CITY OF SYDNEY

ORAL HISTORY COLLECTIONS

INTERVIEWEE: Dr Arthur White

INTERVIEWER: Jo Kijas

PLACE: Rockdale

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0.00 **JK:** **This is an interview with Dr Arthur White and Jo Kijas on the 5th of May 2012 at Rockdale for the Shared Terrain Oral History Project on behalf of the City of Sydney History Unit.**

And, Arthur, could we start with your full name and year of birth?

AW: Arthur William White, 1951.

JK: **Thank you, Arthur. Now, could we start with some work background. You're a herpetologist, is it?**

AW: Herpetologist, that's right.

JK: **And could you tell me what that is and then what you do and some of your work history.**

AW: Certainly. Well, herpetologist is somebody who works on reptiles and frogs, primarily. I don't just actually work exclusively on those animal groups. I run an environmental consultancy business which means that I actually end up working pretty well on all vertebrate animals, so we do do mammal work and we do do bird work as well but just because of my interest I try and do as much reptile and frog sort of orientated work as I can. The sorts of things I tend to do are either fauna surveys for, for instance, new development areas that might be going in, or in some cases it might be developing management plans, particularly if they're a threatened species likely to be impacted by

large developments and so on. So I work probably fifty per cent of the time for government agencies such as national parks and state forests and so on but the rest of the time I work for private developers who may be looking to clear large sections of bushland or something or other like that, or they may be more proactive than that and be interested in actually doing some habitat creation type work. And they're really quite interesting projects because they are highly experimental. Unfortunately, they don't always work but you've got to try them to see if they work.

2.13 **JK: And when you talk about the developments or developers, is that part of state requirements or do you actually find that there's been a change amongst some developers to look into biodiversity and that sort of thing?**

AW: No. A lot of it, unfortunately, has been driven by changes in legislation. Prior to the 1980s, reptiles and frogs in particular were not protected by any government legislation at all and in fact they weren't even classified as animals according to the law but fairly quickly we had a series of Acts come in initially as private members' bills to try and bring in some degree of protection for the native fauna, and frogs and reptiles ultimately were included in that, but then later on when the Threatened Species legislation came in then, of course, we were down to nominating particular species and at that level threatened reptile species have exactly the same legislative protection requirements as to threatened mammals.

JK: Right, O.K. So I think we'll talk more about all of that in a minute but could you tell me a bit about your personal background, where you came from and what some of those influences have been that have got you to this stage?

AW: O.K, all right. Well, I grew up in Sydney, in the eastern suburbs of Sydney. I had two elder brothers and so as I was growing up it was normal to have snakes and lizards and whatnot in the house; they were right into keeping all sorts of things.

4.02 My elder brother, in particular, was right into spiders so we used to have lots and lots and lots of spiders. But, yes, in those days Sydney wasn't as heavily urbanised as it is now and so there were big patches of bushland that we could wander around in and go silly in, so we were very fortunate. On one side of us, on the western side, we had the continuation of the Botany Wetlands, which was the Eastlakes swamps and so on, and for me that was the area where I really enjoyed hanging out more so than anything else for several

reasons: one, that it wasn't a particularly well developed area, so as I say you, could run around and do stupid things and no one'd care but also in those days a couple of golf courses had been built down there and this was actually a good source of earning some pocket money because what we used to do was go and hide in the reed beds along the edge of the golf course and you'd wait until a golf ball'd be hit up over the fairway over the hill and you could race out from the swamp and grab the golf ball and run back into the swamp. So you'd do that for a few hours and then go back to the clubhouse afterwards and sell the golf balls back to the golfers, right.

JK: Is that why you were hiding?

AW: Principally, yes, that's right, that's right. But one of the big spinoffs from that was you'd be sitting in amongst all the reeds there, trying to be as quiet as you can and the longer you were there, of course, eventually things would start to come out, you would start to see all the other things that were hiding in the wetland as well. And in those days one of the sort of common frog species around Sydney was a thing called a Green and Golden Bell Frog, which is just an immaculate coloured green animal with copper stripes. And sometimes you'd be just sitting in there and often when they first emerged they'd be quite drab coloured but these frogs are quite unusual because they'll bask, which is not something that frogs would normally do, but these bask and the longer that they sit in the sun the lighter and lighter they become and in fact they start to shimmer, they get these just wonderful metallic gleams on them.

6.18 So after a while you'd be sitting there and it's just like sitting there surrounded by little living jewels; it was just absolutely wonderful in there. But then of course a golf ball'd come roaring across the fairway and you'd disturb them all again, so they'd all jump in the water and hide and you'd charge out onto the fairway, grab the golf ball and come back again and sit there and wait for it all to take place again. So that was really good. But also on the other side of where we lived, on the eastern side, there were patches of bushland around south Maroubra, Malabar and Long Bay going right down, in fact, to La Perouse and they were the real reptile hunting areas that we used to go to. So with particularly my middle brother we'd jump on our pushbikes and pedal off down there with our collecting bags and you'd spend an afternoon or a day just wandering around there, seeing what you could find and so we used to collect snakes and lizards. Yes, it was just terrific.

JK: And what would you do with them then?

AW: Usually keep them for a little while. If they were fairly tractable animals we might keep them for maybe six months or something. If they were animals that were really skittish and never calmed down, well, you'd generally take them back pretty quick smart, particularly if you couldn't get them to feed. But, yes, it always used to amaze me that so many of the wild animals, if you brought them back and just gave them a few days to calm down, yes, often they would get, I wouldn't say quite used to you, but they were quite accepting of you . Once they realised that you weren't actually going to hurt them in any way it was surprising that you could pick up these snakes which only forty eight hours ago were hissing and spitting and carrying on and they would sit there in your lap. Yes, it was really quite amazing.

8.12 **JK: And so tell me when that was, that period, and then when did you see that sort of resource and habitat starting to disappear?**

AW: Oh, dear. Well, I grew up sort of in the 1950s so I suppose – I actually lived in Kingsford and the last of the sort of open paddocks and whatnot in that area were gone by the end of the 1950s. The area around Eastlakes was being heavily built out at that time and I think all of the residential development of that area would have been completed by about the 1970s. So what was left there were the lake system but a lot of the fringing wetlands and swamps and so on had been drained and filled in. As far as Malabar and that area, the area around the Long Bay Gaol previously had no or very few houses around it at all. It was regarded as not a good place to live at the time but eventually the price of land and so on just became so valuable that eventually all of the areas around Malabar and Long Bay and that were eventually turned over for residential development but fortunately a few pockets survived, mainly those associated with the pistol ranges, and a few other little areas that were just a bit too hilly and rocky and so on to be easily built out. And, of course, what's happened to some of those areas now is that they've been incorporated into the Botany Bay National Park. So it's interesting to see some of these things go full course but it's a pity to see that so little of that bushland was really retained, especially in the inner parts of the city.

10.12 **JK: And where are you referring to by the "inner parts of the city"?**

AW: Anywhere north of the Botany Bay Swamps was a problem. Because the area, the southern side of Port Jackson, was so flat it was just really, really easy basically to construct light industry and residential areas right through it and so that area was developed really, really quickly down to the northern shore of Botany Bay until you came up

against the Botany Swamps. And it took a number of years for the Botany Swamps to be drained before eventually that was all turned over for heavy industry. But, yes, the inner parts of the city, there were little pockets of swamp and wetland that we used to know about. One of the favourite ones that we used to go to was a swampy remnant that used to be in front of where the Sydney Cricket Ground is and that was always a good one to go - we used to go eeling in there, catching eels – but, yes, very shortly, in the late 1950s, that was drained as well. It wasn't turned over for residential but it was turned over for suburban parkland so it became green lawns and so on.

JK: Any other examples of that inner city area?

AW: Well, as far as the inner city went, the areas of green space were demarcated fairly early on, so the areas around the Domain, Botanic Gardens, Hyde Park and so on were demarcated fairly early and then there was really nothing for quite a while. A lot of the newer green space areas that have come in were actually industrial land that has been subsequently reclaimed and converted back into green space.

12.05 So a good example of that would be Sydney Park, for instance. So I can remember Sydney Park when it was a functional brickworks and brick pit area and it was a great place to climb around in to explore. We were forever getting chased out of there, of course, but the pit, particularly at Tempe, was so deep, you know, you used to wander down the bottom of that and no one could find you; it was just amazing. But nowadays, of course, with occupational health and safety you wouldn't be allowed to do half the things we used to do. But anyway the beauty of it is that eventually all of that industrial land then became available for other purposes and thank heavens people thought about it and thought "Well, we are very short on green space in the inner city" so some of that land was just turned back for public use, which was terrific. The tragedy is, of course, that a lot of the native plants and animals as a consequence though were lost from the area.

JK: And you're talking about perhaps wild spaces like in the front of the cricket ground and then, of course, losing it because it was domesticated, I suppose, and did you know of any other spots like that around?

AW: Most of the other areas that hadn't been built out on were quite small and they were usually areas that were sort of forgotten. So in Redfern, for instance, there were some areas where there were, I

suppose you'd call them open drains more than anything else, that simply hadn't been sealed over and they used to surprisingly contain some frog species and so on and we used to go around and plough around in those as well. But a lot of these were very, very small and it seemed – I don't know whether it was coincidence or not or whether we were being cynical but most of those little patches seemed to be right on the edge of council boundaries so I don't know whether they were disputed land sites or what but basically you'd have these little patches of just often very badly weed-infested bushland and so on that somehow or other had avoided being concreted over.

14.22 **JK: But that they did keep some animal life in them?**

AW: Yes, but they did keep some animal life and it's lucky that they did because I'm pretty sure from the massive growth that we've seen around Sydney after WWII, I mean we really could have lost just about all of our wildlife if there hadn't been probably some of these little refugia.

JK: And it's the middle of the big city. Why do you think it's not just a so-called natural process that those animals would have disappeared, we do we even need them in a big city?

AW: Well, that's an interesting one. I think Sydney sort of went past some critical point, probably in the 1950s, 1960s, where all of a sudden people realised that there was now a divorce between the city and the sort of urban fringe or the rural areas that people were used to. I know the area where I live now, for instance, which is in the St George district, we have a few areas of remnant bushland here and the locals fight ferociously to protect them because it's the only graphic reminder, if you like, of what the place was like prior to settlement and they're also wonderful escape areas. I mean, if you get sick of the buzz of the traffic and the planes going overhead and just the noise of people, they're just great areas just to wander into and just listen to the birdsong and, yes, escape just for a little while.

16.00 **JK: And do you have any favourite places within the city area, the local government area, or do you stick mostly out here?**

AW: Well, the problem is, I mean, my interest is very much in the fauna side of things and so I look at places like, say, Hyde Park and so on which are totally manicured landscapes. They were not designed as animal habitat by any stretch of the imagination, they're people recreation spaces. So, yes, they serve that purpose but as far as being very useful for animals and so on, no, they're not at all. You get a few feral things that might live there but generally not too many

others. I have spent a fair bit of time poking around Centennial Park because that was quite a large area and of course it had ponds and it had enough space that there could be a few little corners, if you like, in the park where people normally don't go to and so when you poke around there, yes, you do occasionally find a few interesting things.

JK: Like what?

AW: In the 1980s we turned up a frog species in Centennial Park that hadn't been recorded in Sydney for about forty years, yes, which was the Jervis Bay Tree Frog, which was quite an interesting sort of little find. But the problem with all of these urban parks is that unfortunately they also become a bit of a dumping ground for people's unwanted pet animals and so on and so there's usually a lot of black rabbits and all sorts of other silly things in there. I did a job some years ago for the Centennial Park Trust, looking at the number of species of turtle that are actually present in the ponds in the park there because it had been drawn to their attention that there seemed to be a ridiculous number of animals in the ponds.

18.02 Anyway, to cut a long story short, when I finished the survey work there I'd recorded seven species of turtle in the park. Only one of them was endemic to Sydney; the other six were from all over the place. One was an overseas species which was established in the park and the rest were from other parts of Australia that people had simply released into the park.

JK: And were they all doing O.K. together?

AW: Yes, those ones were. Curiously enough, one of the species that was doing all right was actually listed as a threatened species in Queensland, yes, which posed an interesting situation for the board of the Centennial Park Trust there because in a sense there was a bit of an obligation now to look after this species even though it's not native to New South Wales.

JK: Very interesting. Just to go back to your personal history then, what led you to actually taking up being a herpetologist and how did you get there?

AW: Well, obviously I had an interest in reptiles and frogs from a fairly early age and I'd decided that I would go to university as a way of really sort of trying to boost my knowledge there. That didn't quite work out the way I thought because I was expecting, fairly naïvely, that they would feed me all this wonderful information that I didn't know about and was quite disappointed to discover that most of the

lecturers who were pontificating about reptiles and frogs probably had never seen a reptile and frog in their life and were just simply spouting stuff that somebody else had written, particularly when they started to talk about what Australian lizards and frogs supposedly were doing. And, yes, in second and third year uni I had lots of arguments with the university lecturers because they would say "This is what the species is supposed to do" and I'd say "Well, it doesn't, it doesn't do anything like that. In fact, if you sit down and watch it, what it does is this, that and the other".

20.14 So that was probably the biggest disappointment for me, to discover that so much of what I was getting from the university was real hands-off stuff and a lot of it was derived from literature from the northern hemisphere, which really wasn't terribly applicable to what was going on here. Now, I'm pleased to say that all of that has now changed, the old generation of where Australian academics were usually second-hand Brits who tended to come with all of that background with them, whereas now we do have Australian academics who have a much better understanding of the Australian biota than before. But anyway for me, yes, I never really imagined that I'd ever get a job working with animals – I certainly didn't want to be a zookeeper or anything like that. So, yes, I sort of worked around the universities for a while but occasionally I would get jobs doing things like fauna surveys for somebody or other and, as I say, eventually when the legislation was to change and in particular when the Threatened Species legislation came in, all of a sudden I discovered I was hot property; people actually were looking for me all the time to go and do various jobs for them. So I started up the environmental consultancy business and I've never been out of work since; I've never advertised and I've never had to.

JK: And can you tell me about the work that you've done for the City of Sydney over various times?

AW: Most of the jobs that I do for the City of Sydney are fairly simple fauna assessments for some of the green space areas they've got and looking at them in terms of their potential for creating habitats for possible reintroduction of species.

22.07 So initially you would go to an area and you'll say "Well, O.K, we know historically what species were present in the area. Based on what's currently there, you may have the potential to get two or three of these species back again. If you're prepared to spend a certain amount of money on it you might be able to rehabilitate the habitat to a certain point where you might be able to get five or six species back

and so that's the kind of thing I go back to the council with and say, "Well, this is where you stand at the moment. This is the best you could hope for with what you've currently got. If you want to spend this amount of money, this is potentially what you can get. If you want to spend more, this is what you could do. You have to decide on your priorities", you know.

JK: And when did that start to happen, that council felt that it was important to get that sort of mix?

AW: It's probably only been happening in the last twenty years in any serious way. I mean, councils have always been a bit curious about what was actually in their own backyard; they often didn't have very good data or records on anything like that. But now there's just more of an expectation, if you like, on councils to be more than just simply managers of parklands; they're expected to have some conservation role now. And, of course, it's a lot harder for the City of Sydney because so much of the original habitat is gone and so if you're going to adopt a conservation role it's going to be rebuilding and rebuilding and trying to reestablish, which is a hard way to do it.

JK: So can you give me some examples of the parks and the sorts of animals that you found and the sorts of suggestions you've given them for possibilities?

AW: O.K. Well, Sydney Park's probably a good one to talk about. So Sydney Park was originally a large brick pit complex and brickmaking works.

24.04 When the brickmaking finished, for a long time the site lay abandoned and then eventually the old brick pits were filled in and the site was effectively levelled and turned over to public green space. Now, as part of that it was decided that they just didn't want to have a big, flat mowed area of lawn, they wanted something a bit more interesting, and so the first stage of that was to think about putting water bodies into it and then consider what sort of water bodies you actually wanted to be created. We were thinking about water bodies primarily for two fauna groups: one were birds and the other ones were frogs. So if you go to Sydney Park now you'll see that the water bodies essentially consist of two sorts: there are large shallow water bodies with relatively little in the way of emergent or floating vegetation in them but they do have in various pockets stands of tall reeds and so on. Those areas have basically been set aside for a lot of the reed dwelling birds, like the Cisticola and Reed-Warblers and so on. We have planted a lot of fringing stuff around some of the wetlands, low

ground covers, which provides habitat primarily for things like moor hens and swamp hens and so on. When you get away from those sort of larger open ponds and you prowl around some of the back areas of Sydney Park, you'll actually discover that there are some smaller ponds which are very, very hard to see because the amount of emergent vegetation around them is so dense that it actually conceals most of the water body from the public view.

26.01 Now these ponds were set up principally for frog use and they've worked to some extent. We have three species of frogs at the moment in Sydney Park and we're looking at the possibility maybe of doing a deliberate introduction of a fourth species at the moment.

JK: And what are they?

AW: The ones that are there? The ones that are there are Common Eastern Froglet, Striped Marsh Frog and Eastern Dwarf Tree Frog. So the one we're umming and ahhing about - and I don't know whether we'll do it yet – will be the Green and Golden Bell Frog. Just as a by the way, we do have another little project underway for the Green and Golden Bell Frog in the City of Sydney area and it came about in a sort of a roundabout way. At the moment, we have a resident living in the Rosebery area, which is a very southern part of the City of Sydney who has had a swimming pool in the backyard which they hadn't used for many years and eventually became colonised by frogs. The pool went to wrack and ruin and eventually the neighbours complained about the smell of it and the mosquitos and all of that sort of stuff and the people, the elderly couple who owned the property, were astute enough to be concerned about the fact that frogs were utilising it, even though they'd basically been served a notice to say they're going to have to get rid of this stinky old pool. But they ended up contacting the Frog and Tadpole Study Group of New South Wales and said "Look, this is the situation. We're going to have to get rid of the pool, there's no doubt about it, but we really don't want to lose the frogs". So what ended up happening there was that the Frog and Tadpole Study Group came in, collected up a lot of the frogs that they had, which were Green and Golden Bell Frogs, demolished the old pool for them and constructed a purpose-built bell frog pond in the backyard to replace it.

28.01 Now, this thing doesn't smell, doesn't stink, doesn't have mosquitos or anything like that, so it satisfied the council's requirements and the neighbours' requirements and it meant also that they could keep the bell frogs. Now, the interesting thing, of course, is where those bell frogs came from and we do know that just to the north of Rosebery

there was a large chunk of land which I can remember quite well. It used to be a sand mining site when I was a young kid, along the western bank of South Dowling Street. When the sand mining finished, the site remained as a big, bare area for quite a long time and it became eventually like a concrete processing area, where they bring in a lot of industrial rubble and crush it all up and break it down into difference size aggregate and whatnot. The site, when the sand mining first finished there was not graded to a flat surface, in fact it was graded to a sloped area, so that on the southwestern corner of the site there was actually a low-lying area and the idea was that if you got a lot of heavy rain and stuff everything would run off to that corner. So in other words you had an intermittent pond forming there and that was the area where the Green and Golden Bell Frogs survived for quite a number of years. Now, those Green and Golden Bell Frogs, if you want to track them back even further, originally were part of the original Eastlakes or Botany Swamp group of Green and Golden Bell Frogs but, of course, that whole wetland complex was reduced and reduced and reduced and reduced down, so we ended up with just a couple of little tiny pockets of frogs surviving. So one of them was surviving, as I say, in the old sand mining site at Rosebery but of course that came up for development in 1992, which was about the same time that the Threatened Species Legislation was first coming through.

30.02 Now, you might be interested to know that the first species in New South Wales that was put on the Threatened Species List was a frog and it was the Green and Golden Bell Frog, which tells you even though it's a frog it was still very much in people's minds because it had gone from being a very common species, one that most people were quite familiar with and quite an attractive looking animal, to all of a sudden just simply not being seen at all. So it was a very dramatic decline and, yes, I think a lot of people were just a bit disturbed by the fact that you could lose your fauna so quickly. Anyway, when the development of the Rosebery site was to go ahead we had to do some negotiations with National Parks and Wildlife Service and Taronga Zoo to collect up some of the frogs from there. We took some of them to Taronga Zoo to establish a breeding colony because we feared that there were relatively few of these frogs left, not enough to be viable any more. And anyway on that basis the site was allowed to be demolished and so on but we also then set about trying to find an alternate place where we might be able to reestablish these frogs. We tried a couple of locations. The main one that we tried – and we tried it three years in a row – was Sir Joseph Banks Park which is in the Botany municipality so it was, in other words,

back in where the Botany Swamps area used to be but we had no long term success there. We had short term success. We were releasing tadpoles and juvenile frogs there. They would survive for a while and then we would eventually lose them altogether. So then when Mrs Davies contacted me to tell me that she had Green and Golden Bell Frogs in her stinky old swimming pool, it was like a reprieve, you know, there's still yet a chance for this particular population.

32.01 So we were going to make sure that of course she was never going to lose them and she was keen to keep the frogs in her backyard and that's still the situation: she still has them to this day. Now, we're currently in discussions with Sydney City Council and also the Catholic Church about constructing additional bell frog habitat in the church grounds on the other side of the road from where the Davies live. So basically we don't want it just to be confined to a single backyard; if we can reestablish them in other areas then we'll do it. But this programme that we're looking at, we're also basically starting to talk to quite a few of the other people who live in the Rosebery area and see if we can actually make the focus of the conservation not reliant too much on the council, not reliant on anything else but it to actually become a true community conservation programme.

JK: And who is the "we" that you're talking about?

AW: Well, it's the Frog and Tadpole Study Group who's driving that and obviously I'm a mover in that one as well. So, yes, there's lots of people keen to see something like this work. Theoretically, it should work but you never know with animal species. A lot of people think it's a simple thing. For instance with a frog, if you want to conserve a frog, all you've got to do is have a pond and the species will do well. I can tell you, there have been many, many, many instances, particularly associated with developments, where that has been said, that the developer has claimed that "I can move that species very easily because I'll rebuild the habitat and plonk the species in there" and it doesn't work. The main reason it doesn't work is that we understand fairly well the gross habitat requirements for species: we know that yes, they need a water body and, yes, they need plants and all the rest of it but we don't understand the finer details of it at all. For instance, some of the plants that they need may be there purely and simply because there is an insect that feeds off them that the frog may eat. Well, you might provide the plant but if the insect's there you haven't achieved the result you want at all.

34.13 So often these projects fall down on the small detail, just because we don't know enough about the animals nor how these little ecosystems actually work. But that doesn't stop us. We keep still plugging away, trying different variations all the time and, not surprisingly, usually trying to mimic what we see in natural systems. But, funnily enough, with Green and Golden Bell Frogs they don't seem to like pristine environments or anything like that, so often we end up with sort of a strange – what would you call – certainly not scenic looking ponds and so on for bell frogs. So they actually prefer bare landscapes.

JK: And I was wondering if you do know the reasons for why the colonies didn't work in the Sir Joseph Banks Park but why the Rosebery swimming pool area has worked?

AW: Why it has worked. It looks like the one at Sir Joseph Banks Park failed for two reasons. One is that there is a disease present in the frog population there which we know certainly affects Green and Golden Bell Frogs. The second one is that in all of the ponds in the Sir Joseph Banks Park system there is an introduced fish, a small thing called the Plague Minnow, and they eat the eggs and tadpoles of Green and Golden Bell Frogs and they're the things that you're trying to combat all the time. I mean, I can understand why the Plague Minnow aren't at Rosebery but why the disease doesn't seem to have ever reached the frogs there I don't know and one of the lines of research that we're looking at now is to see if we can actually come up with ways of protecting frog populations in the wild from exposure to some of these diseases.

36.10 Now, whether we succeed at that or not, we don't know. One of the other lines of research that's going on at the moment is actually looking at the development of resistance to the disease in other frog populations and so one possibility with Rosebery is that we may actually bring some bell frogs in from other populations to breed with them to actually add some genetic resistance to that population.

JK: And into that backyard or into the idea of the church and other places?

AW: It'll have to be all of those and if that population also then gets established in other people's backyards it will have to be there as well.

JK: And I think I read an article back in maybe 2006/7, about the frogs in the backyard.

AW: Right. That would have probably been when we demolished the swimming pool and built the custom designed frog habitat, yes.

JK: And how many are there now?

AW: Well, it's only an urban backyard, so the number of adult frogs there varies between about thirty and fifty. In the breeding season, of course, there's many more than that but bell frogs have an unusual habit which seems to horrify most people but it actually makes a lot of sense and that is that they cannibalise their young. Most people say "Well, isn't that counterproductive?" but it's not really. The critical thing with any animal population is that you have breeding individuals available. It's not a case of trying to put out thousands of juveniles and then just simply assuming that maybe one or two of those will survive with a bit of good luck. If you lose your breeding animals for the sake of doing that, then you've lost the population.

38.02 And what Green and Golden Bell Frogs do is that they produce a lot of young because a lot of those young, their only purpose is to keep the adults alive. It's a strategy for an animal that lives in fairly bare, stark habitats.

JK: And so is that how they manage to survive in a small area, because they're not going anywhere are they?

AW: No. The juveniles, some of the juveniles obviously do try and get away from Mum and Dad once they get large enough and so we do get a few of the little frogs turning up in various other places around Rosebery but no, the majority of them just simply get eaten, but that's fine. It keeps Mum and Dad alive and it gives Mum and Dad an opportunity to breed again at some stage later on and hopefully out of that you may be able to get a few juveniles which will then also go on to replace Mum and Dad but Mum and Dad have to be kept alive.

JK: And forty to fifty. That seems like quite a lot of frogs in a little backyard.

AW: Yes, it is but Elaine has lots of bromeliads and lots of little hiding spots and things all around her backyard and she goes out most mornings and does a little count to see how many. I mean, normally she only ever sees five or six at a time when she goes out but she seems to know some of them.

JK: How long do frogs last for, those sort of frogs?

AW: Green and Golden Bell Frogs will live – the longest that I know of is eleven years that they'll survive. Yes, some of the Australian frogs

are quite unusual like that. Some of them are actually very long-lived. The so-called Common Green Tree Frog, I had a friend who had one that survived for thirty three years, yes, so just because they're small animals you don't assume that they have a very short lifespan – they don't.

JK: And I have been really interested by the Rosebery story. I was wondering about the neighbours. Once we had a frog and pond and they can be really, really noisy.

40.08 AW: Yes.

JK: How have the neighbours coped with that?

AW: Noise didn't seem to be an issue. One of the things that really did pose a problem for the neighbours – and we had to talk to a couple of the neighbours quite a bit about this – was that some of them had read of – it basically boiled down to the fact that this was a threatened species and they'd read in the newspapers in particular they'll see a headline, you know 'Threatened Species Stops Development' somewhere or other, which usually wasn't true but basically what it did is it caused a fair bit of panic because the rumours, if you like, started spreading that if you had these frogs in your backyard then you wouldn't be able to do anything with your property and you wouldn't be able to sell it and it'd lose value; it was just hysteria almost. And so basically we had to go and talk with some of the neighbours and just point out the rights and wrongs of where the legislation actually stands and what their rights are in this whole situation and really to show them that if they wanted, for instance, to create Green and Golden Bell Frog in their backyard, that didn't prevent them from doing any of the other things that they wanted to do with their house. Yes, so it was an interesting community exercise. It was a good example of where newspapers when they misrepresent situations can create circumstances that they're oblivious of.

JK: And perhaps you could just expand on a bit how you talked to the neighbours and what were the arguments that you found but that they found convincing from you?

42.02 AW: Initially, the first discussions we had, we just simply read sections from the act and simply pointed out that there was no legal recourse for anybody to stop them from developing their house purely and simply because they had a Green and Golden Bell Frog there or selling their house or anything like that at all but that didn't win the day at all. What we had to do in the end was actually we had to get

someone from the National Parks & Wildlife Service to come along as well. In other words, someone in a uniform to get there and actually say the same thing; it wasn't good enough for just us to day it. But there were still people there who were still a bit sceptical about the whole thing and it wasn't until actually we had a situation where people two houses up from the Davies' ended up selling their house and there was no drama, yes, so it all sort of fizzled away at that point.

JK: And what can be done about that population into the future? It's really up to – sorry, I've forgotten the name of the lady but - - -

AW: Elaine Davies, yes. Well, it's amazing at the moment to think that all of the weight of that is on her shoulders at the moment and all based on her goodwill. Yes, what we're hoping to do, of course, is to reestablish the population in a number of other locations such as in the church grounds and, as I said before, we're hoping to maybe also introduce them into Sydney Park. But doing both those things requires constructing suitable habitat and also setting up long term maintenance and management programmes for the site because it's one thing to build it but if you build it and walk away, you know, habitats change over time, particularly when you're totally surrounded by suburbia the number of invasive weeds and so on that can come into those areas can very quickly reduce the habitat quality.

44.13 So there has to be written into this and money found and all the rest of it to make sure that those habitats are maintained in the long term.

JK: And with the Sydney Park example, is that an ongoing discussion with council?

AW: It is an ongoing discussion and interestingly enough, one of the biggest impediments that we're having in that discussion revolves around some of the City of Sydney staff because they're very concerned about the possibility that they may be seen as custodians of a threatened species and what they're worried about is "Well, what if it goes wrong?", you know, do they get the blame, what's the story? And it's a real concern; it's not something you can shrug off lightheartedly or anything like that at all. If they're going to be made responsible for these species they don't want to be the fall guys either.

JK: I can see their point. We were talking about Sydney Park then when we deviated to the frog and that's a fascinating story. Were there other things going on in Sydney Park that you were involved in?

AW: No. The only other thing I really did in Sydney Park was a brief fauna survey and then, as I say, a kind of a habitat assessment, really looking at the potential for creating or restoring habitat for other species that council may or may not want to try and bring back. See, the problem is some species, particularly the more mobile species, are easier to reestablish, particularly the birds and bats.

45.59 The terrestrial animals are far more difficult because basically their populations now are so massively isolated, usually by huge swathes of suburbia and bright lights and noise and all the rest of it that they basically can't get to the areas of habitat that you're creating for them naturally any more. And translocating species is always fraught with all sorts of dangers. We had an example of this some years ago. It was actually a frog translocation where we simply moved a group of frogs from Site A to Site B and within forty eight hours all of those frogs had gone looking for Site A again, they had all walked back out and headed off for home. So it's one of the reasons why now when we do in particular frog translocations we tend to translocate eggs and tadpoles, in other words so that those frogs grow up with that area and they have a bit more site fidelity than otherwise. But it's a problem with other animal groups as well; they may not want to go where you, yes.

JK: It seems fair enough. And what did you find in Sydney Park when you did your fauna survey?

AW: Well, Sydney Park is a totally recreated landscape. Now, basically the species that we're catering to at Sydney Park now are, if you like, the easy species. We haven't bit the bullet in any sense and tried to develop more complicated habitats for anything beyond basically about twenty five bird species, three lizard species and three frog species. Now, there is space there to actually develop other things but whether we do it becomes a lot more difficult than the species that we've already done.

48.02 **JK: Because -?**

AW: Because their habitat requirements are a lot more demanding, the species that we're catering for at the moment are what we call generalist species. That is, they will survive in a range of habitats and can quite freely move between habitats. Once we get beyond those, many animals unfortunately have relatively few species of trees or plants that they will normally associate with and often only when those plants are in a particular format.

JK: And I assume that would take time and money, of course.

AW: Oh, of course.

JK: And so why would a body like Council even consider going there?

AW: Well, it's all about maximising biodiversity. Sydney City Council has a biodiversity programme and part of that says "Trying to restore where possible some of the biodiversity of the area". The "where possible", of course, comes down to how much money, how many resources you actually want to devote to this. So at this stage, as I say, we're just concentrating on the easy species, I suppose, yes.

JK: Perhaps we could talk about – is it FATS? – FATS, and I was wondering also is Backyard Buddies something that is done 'round here?

AW: Backyard Buddies is a programme run by the National Parks Foundation and they do that – well, Backyard Buddies is really a fundraising activity that the foundation does as a way of getting money to then fund various other conservation programmes. FATS is a community group.

JK: What does it stand for?

49.56 AW: It stands for the Frog and Tadpole Study Group of New South Wales. Yes, it's made up of Mums and Dads and also, obviously, frog enthusiasts but it also, interestingly enough, has professional herpetologists, it has academics in the group, so it really covers a huge span of people who have an interest in frogs, as I say, starting from kids who can barely walk. And so the whole focus of the group, really, is twofold. The main one is really to raise public awareness about the plight of frogs and the second one is more to do with the conservation of Australian frogs. So the first role is met by doing lots of community days where we'll have – it might be just simply a little stall somewhere or other where we've got a few frog cages and posters and stuff set up or we may actually be running workshops. We do a fair number of workshops for various councils around Sydney about creating backyard frog ponds and creating frog habitat in your backyard. So this isn't for captive frogs, this is for encouraging wild frogs to actually become established in your backyard, for people who just simply like the idea of going to sleep to frogs calling in the backyard, as opposed to listening to traffic and I think frogs win every time under that situation, although not everyone agrees, I have to admit. Yes, so we do a lot of sort of those community talks. We do talks to schools and so on and it's probably the school ones that are in a sense probably more critical than

anything else we do. One of the problems with Sydney – and I guess it's a problem with Australia – is that we are an unbelievably urbanised society and the result of that is that fewer and fewer and fewer kids get any exposure to wildlife of any sort.

52.07 And it's not an uncommon experience for me – I might go and talk to a primary school group – I'll get a whole lot of kids sitting on the floor around me and I'll take a frog out of a cage and it's very, very common to see the kids back away because they don't know what it is. I mean, they know it's a frog but they don't know if it's going to bite them, if it's going to spit on them or what the hell it's going to do because they've got no exposure, no idea at all. So usually what I try and do is very quickly get them touching it and once you do that the whole situation reverses. Then, of course, they all want to cuddle it and they all want to pat it and all the rest of it but I just find that unbelievably sad that kids of this day and age, they have no understanding at all of the animal and if we seriously want to be able to conserve our flora and fauna, you can't do it with people who have no comprehension of what you're talking about. So FATS spends a lot of time just letting people pat frogs, talk about frogs, talk about backyard ponds, talk about the little things that you can do just to make things a lot better for wildlife. And we don't really totally confine ourselves to frogs because frogs won't survive if there aren't other species out there as well, so it's got to be a much wider approach than that.

JK: And so urban backyards in a place like the villages of the City of Sydney, do you talk to people around those areas as well, right in the middle of the city?

AW: Sure, sure. And we've had quite a few frog ponds built. I would hate to guess how many have been built now but it'd be several hundred throughout Sydney, some of them right in the CBD itself.

54.01 We had one that we used as a showcase for a number of times which was built in the backyard of a suburban terrace, so quite a small terrace house on Abercrombie Street – so this is right in the heart of the city. The chap there, his backyard probably measured – I wouldn't say a backyard because it was concrete but measured probably no more than about five metres by seven metres and what he ended up doing was he got a whole lot of old wine barrels and cut them in half and sealed them so that they didn't leak and positioned them in different parts around the – we'll call it a backyard but probably courtyard's a better description and established plants and so on around it and it ended up quite a green space that he had, with

various little water bodies and so on there. After about ten years he had five species of frogs living there and it's really quite amazing. Sometimes we'd be walking up to his place and, of course, there's just a solid wall of buildings along the front part of Abercrombie Street but you always knew when you were getting close to his place because you could hear the frog noise out the back. And often we'd be just standing there and you'd see other people walking along the street and they'd stop and you'd see them looking around because they weren't sure whether it was a recording or what it was because it just seemed so out of place. But it just indicates that these little projects do work and the other thing it drives home is just how much wildlife actually still does move around in the city, even in places that you least suspect it.

JK: Do the frogs smell water – how do they know it's there?

AW: Good question. They're certainly very good at picking differences in water vapour concentration in the air, so maybe they can tell that it's more humid in that direction than somewhere else. I don't know but they can certainly find it.

56.05 **JK: That is extraordinary, isn't it? And what about the challenges of that sort of cohabitation with neighbours? Tell me about that.**

AW: O.K. Well, we get a lot of people who contact us and say "I'd love to put a frog pond in my backyard" and usually the first thing we say to them is "Have you talked to your neighbour?" and they'll say "Oh, why?" And I say "Well, your neighbours are going to be living with the frogs as well if you're going to do this". And so usually someone from FATS will go out and we'll go and talk with the person and talk about where would be a good place to put the frog pond if you're going to put it - I mean, next to the bedroom window of your neighbours' probably isn't a great idea – and where sound is likely to travel in the area so usually when we think about putting frog ponds in we usually think about noise screens and that sort of things as well. But we also do have people who say "No, I don't want the noise screened and the neighbours don't want it screened either; they want to hear it. So you get the whole range of responses. We had one instance where a person rung up and said they wanted to put in a frog pond and we said "Why?" and they said "Because I hate my neighbours".

JK: Yes. You didn't help with that one?

AW: No, we did not, we did not. We thought that wasn't a good idea.

JK: But you haven't actually heard of bad neighbour relations happening?

AW: Never heard of any fights or anything like that but, yes, we certainly do know of people who don't like frog noises - if you want to say it that way – and so if you're going to put a frog pond in you try and take that into account as best you can. But we have had people go the other way, where they've bought a house, there has been a frog pond in the place and they don't like the noise and therefore want to get rid of it and usually we try to help them out there, try and relocate the frogs somewhere else, yes.

58.09 **JK: And how do you know about the people who say they don't like the frog noises?**

AW: Oh, they usually ring us. Yes, we advertise the frog helpline high, wide and handsome all over the place, so we have little magnets and all sorts of things with the frog helpline number on it and they're all over Sydney.

JK: So people will ring you and say "I hate the frog noise. What can I do about it?"

AW: That's right, that's right, and we'll try and help them if we can.

JK: Not just the people who've got them in their - - -

AW: No, no, no. We get all sorts of queries from simple things like that. Some people ring up and just say "Oh, there's this noise in the backyard. What is it?" I mean, we get questions about the legal issues about keeping frogs and "There are frogs in the backyard. Is it all right if I stick some of them in a tank or can I take some of the tadpoles to school?", you know, all of those sorts of questions as well.

JK: Just to talk a little bit more about then the introduced species and the sorts of dangers to frogs.

AW: Yes, introduced species are a big problem. It might sound strange but the biggest problem for frogs in Sydney are foxes. Yes, they devour frogs all the time and unfortunately we have a fairly large fox population in Sydney, in all parts of Sydney, including the CBD. Controlling foxes is not easy, although some of the councils, particularly those on the northern side of the harbour, have developed some interesting cooperative approaches for fox control with some amazing results, I might add.

59.56 The councils Ku-ring-gai, Willoughby, Ryde – there are five of them on the north side – all got together about ten years ago to do this major fox control programme and within a couple of years of them doing it they had first of all bandicoots starting to turn back up in areas where they hadn't been seen for years and years and years and then interesting things like scrub turkeys and that all of a sudden appearing, which hadn't been seen in Sydney for goodness knows how long and now we have resident populations in Sydney, sometimes causing a bit of mayhem. And other things, lyre birds turning up in places where you just simply wouldn't expect them, so it's had an instant result where, for instance, they've been able to control foxes. But we do have lots of problems with feral cats and dogs and so on. Rats are another big issue; rats consume a fair number of frogs as well. And controlling those, I won't say it's an impossible problem but it's an ongoing problem, yes.

JK: So I guess a broader question, but what does nature mean to you and how can it be developed within urban areas?

AW: See, I just think humans are organic creatures, whether we want to acknowledge that or not, and if you want to take people out and put them in a brick and concrete landscape I don't think they work very well. You've only really got to look at a lot of the fairly densely urbanised parts of the world and you very quickly discover that they're the parts of the world that seem to have the biggest social problems whereas other areas where they've actually tried to maintain some connectivity with natural systems seem to cope a lot better.

62.08 So I don't think we're quite the sophisticated species that we often make out that we are. I think we are still very reliant on contact with plants and animals and everything else. I don't know whether it's a security thing or it's just a peace of mind, I don't know what it is, but I think it's still quite a vital component of just simply being alive and appreciating life. And, as I say, we see that a lot now in particularly some of the fights to protect some of these often tiny little patches of bushland area that are still left in Sydney because most people know once they lose that they've lost something that they can't regain.

JK: And so just perhaps to finish off, what are some of the key things that we need to do for the future to be able to maintain that.

AW: That's a million dollar question, that one. As far as maintaining the environment goes, one of the things that we have to be able to teach

our children in particular is that the planet, believe it or not, has limited resources and there's only a certain amount that you can take out of it, there's only a certain amount of it that you can change before you ultimately start to pay the price. Now, that's not sort of, you know, doom and gloom or anything like that at all. It's really a matter of being responsible, I think. I think we've got a planet that really you have to look after and Australia's just part of that and if we're just simply going to abuse it and exploit it, well, gee, don't expect it to give much back.

JK: And the urban ecology, how does that fit in with all of what we're - - -

AW: Well, urban ecology is a difficult one because there we've concentrated people in ridiculously high numbers. By itself no city is sustainable.

64.11 All cities have to rely on huge inputs from the outside to continue to operate which is often quite amazing because you often find that as cities get bigger and bigger, the market garden areas and so on that used to feed them then get covered in concrete and all of a sudden the sphere of influence gets pushed even wider and wider and the impacts become wider and wider and wider. Yes, I don't think we've got very smart about how we look at the long term planning of - probably human populations would be a better way to say it, rather than cities. If you want to live in cities, that's fine, if you don't want to live in cities, that doesn't matter either, but we have to be serious about how many people we seriously think should live on this planet and be a bit strategic about the resources that we actually have and the resources that we're prepared to give up and at the moment no one wants to do that because it's too hard a question.

JK: So are there other things that come to mind that you think are important for this project to consider?

AW: For the oral history project?

JK: Yes.

AW: No. I think it's important to record people's perceptions of particularly how a city changes, partly because you're really talking about episodes, if you like, that are probably not going to be repeated and certainly not in particular locations and you're talking about circumstances that a lot of people won't have any familiarity with either.

66.05 We know that people way before my time had all sorts of problems in early cities with bubonic plague and rat plagues and all these sorts of things and for me to think about that seems ridiculous that that could actually happen in Sydney but all sorts of other scenarios are just as likely to occur. You know, for people living way back then to talk about AIDS and so on is also just as ridiculous. So, yes, it's important to chronicle all of these things and for people to realise that cities are just constantly changing, as are all of the pressures that are on them.

JK: And your stories of your childhood and growing up is a lovely example of that and the places that you remember and it's not that long ago.

AW: No. That's the saddest part: it is not all that long ago. Where I live now, which is in the St George area, I've been spending a bit of time actually researching further back into particularly the Aboriginal history of the area because there's very little of it, very little in the way of hard artifacts or anything that was left behind; with the development of the area, most of that was just simply wiped out very quick-smart. So, yes, while there are still a few Aboriginal descendants around, we're just trying to piece together as much of that story as we can and it turns out to be a really interesting story.

JK: For this particular area?

AW: For this particular area. Yes, one of the characters that was established here in the good old days is a very famous Aborigine by the name of Pemulwuy who's often heralded as the first true Australian patriot because in a sense he was the first Australian who truly fought for Australia but, of course, he was fighting against the white settlers.

68.01 But he spent a lot of his time over in the St George area because it was a safe area, it was a retreat area whereas the early settlement of Sydney, of course, was concentrated around the shores of Port Jackson and that and they could see what was happening to the Aboriginal community along Port Jackson: they were dying very, very quick-smart. So within the first twenty five years all of the Eora, the people who lived along the shorefront there were gone, they were all dead.

JK: And some of those people, though, managed to move out to the St George area?

AW: No, they didn't; they died. But the tribes that were out here, which were mainly Dharawal people, they were moving across the Cooks River to the north and could actually see what was going on and so they basically made the decision, you know "We either acquiesce or we fight" and they fought. Now, what I find really interesting about that is that I know when I went to primary school no one ever talked about the Aboriginal resistance; we were always led to believe that they welcomed us with open arms and everything was hunky-dory and that. It wasn't like that at all; it wasn't even remotely like that. The Aboriginals knew what was going to happen to them and it did.

JK: Yes. That's a whole other story, isn't it?

AW: That one is, that one is.

JK: But it certainly is absolutely key to everything that we do here.

AW: It is and it's also about how people treat each other and how they use resources. Yes, the Aboriginals lived here for a long time without destroying too many things.

JK: Yes, absolutely. Well, are you happy with that?

AW: Yes, that's fine.

JK: Thank you very much. We're just talking about other places that Arthur remembers. Yes, you tell your son.

69.53 AW: O.K. I was just reminiscing that my son's always going crook at me when I talk about the good old days and what things were like in early Sydney but one of the stories I've told him a few times and he always shakes his head and doesn't believe me was when I was thirteen, fourteen or fifteen I used to go with my middle brother, often in the summertime we'd jump on our pushbikes and we'd ride down to south Maroubra and we'd camp on the beach. Now, in those days south Maroubra there were some reasonable dunes and there was a lagoon down there and so for food we would just simply go snorkelling and we'd go and catch abalone, occasionally get a little lobster or something or other like that and we'd just simply cook it on the beach and we'd sleep in the dunes and you'd stay down there until you got too cold or it started to rain or whatever and you'd come back home again and that's how we'd spend our weekends. Now, he knows that area now as well as I do and to find an abalone down there now would be a miracle. There are a few lobsters still there but, yes, they're few and far between and as for sleeping on the dunes at night, I think you'd be just asking for so much trouble now if you did something like that. Yes, but it was just really to point out how things

have really changed. Maroubra in those days was an outpost; no one went to Maroubra in their right mind. It was just this forgotten bit of scrubby bushland and, yes, there was a nice, big beach there but it was actually hard to get to until they put the tram line through. But, yes, it suited me.

JK: Lovely ……..

Interview ends