

What lies beneath

PHOTOGRAPHY BY DANIEL LESER

While the exploitation of underground coal seam gas promises riches for energy companies, in many parts of rural Australia it is causing deep uneasiness – and driving an unlikely opposition alliance of green activists and conservative farmers.

By **David Leser.**

DAVID AND MEGAN BAKER WOULD LIKE TO KNOW IF YOU'D be interested in buying their 1050-hectare property on south-east Queensland's Darling Downs.

For half a century it's been lovingly cared for in the face of just about everything nature and human endeavour could hurl at it: drought, flood, fire, the oil shocks of the early '70s, commodity price crashes and escalating costs of production.

Today there are a few downsides the Bakers need to advise you of. Firstly, there's an open-cut coal mine on two adjoining boundaries, operated by Peabody Wilkie Creek, a fully owned subsidiary of the world's largest private-sector coal company, the American giant, Peabody Energy.

On their property are nine gas wells, managed by the coal seam gas company Arrow Energy, acquired last year in a joint venture between Royal Dutch Shell and PetroChina, China's largest oil and gas producer. There are another 198 gas wells nearby, with drills boring 24 hours a day, up to 500 metres deep into the Great Artesian Basin.

The Bakers feel obliged to point out also that the fat lambs they used to proudly breed for the domestic market have been sold. That's because the sheep kept falling into open trenches after Arrow Energy removed sections of the fencing. (Arrow Energy claims the property's fencing was in poor condition when they arrived, and that at no time did they receive evidence of sheep "falling into open trenches".)

The eucalypts and apple pines that formed a shady barrier outside the farm are no longer there. They were chopped down to make way for a power line. There's the problem, too, of gas migration. David Baker's 79-year-old father, David snr, was virtually confined to his home on the Baker property for three days recently because of methane leaking from an uncommissioned pipeline. (Arrow insists it was safe for David snr to "leave his house and drive off his property at any time".)

One kilometre down the road, at Tom O'Connor's cattle and grain farm, one of 12 coal seam gas wells on his property erupted, sending methane and water spewing nearly 100 metres into the air. It took Arrow Energy 27 hours to cap the well, and this was the fourth incident on O'Connor's farm to date.

The Bakers are reluctant to admit it, but they no longer feel confident

about their water or soil quality. David snr has kept a watchful eye on the structure of the creeks for half a century, but with all the earthworks going on, the tributaries have turned murky. There's the risk, too, he believes, that contaminated waste water collected from the extraction process might have overflowed from ponds during recent flooding, or been re-injected into aquifers. (Arrow Energy says that at no stage did contaminated water overflow from their holding ponds, and that the only release of water ever authorised – in response to the flooding – was treated water from the company's reverse osmosis plant. It was released across the Baker property.)

"I do have concerns about the water supply," David snr tells GOOD WEEKEND when we visit the Baker property, 35 kilometres west of Dalby. "Any sensible, thinking person would. I've been in the country all my life and I can't see how a sane person [could think] that you can keep on taking water out [of the Great Artesian Basin] and not have something happen under the ground. The mining and coal seam industries are coming in here and doing whatever they want. We're being attacked from all sides."

David snr's concerns about water quality are not unwarranted. A report by the country's peak non-government toxic and chemicals body, the National Toxics Network, revealed last month that Australia Pacific LNG Pty Ltd had been given permission by the Queensland government last year to dump treated water containing 80 different chemicals and radionuclides – at a maximum volume of 20 megalitres a day – into the Condamine River for an 18-month period. The Condamine River, which runs near the Baker property, flows into the Condamine Catchment, then links up with the headwaters of the Murray-Darling river system.

The chemicals included a range of toxic substances like lead, cadmium, chromium, mercury and BTEX – a combination of benzene, toluene, ethylbenzene and xylene that has since been banned in Queensland, although, at the time of writing, this ban had yet to come into effect.

Although benzene has been commonly linked to leukaemia, the report states "there was no requirement for an assessment of the cumulative load or the potential to contaminate sediments, plants, aquatic species and/or animals prior to release".

The Bakers are now at their wits' end, but they appreciate the terrible irony of their situation, given all three used to work for the company that has become the predator at their door. David jnr actually helped Arrow set up its first five-well pilot program eight years ago, and then spent six years co-ordinating the company's access to other people's properties, before Arrow terminated his services in September 2010.





DEEP IMPACT: (left) Megan and David Baker are feeling the stress of dealing with a powerful, cashed-up company that manages the nine coal seam gas wells on their Darling Downs property.

At the time, they thought coal seam gas mining was a good idea. It was a new, exciting industry, offering a multitude of challenges to curious men like David Baker. It also offered extra income during difficult times.

“We were very naive,” says Baker snr. “We were the first private property they entered around here, so we were all sort of labouring in the dark.”

Megan Baker believes the family didn’t have much choice when it came to granting the company access. “I don’t remember the question, ‘Can we [come onto your land?].’ It was, ‘We are.’ And our solicitor told us, ‘You can fight it but you will have a 99 per cent chance of losing.’”

For five months after the methane gas leak, the Bakers waited for an explanation from Arrow Energy. For six months they waited for compensation. The money they’re owed now for allowing the wells onto their property in the first place is currently 12 months overdue. (Arrow says the company has requested 2009 and 2010 invoices from the Bakers on numerous occasions, “but they have not been provided to date”.)

To add further to their woes, David Baker jnr has cancer – both Hodgkins and non-Hodgkins lymphoma – and the stress from dealing with a powerful, cashed-up gas company is not making him feel any better.

“We’re kind of stuck, aren’t we?” his wife says, her attractive face a weather map of fatigue and worry. “Would you like to buy our property? You wouldn’t, would you? Who the hell *would* buy it?”

NO ONE, IT SEEMS. NOT SINCE THE DARLING Downs became a new industrial park, as well as a metaphor for much of what is happening – or could happen – throughout Australia. In the past few years nearly 4000 coal seam gas wells have been sunk deep into the Surat and Bowen basins in Queensland, in what has been traditionally one of the great food bowls of the world.

In addition, approval has been granted for up to 40,000 more wells fanning out across the Sunshine State over the next decade, a pin cushion of drill sites across the black-soiled Darling Downs, up into the Arcadia Valley – a breathtaking stretch of farmland nestled between Expedition and Carnarvon national parks – then north into the central highlands of Queensland around Emerald – the Golden Triangle – where wheat, mung beans, safflower, corn and cotton flourish on the lush soil.

The wells have found their way into prime beef country around Wandoan, and there are plans for more in the hinterland behind Noosa, up the eastern seaboard to Proserpine, and down to the rainforest escapes of the Tweed Valley, where Macquarie Energy has an application for an exploration licence. Due west from there, at the spectacular Border Ranges, the Casino-based



Metgasco Ltd plans to run a pipeline from the northern NSW town all the way through to Gladstone, passing directly through the bucolic village of Kyogle, near residential areas, then across a showground, under a lake, through the Richmond River – at three separate points – behind a primary school, along a series of fresh running creeks and streams, over green hills and valleys of high slip soil studded with dairy and hobby farms, then up through a private road that snakes through the middle of a World Heritage-listed national park.

It doesn't stop there. Exploration leases have been granted for coal seam gas extraction from thousands of hectares of the Liverpool Plains in NSW, the best dry farming land in the country. There are leases over 22,000 square kilometres of the Gunnedah basin, up to Narrabri and into the north-western slopes around Moree, then south-west into the Pilliga Scrub forest, where former National Party leader John Anderson's Eastern Star Gas (now under a takeover offer from Santos) is leading the charge for 550 gas wells and more than 1000 kilometres of pipeline in what is the most iconic temperate woodland in the state.

Other areas of NSW earmarked for coal seam gas exploration include the wine- and tourism-rich Hunter Valley, the Illawarra Plains – where Sydney gas company Apex Energy NL has an audacious scheme to drill beside Warragamba Dam, the reservoir for much of Sydney's drinking water – and the Southern Highlands, where Planet Gas wants to start drilling near Berrima, and its sister company, Cockatoo Coal, intends mining for coal from Sutton Forest. At the historic town of Camden, 65 kilometres south-west of Sydney, 72 new gas wells are planned for the Scenic Hills in addition to 130 pre-existing ones, while right in the heart of Sydney, Dart Energy is due to begin exploratory drilling along the Alexandra Canal at St Peters. (Dart Energy currently holds an exploration licence for 2385 square kilometres of the Sydney basin.)

In Victoria, local and international companies have Gippsland firmly in their sights, plus the Dandenong Ranges and the region around the

“ You can't keep on taking water out and not have something happen under the ground. The mining and coal seam industries are doing whatever they want. We're being attacked from all sides. ”



SEAM STRESS: (top) David Baker snr, who was confined to his home for three days because of a gas leak; (above) long-time Arcadia Valley farmers (from left) Rowan Peart, his sister Pauline MacDonnell (with baby Isla) and her husband Justin, who are alarmed by energy company Santos's plans to turn the valley, one of the country's best grazing regions, into a giant gasfield. "We're all living under a cloud of uncertainty," says Justin MacDonnell.

Bay of Islands Coastal Park, near the iconic Twelve Apostles. In fact, every Australian state is up for grabs in what is the nation's 21st-century gold rush.

STATE GOVERNMENTS AND INDUSTRY GROUPS believe coal seam gas is the way of the future, cleaner than coal, a boon to employment, a revenue spinner worth billions of dollars. And there's so much of it: 250 trillion cubic feet in Queensland and NSW alone, enough to power a city of one million people for 5000 years.

"We are looking at an additional \$850 million a year in royalties for the Queensland government and 18,000 new jobs," says Belinda Robinson, chief executive officer for the industry's peak body, the Australian Petroleum Production and Exploration Association (APPEA).

"This is what is going to be the difference between where we are now in terms of climate change and where the government wants us to be [in reducing greenhouse gas emissions]. I think

they're projecting a 200 to 300 per cent increase in gas. Well, it's got to come from somewhere.

"We've been wringing our hands for decades about how we can enliven and rejuvenate regional economies and there aren't many industries that can provide really good careers and jobs in some of these disadvantaged areas. This industry is able to do that."

That's not what critics say. Beyond the issue of property rights (and we'll come to that soon), concerns focus on the way coal seam gas is extracted from the Great Artesian Basin, and how this extraction process might threaten both surface and ground water.

The Great Artesian Basin is one of the geological wonders of the world, stretching over 1.7 million square kilometres, or 22 per cent of the continent. It is also the largest and deepest artesian basin on earth, a vast catacomb of interconnected aquifers and sedimentary rock layers from which farms, pastoral stations, towns, small communities and indigenous homelands throughout Australia have always derived their bore and spring water.

Without this underground reservoir, life as we know it on this sun-bleached continent could never have existed. But such has been the damage caused to it by wasteful practices of old that federal and state governments have spent hundreds of millions of dollars in recent years trying to restore it to full health.

What causes near apoplexy among industry critics is the belief that the extraction process threatens the Great Artesian Basin as never before. In order to free the gas from the coal seams, bores need to be drilled up to a kilometre below ground, deep into this labyrinth of rock and aquifer.

To force the gas out, vast volumes of water must then be pumped into the coal seam so that the water pressure holding the gas in place can be released. If enough gas fails to come to the surface, a highly controversial process called hydraulic fracturing, or "fracking", is then used. This involves blasting the coal seams with a high-pressure combination of water, sand and fracturing fluids.

The coal seam gas industry insists these fracturing fluids are safe, and that the risk of contamina-



DIVIDED LAND:
the rich farming
country of south-east
Queensland's Arcadia
Valley, where numerous
coal seam gas wells
are proposed.

“ This industry doesn't have a social licence to operate, and it is as clear as the nose on your face that it has not been proven safe ... We've got gas wells in Camden, 100 metres from schools and 50 metres from homes. ”

tion of groundwater and aquifers is “minimal”. Organisations like Doctors for the Environment and the National Toxics Network (NTN) beg to differ. Last year, the NTN reviewed a number of industry environmental authorisations to look at their risk-assessment documents, as well as the list of chemicals the industry had provided. They were not impressed.

“I think the thing that shocked me most,” NTN's Mariann Lloyd-Smith tells GOOD WEEKEND, “was that when we consolidated the lists, we came up with about 23 chemicals we could identify, and of those 23, only two had been assessed by our national chemical regulator. Those two had not been assessed for their use in fracking.”

The 23 chemicals included some that damaged the lungs and, in the case of ethylene glycol, were associated with spontaneous abortions among factory women. Others were endocrine disruptors, affecting hormones and the way the body functions. Still others were capable of producing degenerative changes in rat brains.

“These are not soft, non-toxic things that you will somehow find in your kitchen cupboard – which is a claim made by the industry,” Lloyd-Smith says.

APPEA's Belinda Robinson insists fracking is safe and points to the fact it's been around for 60 years (although in Queensland for just over a decade) and that two million wells have been fracked around the world, with “minimal threat to human and environmental health”.

Not according to France's National Assembly, which banned fracking this year in response to a public outcry, or the South African government, which did similarly. *The New York Times* also reported this year that hundreds of millions of gallons of hazardous or carcinogenic chemicals had been injected into wells in more than 13 US states between 2005 and 2009, and in Blackpool, England, fracking was suspended in June because of earth tremors thought to be related to the process.

But Robinson argues the projects in Queensland have been through two years of environmental impact assessment and subjected to 1500 conditions. “And we support that,” she says, “because we want to be here for the long term ... and no one is going to be here for the long term on a sustainable basis without being confident that what we're doing is the right thing.”

QUEENSLAND'S NEW GREENS SENATOR, LARISSA WATERS, remains unconvinced. “Firstly, if you need 1500 conditions to make something safe, then it's probably a pretty

risky activity,” she tells GOOD WEEKEND. “Secondly, some of these conditions are often very vague. We don't have the scientific capacity to know for sure ... that this is not going to have a long-term impact on the Great Artesian Basin, either through the dropping of the water table, or through cross-contamination. Some of that water is two million years old and it is the crucial water source for our rural communities.”

As for fracking, Waters points to the “disastrous” American experience highlighted in the film *Gasland*, in which families across the United States were shown setting their tap water on fire, while others reported suffering a range of potentially methane-related illnesses. One woman claimed to have suffered burns and rashes from taking a shower.

The film has been attacked by its industry critics – here and in North America – as a “series of distortions, exaggerations and inaccuracies”, but it hasn't stopped community halls across Australia from screening it, nor has it prevented Jeremy Buckingham, the NSW Greens MP, from hand-delivering a copy to nearly every member of the NSW Parliament, including Premier Barry O'Farrell. In May, the NSW Government imposed a 60-day moratorium on the granting of any new exploration licences for the production of coal seam gas until further assessments had been made. The moratorium said nothing about permits already granted.

As this moratorium was about to end (at the time of writing), NSW Resources and Energy Minister Chris Hartcher announced new conditions for the industry so that a better balance could be struck between agriculture and coal seam gas. He said these conditions would include a ban on fracking until December 31, and on the use of toxic chemicals such as BTEX, as well as changes to the way the industry uses water. Furthermore, an online database would be established so people could learn if there were exploration licences over their properties.

Buckingham wants a 12-month moratorium on the industry, a total halt to coal seam gas extraction in the Sydney metropolitan area, and a commission of inquiry held. “This industry doesn't have a social licence to operate, and it is as clear as the nose on your face that it has not been proven safe,” he says. “We've got coal seam gas wells around Casino ... with large volumes of produced [contaminated waste water] potentially moving into the floodplains. *These are coal seam gas wells on a floodplain!* We've got gas wells in Camden, 100 metres from schools and horse-riding camps and 50 metres from homes.

“We've actually filmed foam and fluid being vented into the air [from one of the well heads] and it was travelling hundreds of metres towards the suburb of Glen Alpine [in south-west Sydney]. This community is up in arms because they feel like guinea pigs.”

There is also growing dispute over industry claims that, because gas-fired power stations emit up to 70 per

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cent less greenhouse gases than existing coal-burning plants, coal seam gas is a cleaner form of energy than coal. According to a senate submission from groups opposed to coal seam gas, the footprint from coal seam gas is heavier than coal. That's because the emissions involved in producing the gas – drilling, fracking, compressing, pumping, liquefying and transporting the gas, together with the loss of carbon-storing forests and woodlands cleared to make way for wells and pipes, as well as direct CO₂ and fugitive methane emissions – makes its carbon footprint much bigger than previously thought.

As for the idea that the industrialisation of rural areas represents a “renewal and rejuvenation” of regional Australia – as claimed by the industry's peak body, APPEA – that's just a bad joke, according to Senator Waters. “This is not how rural communities feel,” she says. “They're being bullied. Their land is being taken over. They feel like they're being picked off one by one. They're realising that their rights to resist this sort of activity on their land are incredibly few.”

“It is certainly not a community unifier. This is actually destroying these communities and, in fact, the only thing that is keeping them unified is their opposition to coal seam gas on their land. It is laughable to suggest that this is a renewal of our rural communities. This is the death of our rural communities at the altar of short-term profit.”

AUSTRALIANS ARE NORMALLY A WELCOMING and law-abiding lot. However, as many resource companies are now finding out, this friendly disposition no longer applies to them. Around the country, thousands of farmers and environmentalists, urban rich and rural poor, left and right, young and old, are joining Greens activist and author Drew Hutton's Lock the Gate Alliance, a gathering storm cloud of protest aimed squarely at the coal seam gas industry.

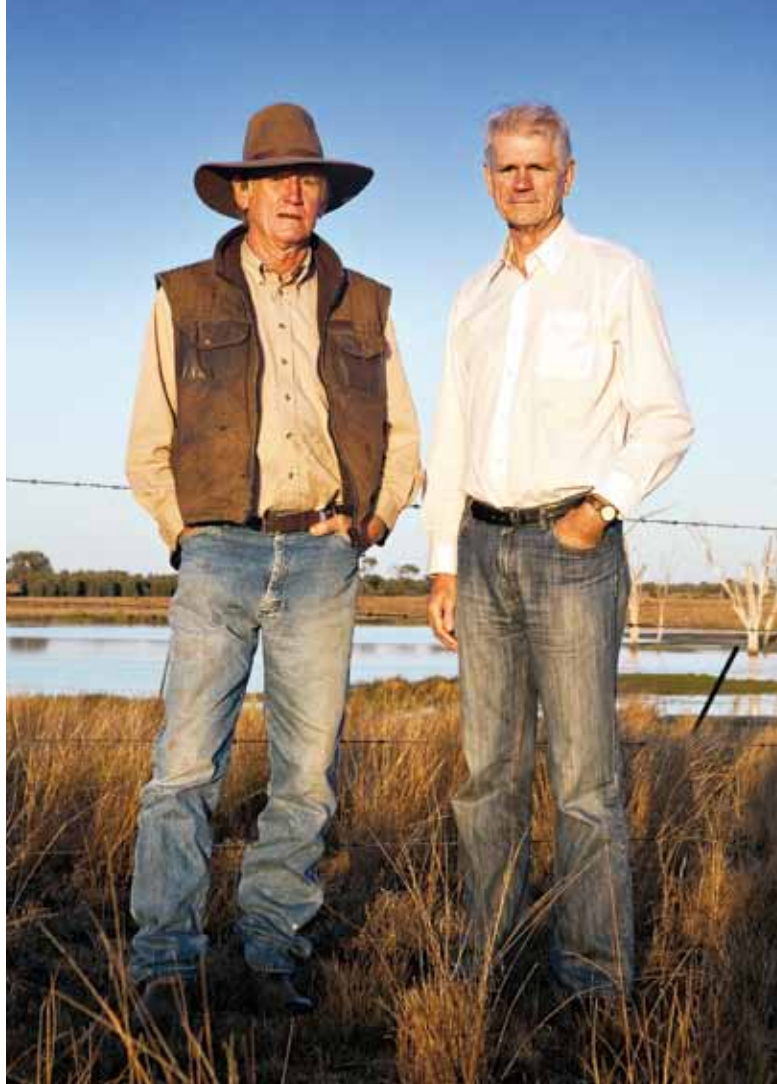
“We've got 1500 farmers in Queensland who've locked their gates,” Hutton tells GOOD WEEKEND as we tour the Darling Downs together. “They're saying to these companies, ‘We don't want to negotiate with you.’ This has turned into a huge movement, a non-co-operation movement, that's built on people like Gandhi and Martin Luther King.”

“These companies do not want to take farmers to court. The minute they do that, they've lost the battle. The first farmer who has a coal seam gas company call the police to cross the boundary of that farm – over the top of the farmer, his wife and kids and mother-in-law – is the moment we've won the campaign.”

Belinda Robinson says the industry must be doing something right, otherwise why the 2400 voluntary land-use agreements already signed or currently being negotiated with landholders? “And, of course,” she says, “there is an obligation to negotiate in good faith.”

That, of course, doesn't wash with stunned property owners who are learning now that ownership of their land extends only to the top soil and ground surface, not the subsoil and mineral reserves below. These belong to the state, and in having granted companies an authority to prospect, state governments have effectively anointed them agents of the Crown.

“Companies are very sly about this,” Graeme Healy, president of the Barrington-Gloucester-Stroud Preservation Alliance in mid-northern NSW, tells GOOD WEEKEND. “They appear on your doorstep and ask whether they can have a



“ It is insanity to destroy prime agricultural land for these activities, purely for short-term dollars ... It makes no sense to be wrecking this land when we need to be ramping up food production. ”



THEY SHALL NOT PASS: (from top) Property Rights Australia vice-chairman Lee McNicholl (at left) with Greens activist Drew Hutton on McNicholl's cattle station in the Darling Downs; Hutton speaking at an anti-coal seam gas rally at Byron Bay, northern NSW, in May.

look around, and if the person is a charming young man or woman, the landholders will try to do the right thing. But in letting them on, you've just given them access.”

Healy should know. There is now a proposal for 330 gas wells through the picturesque Gloucester Valley, home to grazing, dairy and boutique farming on the junction of three rivers, the Gloucester, Avon and Barrington. “This will industrialise the valley and change it forever,” he says. That's why his organisation, representing 200 local landholders, has taken gas company AGL to court to challenge the NSW Planning Assessment Commission's approval of this project, and why he and his members have joined Drew Hutton's alliance.

As has Lee McNicholl, vice-chairman of the ultra-conservative Property Rights Australia group. For the past 12 months, McNicholl has been paving the way for Hutton to meet his members, men and women who only a few years ago would have gladly frogmarched the co-founder (with Bob Brown) of the Australian Greens from

the room. “I have been working out different ways of introducing Drew to my members because we are an odd couple,” he explains. “But I say to them, ‘If you are really concerned about these issues, you have to get someone who knows about this, and Drew does.’ I consider him a friend.”

A former vet by training, McNicholl has been breeding cattle on his station in Queensland's Western Downs district for 23 years. He disagrees strongly with Hutton on climate change, and is a fierce opponent of the federal government's proposed carbon tax. But by his own careful reckoning, he sees coal seam gas as not just an assault on a man's rights to his castle, but as an alarming threat to food security.

“It is insanity to destroy prime agricultural land for these activities, purely for short-term dollars,” McNicholl tells me as we stand in the soft early-morning light of his property, the whistling ducks, herons and black swans swooping through the brighalows.

“Drew and I have come together on the question of sustainability. There are food riots in Mozambique and Zimbabwe. There will be nine billion people in the world by 2050 and we will have to produce 70 per cent more food from a diminishing agricultural base. So it makes no sense to be wrecking prime agricultural land when we need to be ramping up food production.”

McNicholl has slammed shut his gate as well, and he's ready for his area's coal seam gas prospector, Queensland Gas Company, should they come knocking. “They're coming this way,” he growls, “and I've told them they're not welcome. I've also rung them and said, ‘I don't want your compensation. I just want to continue farming sustainably.’ I'm not going to let them on here without a fight.”

LEE MCNICHOLL HAS TAKEN HIS CUE FROM Drew Hutton, who in March this year was arrested on a residential estate near Tara in the Darling Downs, trying to stop the Queensland Gas Company from entering the estate. (There are currently 200 gas wells on the estate, with another 800 to come.)

Says Hutton: “I sat down in front of the bulldozer and they arrested me under section 805 of the Petroleum and Gas Act – which says you can't obstruct a mining company without a reasonable excuse. I'm going to argue I had reasonable excuse. Saving the planet, I think, is a pretty reasonable excuse.”

Hutton grew up on the Darling Downs, the son of a drover turned butcher. As a boy, he went looking for the wattle blooming in July. During the holidays, he would help his father muster cattle and go droving with friends for up to a week at a time. The wheat harvest was always a time of neighbourly collaboration.

“That's all going to go,” he says, as we thread our way through the land of his childhood, a moonscape now of pipelines, service roads, holding ponds and gas wells. “We're going to lose the expertise of a whole generation of farmers. They're going to lose their properties. They're going to lose their superannuation, because that's what their property is. They won't be able to sell it and they know it. That's why they're petrified.”

“To us, the morality of this is clear. If you love this country, if you want to see it retain its integrity, if you believe in the cultural and natural heritage that we've inherited and wish to pass on to our children, if you love that, then you have no choice. You have to fight for it. You have to lock the gate.” **GW**