



I've been a surfer for over 20 years and a geography enthusiast for approximately 15 years, ever since I was first introduced to the subject in Year 7. I never could imagine these two passions interconnecting; my secondary teachers who told me that there were no careers in surfing definitely couldn't imagine this; but here I am writing for a teaching journal as a surfer and as a Geography teacher.

NSW Syllabus Links

- Stage 4 (Landforms and Landscapes)
- Stage 5 (Environmental Change and management)
- Stage 6 (Ecosystems at risk)

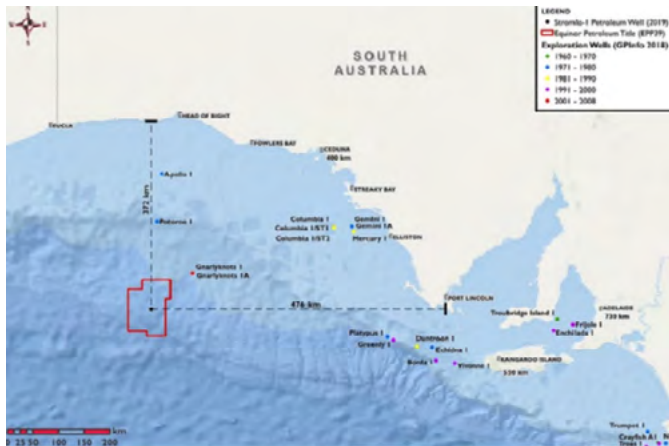
Fight for the Bight and BP's 2010 Deepwater Horizon spill in the Gulf of Mexico can be used as illustrative examples of the impacts and potential impacts of environmental change and in Stage 4 to consider the value of natural places.

The protests are an example of active citizenship.

Being a surfer, I'm deeply entrenched and engaged in the natural environment on a day to day basis. I have a love for the ocean that most people cannot understand, it has given me my health, my career and an escape from the pressures of the world; it feels like home to me. However, when that home is at risk of being destroyed by a Norwegian oil company, Equinor (formally Statoil) due to their plans to drill for oil in the Great Australian Bight. I knew I had to find a way to use my passion for the ocean and my geographic understanding to fight this proposal.

This is not a new debate. In fact, it's been ongoing in South Australia for many years, first it was Chevron, then BP, and now Equinor who are all tirelessly trying to open up an oil field in one of Australia's (and the world's) most pristine and ecologically diverse ecosystems, the Great Australian Bight. So far, all companies have been unsuccessful, Chevron withdrew and BP's Environmental Plans didn't stack up; even having the gall to suggest a spill in the Bight would create hundreds of new 'clean up' jobs in Australia (ABC). Personally, I'd prefer to have my job based on a healthy coastline, then one where I'm being paid to clean up someone else's mess.

Figure 1: Location of Stromlo-1, 372km South of Ceduna and 476 km West of Port Lincoln.



Source: Equinor EP.

Years of seismic testing, that is the act of sending seismic blasts from ship to sea floor to map the underlying oil and gas deposits beneath the sea bed, suggest that the Great Australian Bight is rich for those who seek their fortunes through drilling, extracting, mining and fracking, I won't delve into the environmental issues surrounding seismic testing, that's a debate for another time.

Equinor continues to push forward with plans to drill in a location called Stromlo-1, approximately 370 km south of Ceduna. This chosen site lies in one of the most volatile areas of ocean in the world, the Southern Ocean. Planning to drill the ocean floor that sits at a depth of 2.2km, would make it the deepest drill site worldwide. Simply put this is a purely experimental endeavour. The closest land base, Ceduna is not currently set up for an oil or gas industry, and the closet clean-up crews, if there was to be a spill - is 17-days (by boat) away in Singapore (at a minimum, depending on ocean conditions).

As Geographers we evaluate positive and negative impacts on both people and the environment, however, this decision to drill in the Great Australian Bight has far outreaching negative consequences for both people and place than it does positive ones.

I will base all impacts off a 'worst case scenario' where a spill was to occur in-conjunction with large Southern Ocean storm (see projected spill map). While Equinor only plans to drill from October to May (the Bight's calmest months) the rig itself must be able to withstand (year-round) an average of 4m swells and 'persistent, moderate to high swell from the Southern Ocean' due to strong westerly winds, long ocean fetch and the depth at which the swell is generated, it's not uncommon to see wave heights reach 18 m. (Coastalwatch). Comparing this to the world's worst oil spill, the 2010 Deepwater Horizon spill, the Gulf of Mexico only sees average wave heights of 5ft/1.5m (Texas Pelagics)

Figure 2: Projected spill map from Equinor's own Environmental Plan. .



Source: Equinor EP.

Economically, Equinor suggests that there will be a 6% increase to South Australia's GDP as a result of operating out of the state and an extra 1,4000 new jobs (Equinor EP). Though the major concerns arise when you weigh up what is at stake if a spill was to occur. For South Australia this means the temporary shut-down of the largest fishing fleet in the Southern Hemisphere and a tourism industry that relies on a clean coastline that both contribute a combined \$10 billion annually to South Australia's economy (Great Australian Bight Alliance). These losses looked at a larger scale to include all impacted states (Victoria, Tasmania, New South Wales and Western Australia) could spell thousands of job losses across the country. Temporarily, it's projected that clean up time for the Deepwater Horizon Spill in the Gulf of Mexico took almost 4 years to be considered to be

Figure 3: Patagonia Australia 'Big Oil Don't Surf' campaign poster using data from BP and Chevron's EP highlighting potential impact likelihood if a spill was to occur alongside a deep southern low-pressure system.



Source: Patagonia Australia

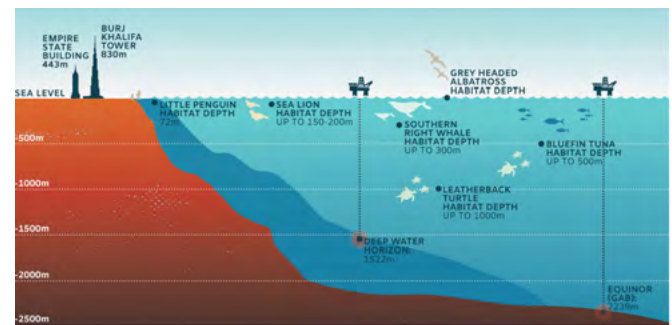
PEOPLE, PLANET AND PROFIT

complete; it's projected that a spill in the Bight will be twice as big; so potentially 8 years of large-scale losses in two major industries. A spill would have large scale national economic consequences.

Socially, we still have a heavy reliance on the oil industry, we need it for jobs and to build, move and grow a nation, I can't argue that. The impacts to residents along the 'at-risk' coastline are incredibly detrimental. Those who are directly or indirectly employed by either tourism or fishing will see immediate losses, that is hundreds of thousands of Australians in 5 states. If a spill was to occur, we would see population movement from affected communities to other places as those out of work search for job security. As a result of making Equinor's plans to drill public, we saw 31,000 submissions against Equinor's Environmental Plan, and over 20,000 Australian's "paddled out" in protest against drilling (Surfrider Foundation), some of the largest environmental protests in Australia's history prior to the recent Climate Strikes.

The Great Australian Bight is one of the last pristine environments anywhere in the world, 85% of species that call the Bight home are found no-where else in the world (Wilderness Society). It's hard to imagine how this disaster won't have large scale impacts on species numbers, breeding and migration patterns and ecosystem health. Much of the 'at-risk' coastline could be considered remote. Let alone whether it ever will be cleaned up considering how sparse the population is along some stretches of coastline; now imagine oil in these places, untouched for hundreds of years, stained for years to come. A report published in The Guardian on the Deepwater Horizon spill suggested that research carried out by the University of Southern Mississippi had found that 4 years after the spill had occurred that the spill drastically altered microbes and bacteria that were the fundamental base of the ocean food chain. Deepwater Horizon impacted 1,300 miles of coastline; in Australia we could see a third of our coastline impacted.

Figure 4: Drill depth comparison between the Bight and Deepwater Horizon.



Source: Greenpeace

This case study is ideal to bring into the VCE Unit 1– Hazards and Disasters curriculum, as a form of technological 'hazard', that can be easily comparable to one of the most environmentally damaging technological 'disasters' in recent history, BP's 2010 Deepwater Horizon spill in the Gulf of Mexico.

This issue has the potential to impact anyone living or working along Australia's southern coastline, with the potential to have further impacts to hinterland tourism and freshwater supply. If you or your students are concerned about this issue, I encourage you to visit either the Patagonia Australia, Wilderness Society or Great Australian Bight Alliance website for further details on how you too can Fight for the Bight.

About the Author:

Linley Hurrell's first introduction to Geography was in Year 7 at Gippsland Grammar, she went onto to complete a double degree (Arts/Secondary Education) at Monash University, with the intention to inspire her students in the same way her teachers did for her. She currently works at Patagonia Australia and The Saltwater Institute where she can combine her passions for both Geography and Surfing.

BREAKING NEWS

Equinor abandons plans to drill for oil in Great Australian Bight

<https://www.abc.net.au/news/2020-02-25/equinor-abandons-plan-to-drill-for-oil-in-great-australian-bight/11997910>