The Roxby Vigil:

Emily Wood-Trounce interview with Al Lad and Annie McGovern at Alberrie Creek

Emily Wood-Trounce

So we're here on Arabunna Country in the dingo den at Alberrie Creek, with Al and Annie. And would love for you guys to tell me a bit about what brought you to Roxby in the first place, or to Arabunna Country.

Annie McGovern

Long story. Back in the 70s, there was a lot of activity towards No More Wars, you know, so uranium mining was really not on the cards. There had been a couple of mines already established in the Northern Territory, and the people up there really resisted those sorts of activities. So it became pretty widely known amongst the Australian public to leave it in the ground. You know, there was traditional knowledge. There was everything to suggest that post the Second World War, there was, you know, what happened at Hiroshima, Nagasaki, all those things - there were tests in the Pacific that really were not, I mean, they were virtually blowing up people's homelands in the Pacific.

So that's the Americans, and Marilinga, of course, it took a long time for that to actually be exposed, but by the 70s, people knew about it, and people actually were really taking notice of what had been a sort of a situation where the country was just open for grabs. People started to go, 'no, this has gone too far.' The same with the logging in the forest. You know, all the things that were happening that were really impacting on the continent, and so the consciousness of people was really highlighted. And because I came through Nimbin in the early 70s, as a young person, I was educated at every level of life through the people I met there and the way we lived, the connection with the Country, living very basically - we lived in the bush. And that was a learning ground for me personally.

And so the stream of things that happened from '81 to '83 was that transition from the forest out here to the desert, people were just on the move everywhere and trying to protect the Country. And that's how I ended up at Roxby in the first place.

Emily Wood-Trounce

And what was that first blockade? Tell me about that, or the first interaction?

Al Lad

Well, we'd come from the Franklin campaign, and it was seen that non violent direct action was a methodology, a strategy and a tactic, that had shown success with the Franklin. And so people were on a bit of a high because we thought that we could use this and do other campaigns. And so on the back end of the Franklin River campaign, Roxby was about to start.

So Annie and I, we met at the Franklin, we came over to South Australia, and we came up to Roxby for the first blockade in 1983 that was August '83 and that was an amazing experience. You know, we had probably 1000 people turn up in a convoy of about 80 vehicles. And I think there was about 800 arrests during the two week blockade. It was organized by a group called Campaign Against Nuclear Energy, CANE.

And like the Franklin, uranium was right at the forefront of people's minds. And so of course, after the blockade, people had to go back to their homes. But Annie and I and others, a few others, realized the value of having a presence, and so we stayed, as the Roxby Vigil, to be that presence there, and to also be a base for others to come to if they wanted to do any actions, or if they wanted to do research into the uranium industry. We were there for 12 months, living inside what was a 'miscellaneous purposes' lease at the time. And so we lived through the four seasons through till August 1984 when a second blockade was organized. But prior to that, we had the Star Force come in and evict us. That was as a result of it going from a miscellaneous purposes lease into a mining lease. And at that time, we knew that there was something potentially going to happen. And the Kokatha elder and Traditional Owner of the land Maxie Thomas, he came out to stay with us, and then there were people who came over from the Eastern states.

Annie McGovern

They came from the Daintree, a lot of them.

Al Lad

And so what happened was, the Star Force came in. They evicted us. They forcibly manhandled the Traditional Owner off his land. They grabbed him. Two police grabbed him by an arm and dragged him backwards to the paddy wagon. And that's how Roxby began: with the forcible removal of the Traditional Owner of Kokatha Country, for that area.

The second blockade came, and a lot of people came. We did actions, but by then we were outside of the mining site, and now we were probably about eight kilometers away at the intersection of the Andamooka and Roxby turn off. But we had another rolling blockade, also organized by CANE. And it was a rolling blockade where different states came during school holidays, so that it was a staggered blockade. We continued to do actions for a period, probably for a few more months, till about late October, early November, and then the Star Force came in again and evicted us. And we found ourselves, probably about 30 of us, being dumped at Maxi Thomas's camp in Andamooka. Well, that wasn't a good situation, because we were right in the middle of redneck country in a way. But we wanted to continue to oppose the uranium mine, so we thought that a different angle might be in relation to the water that Roxby were extracting from up near Lake Eyre South in the mound springs Country, on Arabunna Country.

And so Annie and I and two others, Heck and Saul, we came up here to Alberrie Creek, and we thought actually people lived out at the Finniss homestead, and we didn't see anybody. So we had to go back, disappointed that we couldn't connect with anybody. But when we got back to Andamooka, the 30 people that we'd left that morning were now nowhere to be seen. The police had come in and grabbed everybody and thrown them in the back of the paddy wagons with whatever they had on them at the time, and dropped them in the main street of Port Augusta at about one o'clock in the morning.

Well, suddenly there was just Annie, myself, and our young son, who was born during that period of time, and we realized that when once we were right in the middle of the mine site, and then we were eight kilometers away, now we were 35 kilometers away in Andamooka. And all the people had been taken. So for us, it sort of ended our campaign in that manner against Roxby, the Roxby Vigil.

So we went east and visited our families and that, show our parents the new grandchild and so forth. But we couldn't get it out of our heads, the injustice of everything that we'd just been through and so forth. I had a court case in Adelaide, so in February of '85 we came back to Adelaide, caught up with some of the activists from the blockade who were interested in the water aspect, and as a group, we came up, back up to Marree and to Alberrie Creek and connected with Reg, Reg Dodd, who's the Traditional Owner and Arabunna elder for Finniss Springs. And he graciously allowed us to stay at the Alberrie Creek railway siding house. and

Emily Wood-Trounce

Where we are right now.

Al Lad

Where we are right now. That's it. And there was about 12 of us to start off with. And we then set up an information center, and we set up a group called the Mound Springs Collective. And our role was really to keep an information center, give information to tourists that were coming along, monitor the springs, keep an eye on what Roxby's activities were here up in the springs, sort of play host to specialists, and anyone who wanted to come here and do scientific research, maintain a presence once again. And during that period of time, I started to take some water flow readings from some of the bores and some of the springs that were out near Hermit Hill.

Emily Wood-Trounce

Tell me about the mound springs.

Al Lad

Well, the mound springs are natural forming mounds that occur when water that is mineralized water, finds its way from an underground aquifer up through the rock via a vertical leak, what they call a vertical leakage, which would be sort of cracks, and so forth like that. And when it comes to the surface, the water evaporates and leaves the deposits of the minerals. And over time, that builds up and sheds over and forms a mound. And those mounds continue to grow, and they'll continue to grow sort of proportional to the artesian pressure and the height that the water can actually achieve.

And so within a typical mound spring, you'd see the mound, at the top would be the pool, which is called the spring vent, and then you'd see this little flow of water that comes out from the spring vent, and that's called a spring flow tail. And within those particular flow tails, and in those particular springs, can exist flora and fauna and invertebrates that don't occur anywhere else on the planet. They're just in this spring, within what's called a spring complex, which is the grouping, a grouping of the springs. Around this area where we are now, around Hermit Hill, there'd probably be about 12 different spring complexes, but they would encase probably over 1000 individual little springs.

Now just to the west of all these springs, not far, probably within eight kilometers of the springs is where Roxby have chosen, I guess, to put their Borefield A. And in the beginning it was estimated that they were going to be extracting about 33 million litres a day from that area. And of course, that would have a catastrophic impact on the ecosystems that rely on the artesianness of the water to get to the surface and then flow out into these spring tails. So that was our focus and we were here probably for about 10 months until finally the summer, the heat, the fact that we dwindled down to just Annie, myself, and our young son, who was just about a year old, together with a plea for help from from elsewhere, we decided that we would leave, basically. Yeah, it was a bit like that. Reluctantly, we felt that there wasn't much more that we could do as a small group without reliable transport in the middle of summer and with seemingly little support from outside.

Emily Wood-Trounce

So for that 10 months, you were hosting people, holding the presence, keeping the house, and then you started doing various sort of citizen science tests, just started learning what you could about the springs and monitoring them yourselves.

Al Lad

That's right.

Emily Wood-Trounce

That's amazing. How did you find the springs? How did you know they were there?

Al Lad

Well, we knew that the springs were there because, as part of our research into Roxby, was the EIS, the Environmental Impact Statement, and so we tried to make ourselves cognizant with that document. And within that document was the section on the mound springs. So we knew around about where the springs were and so forth, but it was Reg who basically introduced us to the springs. So we'd finally come to an end of our stay here, but over the years, we've intermittently come back to continue with these water flow readings such that we could try to get evidence, in a way, empirical evidence. Over time, using simple, but I think, recognized and credible methods, you know, to get data and to get so that when or if challenges could be made to Roxby regarding their pumping at Borefield A, then, you know, we wanted to be able to contribute, and that was how we could contribute, really, as we were trying to live lives and growing up a family and so forth. That was our input.

Emily Wood-Trounce

And what are Roxby pumping the water for? What do they do with water, the 33 million litres from Borefield A and beyond?

Annie McGovern

Well, the water is, first of all for the processing of the ore. It's uranium, copper and gold and other rare earths that are essentially, sort of in a lump when they're bringing it out. So they've got to separate it into those different areas. And that's done by a flotation method. So it's requiring a huge amount of water for that industrial complex. It's also providing water for the workers, you know, the whole sort of infrastructure of the immediate mine site. It provides water to the Roxby Downs township, and also it's pot to Andamooka. It also now supplies their water.

But the bottom line was that in the first instance, they were given the license to be using just for the physical thing of, you know, each person per day, it was 650 litres each person was allocated per day. So that's quite a lot of water to allocate one person. So they've probably used that as a lot of the the initial agreements were made on figures that were beyond what probably were true. You know, like the numbers of workers involved, the amount of water that they need for people. So at each step that they have a license for, originally 33 million litres, and then it went up to 42 million litres a day that they were able to access.

Emily Wood-Trounce

Is that what they're pumping now?

Al Lad

No, now what they've done since then. So, their pumping of Borefield A started in about 1985. Right, before that they were just sort of testing, you know, a sort of surety of supply. Originally it was going to be 33 million litres from Borefield A but they never quite managed to reach that. And then they could see early on that what they were doing was having an effect on the artesian pressure, and they weren't actually getting the volume they needed. But part of the original act that governs Roxby, the Roxby Indenture, made room for them to have another Borefield further out into the GAB at Muloorina station, called Borefield B, and that was going to be in the vicinity of about 80 million litres a day. And together with Borefield A it was going to be about 100 million litres a day that they were going to use. *(Speaker's note: numbers used here are estimates.)*

So Borefield B is online now, has been for quite a number of years, and without having the figures before me, I would guesstimate that they would be probably using about 70 million litres a day from Borefield B. And I've discovered just recently seeing an old map commissioned by Don Dunstan, who became Premier of South Australia, the waters from Borefield B up at Muloorina station on this map are the best quality underground water in South Australia. And that's what this uranium mine is being given a licence to pump.

Emily Wood-Trounce

And all the people in Adelaide drink shitty water.

Al Lad

Adelaide people wouldn't be too happy to know that the best underground water in South Australia is going to a uranium mine while they've got to drink the water that's come 4000 kilometers and had everything thrown into it and then chemicalised and, you know. So there needs to be, certainly, oversight into what they're doing up at Borefield B and the Federal Government and the State Government seem to be reluctant to do that. They're almost complicit in the whole affair by their partnerships with BHP as such.

Emily Wood-Trounce

And you're coming on 40 years of doing this research as to the pressure and the health of the spring. So what is happening? What have you noticed?

Al Lad

Well, what I've noticed over this time is that the flow rates have dropped dramatically. Some have dried up 100%. Most of the springs show signs of distress. Higher springs are starting to cap themselves. And by that, I mean as the water table drops, and not as much water can get to that pool, which is the spring vent at the top of the mound, the water still evaporates, but the minerals aren't flowing over the side, so they're accumulating in this sort of aperture and it gradually closes, until finally it plugs. And once it plugs, then the minerals harden into almost like a calcrete. And so therefore no more water can get through that hard barrier.

In some cases, the water will find a weak point in the mound, and then start seeping out in a different direction. But the consequence of that is that the original spring tail and everything that lives within it dries up and dies. That's happening on all the spring complexes that we've seen. And that's local to the area adjacent to and within the vicinity of Borefield A. They're the springs most under stress.

Having said that, there is sort of an extrapolating effect that happens when you pump water from a bore, and that is the water table sort of bends, such that it creates this really narrow funnel that goes down to the bottom of the bore casing and then comes up, and then sort of curves outwards towards the periphery, okay. And as the table drops, these curves become more lower and lower and lower, so that in the immediate area, you could drop the table quite, quite deeply, almost to the depth of the bottom of the bore. But five kilometers away, you might have dropped it three meters and 50 kilometers away, you might have dropped it a meter, and 100 kilometers away, you might have dropped six inches and 1000 kilometers away, it might be 10mls, who knows. So the potentiometric head, that is that line of a potential water table that the underground waters are trying to reach, and that's why it's coming to the surface, because there is this sort of imaginary line above sea level, above ground level, that the Artesian waters are trying to reach. And as that gets lower, of course, the vitality and the pressure of it doesn't allow it to, sort of to get above ground. And once that happens, once the water does not reach above ground anymore, then it's non Artesian water, okay? And that's a potential consequence of Roxby Borefields A and B, is the de-watering of the local, regional, and perhaps even as far as the interstate groundwaters.

Emily Wood-Trounce

And we're talking about a huge level of endemism in the springs as well. Right, endemic species in the springs?

Al Lad

There's been many found. I mean, we're not botanists, okay, but there are many studies done about a wide range of fauna and flora. For us, the species that we've been observing and keeping an eye on all these years is a little patch of pipewort, or button grass called *Eriocaulon carsinii,* which was found at Hermit Hill springs. And that's only in one spring tail. And so the consequences of that particular spring drying, ie that the spring vent closes over, is that spring tail will dry up and no doubt the species will be lost.

Emily Wood-Trounce

Extinction.

Annie McGovern

Well the other thing too is, as the water drops underground, it also impacts on the ability for any surface water to be sustained, you know, for animals, for birds, for people. That's very dramatically obvious at all of the springs, is that where you used to see quite large bodies and flows of water in the channels, it's very much less than what it was. And in one particular area, it had gone completely.

And so where you once had thousands of birds, like, literally, you know, migratory birds particularly, it was, you know, like the pelicans used to go to, they go periodically to Lake Eyre. But these springs, they're the staging points along the way, and thousands and thousands of birds everywhere. And now you could count on two hands the number of birds you see out at the springs. And the ones that have actually dried up, the animals would no longer be able to roam that country, because there's no water for them anywhere.

And so together with what's happening further south with Roxby, in the mine site itself, it's on a different aquifer. It's on a different water situation. But overall, the land degradation through loss of water is widespread. There's an area near the springs out here where every tree in sight is in a dying process. So it's the loss of water underground, but it also has this natural correlation with what's happening on the surface as well, and that goes right across the whole continent,

Emily Wood-Trounce

Yeah, it's the Basin.

Annie McGovern

And that's where people really need to be aware that what's happening below is happening... you know, your rivers will dry up much, much quicker. If your water table has dropped, it's not sustaining the water on the surface as well. So, yeah, it's a really big impact that needs to be looked at. And certainly, being the lowest point of the Great Artesian Basin, the pressure is greatest here, and so you might still be having your water flowing into here and they're pumping away. But what's happening further afield? And especially when we know, of course, that every pastoral lease has a bore, or more than one bore or many bores. We know that it was already depleted, the GAB was already depleted before Roxby even came online.

So the added stress of this pumping regime down here is necessarily having impacts that haven't been really studied, and need to be. We really need to have a good hard look at what's going on across the continent. And because the GAB covers such an area involving New South Wales, Queensland, Northern Territory and South Australia. Different aquifers in Western Australia, but everything is interrelated. Everything has a correlation. And if you start reducing one area, then other waters may take up, you know, be drawn to that area to refill that water, and then it's depleting there, you know. And there isn't a great deal of recharge across this basin.

Emily Wood-Trounce

By which you mean the rain?

Annie McGovern

Rainfall. Yeah. There are recharge points, but it's not enough to keep replacing what has been lost. And that's why we think that even though they've reduced the pumping from Borefield A, the springs are not picking up. Because the recharge is not there, and that's what we don't also know about the impact of Borefield B, and how that impacts on this area as well. So there's a lot of study that needs to be done, a lot of investigation.

But in the first instance, we're asking, you know, we will be calling for the cessation of extraction from Borefield A, and an investigation into Borefield B and the Great Artesian Basin, per se. And it's really important that people across every area become really familiar with your water and where it's coming from, because it's the one thing where, you know, the whole country is under stress of water loss. And we really, really need to be very mindful of what we're doing. And, you know, the pollution of water is also a huge thing. Because, as Al said, people in Adelaide are drinking water that... you cannot drink it. And then that has another impact again too, where areas of good water are now being massively over extracted for bottled water. There are areas in Western Australia, Aboriginal communities in Western Australia who can no longer drink or have any use of their underground water. It's so highly mineralized with nitrates that are, you know, for humans, there's a level that is unacceptable for human consumption. So those communities are having to be supplied with bottled water. That's it. They can no longer use their underground waters. So it's really a big issue. And this being the lowest point on the continent and the last resting places of the million year old waters, this is our focus. This is where we know we have to really draw the line and try to engage with everybody else as well.

Emily Wood-Trounce

And are you able to find hope in this area, in the water here?

Al Lad

I do. I can see that if they stop the Borefields A and B, I feel strongly that over time, the recharge will come back into the area, and an equilibrium will be achieved. Whether it's the same pre Roxby, I don't know. How long it's going to take to recharge an area after they've been pumping that amount of water out every day for nearly 40 years, I couldn't do the maths. But give it time.

The water is being drawn, wherever pumping happens, the water then gets pulled to fill those gaps, those areas where there's no water because of the pumping. And so it pulls it through a sort of a process of permeability. You know, that's where most of the waters of the GAB reside. It's in sort of water permeable sandstone, right? And so it percolates. It percolates at a speed slower than the snail. And so you can understand why it takes so long to get from New South Wales and Queensland all the way down to here, underground, percolating. And then it pulls. Water has that amazing ability where it wants to join each other, and it's really elastic, and there's some sort of communication between it. So that when one moves in this system I'm talking about, it pulls the rest of the water through to take its place. And so that's how the movement happens. But it will take a while. It will take a while. But I reckon it will happen. And then you should see this part of the Basin repressurizing, and if they cap the bores that they've already put in, then the water will be there, and the pressure will be there for the springs.

Annie McGovern

Yeah, it's true from what we've observed everywhere, you take the problem away, and the land looks after itself. It'll come back, it'll heal, it will be strong. But you've got to get the problem away. And really, Roxby needs to go. It never should have happened. We really tried. People have been, you know, every which way in this past 40 years, people have been trying to rein in any advancement on the nuclear proliferation in this country, and we're still working very, very hard to do that. And it's in everyone's interest to be mindful of what's happening and what's going on with the whole development around nuclear, and to do whatever you can to rein it in and to stop it, because it has no good outcomes.

The old people taught us: leave it in the ground. And we have to listen to those people. We have to listen to the Country. We have to be really aware of all the impacts that are happening and be very active. It's about all of us. None of us are separated from these issues. But there is certainly, you know, for young people especially, to feel that no one has the last word. We just keep working towards what you can envisage being a happy, sustainable future for the world. And that's our objective, is not to be thwarted by all this stuff that's being thrown at us. That we have the strength and the energy and the insight to know that we can do things. That we're not constrained to what's being told. Everyone has the freedom to define their own future.

Emily Wood-Trounce

There's a lot of other worlds possible.

Annie McGovern

Yeah. And there's ever new things unfolding. And each person will experience their own newness in the world. And you find things that you never thought were possible just right under your feet. or you know. But it is very important to be proactive in your own life, no matter what it is, and to feel good about your life and feel good that you have this opportunity to help and to realize a positive future. Yeah.

Emily Wood-Trounce

That's a pretty perfect place to end it. Thank you very much.