. Today, it is losing 3 Nile Rivers per year – about a cubic mile per week is dumping into the ocean; and
5. **The Antarctic ice is breaking up:** scientists recently discovered a massive river that is surging deep under the surface of the Arctic.

And the sea-level rise numbers in the recent Intergovernmental Panel on Climate Change (IPCC) report do not reflect the impact of recent changes in Greenland or the Antarctic. The IPCC avoided including hard numbers from the two largest ice masses on the planet because they can not accurately predict the size, scope and pace of the melt.

Phew! So, are you ready for a little good news? Although Global Warming is the first, most clear impact of our unsustainable path to date, the good news is that with our climate system, as well as with other



ecosystems, reducing our impact on nature will also create many co-benefits like better health, better jobs, greater income, and improved quality of life.

There are lots of good examples of job creation, of provision of services to improve quality of life, without harming ecosystems – and businesses and non-profit entrepreneurs are innovating and leading the way. From Wangari Maathai's approach in Kenya, of tree planting for poverty alleviation and water storage as well as to capture greenhouse gas emissions; to Jane Goodall's work to provide community smart stoves that reduce the amount of wood needed for cooking, the time spent harvesting wood, and help protect the Gombe national park in Tanzania and the gorillas who call it home; to the work of Majora Carter and Sustainable South Bronx in creating green jobs restoring local nature here in the United States – these improve quality of life. There are many creative solutions that we can help to scale.

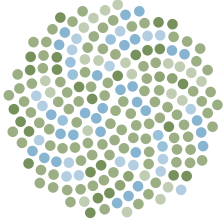
I fundamentally see our planetary degradation as an opportunity for us – we can make the world a better place, we can come together to fight against this common challenge – to which really no one is immune.

Here in Idaho, we are both threatened by global warming, and we are blessed with abundant natural, renewable resources to both help to reduce our impact on global warming, and also to help us and other creatures to come through the warming. As Rocky Anderson reminded us last night, global warming is leading to erratic rain and snowfall, which in a year like this one appears to be on the good side with more snow, but in other years it will be drought, and in this high mountain desert that will lead to increased conflicts between water users like farmers and golf courses and ski resorts, and the nature that relies on water in our rivers, like trout and salmon.

Idaho currently draws its electricity from primarily hydroelectric facilities, but also from coal fired power plants in Wyoming, Oregon, and Nevada. As the region's energy needs grow, there is increasing pressure to add on natural gas and coal-fired power plants. With global warming, this is bad news; erratic rain and snowfall will impact hydroelectric production, and fossil energy power plants require large inputs of water for cooling purposes. In addition, with global warming, the region's salmon population will be increasingly stressed, with warmer waters, and potentially less water in rivers, and we can expect more battles between agricultural water users, salmon, and now electric generation facilities in need of cooling water.

The good news is that our region does have bountiful windpower, geothermal power, biomass, and solar potential. We can build our future energy system with energy efficiency and renewable energy – cost-effectively, and which will create economic opportunity here in Idaho.

Unfortunately, I just learned that the Air Force – at the urging of Senators Pete Domenici and Larry Craig – has come up with a brilliant idea of building small-scale, 10 MW, nuclear power plants on air force bases for power needs. Not surprisingly, the Air Force says that those plants will likely end up at Cannon Air Force Base in New Mexico or at Mountain Home Air Force Base here in Idaho. This in a place like New Mexico with incredible solar energy potential (right next door in Nevada the largest solar installation went in last year at over 60 megawatts), and here in Idaho with our wind, geothermal, and biomass potential. Why aren't Domenici and Craig pushing for 10MW renewable energy facilities? I will let you all come to your own conclusions. I have not looked at the analysis, but I find it very hard to believe that nuclear energy, given all of the costs we currently subsidize for construction, insurance, and waste disposal, is a better idea – purely on economic grounds, not to mention, security and safety, and water use requirements. With the current drought in the southeast, we are seeing the utilities having to shut down coal and nuclear power plants because they can't access water for their cooling needs. These types of problems will escalate with global



warming.

Yet we must think about not only how we can slow, stop, and reverse global warming, but given how much warming is already baked into the system as a result of greenhouse gas emissions released to date, we have to think about how we get through the warming with the least impact. Not just on ourselves, but on the ecosystems and species in those systems on whom we rely, and with whom we share this world.

Our Valley lies on the edge of what Save Our Wild Salmon has called Noah's Ark for Salmon. And of the species in our region, I believe that wild Pacific salmon are at least one precious thing which should come through warming - for the creatures themselves, for all they mean to western culture and heritage, and because if salmon come through warming, so will some good measure of healthy waters for ourselves and our ecosystems.²

There is growing scientific consensus that Snake River salmon habitats are a critical anchor - in the 48 states, likely the most critical - to assure salmon and steelhead come through warming. Central Idaho holds by far the highest, coldest, healthiest, vastest, most intact and best-protected salmon habitat left in the 48 states. While global warming will harm these habitats, it is likely to harm them less than lower-elevation, already-fragmented habitats that will both warm more and fragment more as human numbers double in coming decades.

The Ark is critical because most of the job of bringing salmon through warming must be done by salmon themselves, as they self-adapt to warming-induced changes in their habitats. Idaho's vast well-connected habitats are the indispensable matrix for that self-adapting. The adaptive capacity of salmon and trout was created by the marriage of fish and habitat; we must keep that marriage together so salmon can have the best chance to bring themselves through global warming.

Of course, this Ark for Salmon is also an Ark for wolves, bears, many less-glamorous creatures, and for the wildness itself of which the Ark is made.

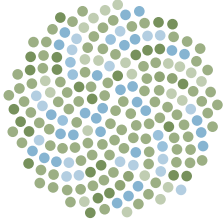
Noah had two jobs: build the Ark, and gather creatures into it. This Ark is already built. But as most of you are aware gathering salmon into their Ark will not be easy. It requires removing the four lower Snake dams downstream to allow many more salmon to reach our Ark to use it for their journey through warming.

The small but not insignificant electricity from those dams can be replaced from non-carbon sources. The good news is, Idaho can be a major part of the supply of the region's renewable energy, creating jobs and increasing income to Idaho's farmers thanks to wind power and biomass fuels and electricity. Last year, the Idaho Legislative Council Interim Committee on Energy, Environment and Technology - thanks in large part to the leadership of our own legislator Wendy Jaquet, conducted the first review of state-level energy issues in over 25 years, and perhaps the first time that the Legislature has been involved in developing specific policy direction for state agencies, energy companies, and consumers.

The Idaho Energy Plan found that:

Idaho's existing energy resource base has resulted in some of the lowest electricity and natural gas prices in the country, providing enormous benefit to Idaho consumers. However, new energy resources are becoming increasingly costly:

Much of the hydroelectric capacity that serves Idaho customers is now or will soon be



undergoing federal relicensing, a process that can result in substantial cost increases. Idaho relies on imported fossil fuels for approximately 80 percent of its energy needs. This leaves Idaho vulnerable to fuel prices outside of its control, and also means that most of the \$3 billion dollars that Idahoans spend each year on energy are sent outside the state, providing little secondary economic benefit through jobs here at home.

Given these realities, the Committee found that increasing investments in energy conservation and local renewable resources are the best strategies for achieving our objectives. Conservation and renewables diversify the state's resource base, reducing its dependence on imported fossil fuels and providing insurance against increasing fuel prices. They also contribute to Idaho's economic development by creating local jobs and tax revenues, frequently in rural areas that are most in need of new economic activity.

Without those incentives, jobs and investment will go elsewhere even though Idaho has the renewable resources investors seek. Just look at Germany and Japan – a northern European nation and a not so sunny Asian nation with the fastest growing solar industries in the world! In 2005, together they made up over 80% of the growth of the global solar market – and this is because of their political leaders and the policies they have put in place.

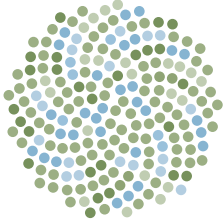
Here in the United States we have massive solar potential, and we can create these opportunities. Pennsylvania put in place new requirements for renewable energy production, and it drew in a wind turbine factory for this new market, creating new jobs in a manufacturing community desperately in need. Indeed, 2005 studies by the Renewable Energy Policy Project found that when we map job losses due to outsourcing, and map new job creation from manufacturing wind and solar technologies, there is an approximate 80% match. The clean energy economy can be an antidote for outsourcing, and can play a significant role in rebuilding our nation's economy in this difficult time. If we have the right policies here in the United States, we have job creation here at home. Building the clean energy infrastructure is not something that can be outsourced.

For those who claim that addressing global warming will be economically too costly, I have two answers. First, the UK Treasury funded a global economic analysis called the Stern Review, which found that approximately 1% per year of our global gross domestic product (GDP) is required to be invested in order to avoid the worst effects of climate change, and that failure to do so could risk global GDP being up to twenty percent lower than it otherwise might be. Second, I have found that those making claims about the harm to our economy are merely protecting the polluters of the past at the expense of the industries of the future.

It is time for Idaho to be at the forefront of the industries of the future – yet I understand that the legislature even voted down new energy efficiency requirements for state buildings – which is incomprehensible as this saves money for the state! So take a look at the plan and reach out to Wendy Jaquet to see how we can help her in getting the state to implement the plan's recommendations.

For all of us, it is a time for more. Don't be afraid to be an advocate. The facts are on our side, and go with your instincts as we will be proven that this is the right path.

When I first started my job with the Department of Energy, I was 24 year old and part of a team to identify electricity replacements for the dangerous Chernobyl-style Tomsk and Krasnoyarsk nuclear reactors, and I oh-so-naively asked the group whether wind power was a potential resource. They laughed – it was only coal, and maybe natural gas. But within a year or two, the then-Secretary of Energy, Hazel O'Leary, was working



with the former Soviet Union and countries like Georgia and around the world to develop their indigenous wind and other sustainable energy resources, as well as energy efficiency programs.

Throughout my life as a lawyer and consultant – in the private sector working with corporate clients, I have found as an advocate we can make a real difference – and my clients and those around me come to see the wisdom of the information. Take strength in knowing the truth of your words. No matter where any of you are, you can make a difference.

In our personal lives actions we each take add up: first, I have a little saying that my friends in green building and energy efficiency taught me – caulk is cheap! Caulk windows and doors, change to compact fluorescent lightbulbs, change transportation habits, buy green power, eat lower on the food chain – I am vegan, and that can be the number one thing to do to reduce your impact on global warming.

And get to the streets to join rallies – tomorrow night we're going to hear from May Boeve about Step it Up, an incredible grassroots effort over these past few years. This problem is so urgent, and action needed so desperately we must get out and march.

Finally – get political. Pick a candidate in whatever race – the Presidential, Senate, your city council, educate them, and hold them accountable. And run yourself!

As a final note, I was recently sitting with Tom Lovejoy, a pre-eminent scientist and leading advocate for the preservation of our global biodiversity and natural systems, who heads the Heinz Center for Science, Economics and the Environment, and as I grew increasingly passionate about nature's wonders, I said, "Tom - Nature Rocks!" We laughed – it's a little embarrassing to be 38 years old and saying things like "nature rocks" – but I hope that all of you will continue to be wowed by the amazing natural world around us, and celebrate it, steward it, and show nature that we can live up to her hopes for all of us. Here's to nature and to you ALL for knowing nature rocks.

Thank you!