We welcome Dr Azzam Alwash, founder of Nature Iraq, for our second Green Swan conversation.

I spoke to him by Zoom on Friday, March 12, 2021, when he was in Amman, Jordan, for a COVID-19 vaccination.

The edited video of the exchange can be found on the Green Swans Observatory website.

Source: Stephen Foote

Why Azzam Alwash?

Extraordinary man, extraordinary challenges. I have been fascinated by the Iraqi Marshes since a friend wrote a book on these amazing wetland ecosystems and the people who live in them. That was back in 1977. Much has changed since then, not least since Saddam tried to wipe the Marshes off the map. The late tyrant almost succeeded in turning this immense area of wetlands into a modern dust bowl. But Dr Azzam helped turn the tide, in effect restoring Eden. And that’s not as hyperbolic as it may sound, given that the Marshes are reputed to have inspired the story of the Garden of Eden.
Introduction


It has been said that Thesiger would have "spun in his grave" if he had seen what Saddam Hussein did to the Marshes, turning them into a virtual dust bowl. I knew the story, but I first came across the regenerative side of the story a decade ago, watching the 2011 BBC film, Miracle in the Marshes. As we planned the Green Swan interviews, I was reminded of the film—and contacted the cameraman involved, Stephen Foote. Stephen gave me much of the background, then introduced me to Dr Azzam, who at the time was awaiting COVID-19 vaccinations in Amman, Jordan.

After early email exchanges, I read Eden Again, the stunning book by Azzam's former wife Suzanne (page 14). Then Azzam and I talked by Zoom on March 12, 2021, a conversation lasting over 90 minutes—so the text below has had to be radically cut. He has seen and cleared the text. The video and podcasts version of the conversation (pages 4-14) are also available via the Observatory website.
The Cameraman’s Angle

Having rewatched the BBC film *Miracle in the Marshes* back in 2011, tracking the recovery of the Iraqi Marshes, I tracked down the film’s cameraman, Stephen Foote. Among other things, he had filmed the excavation of the wreck of the Mary Rose, Henry VIII’s favourite warship. He had also filmed Amazonian river dolphins and Jane Goodall’s chimpanzees. But the dangers of filming in Iraq were in a very different category.

He didn’t tell his family where he was going, saying he was heading for Jordan. True, but only as a stepping stone. Iraq was still in chaos. Despite the risk from IED bombs, on the first of their three trips the team used “soft-skinned” vehicles to travel to the marshes, but on subsequent trips they were lent a security team equipped with armoured Land Cruisers by one of the EU sponsored reconstruction teams when they weren’t using them.

Nor did their troubles end in the marshes. They faced bombs, guns and kidnapping. If they built hides to observe wildfowl, they knew they risked American helicopters detecting them with infrared detectors and attacking. Despite it all, they captured the story of the recovery of a key ecosystem.
John Elkington: Thank you for making the time, Dr Azzam. I hope it becomes clear through our conversation that I admire what you've done immensely. Part of what we're trying to do here is to understand not just what you've done, but how you've done it—and what lessons people involved in regeneration elsewhere might learn from your successes and failures.

On your recommendation, I read Suzanne’s book Eden Again, a wonderful account of unimaginable ups and downs, ins and outs. I sincerely wonder how you had the courage and stamina to go through all of that, facing constant threats, bombings, kidnappings?

But I'm also beginning to wonder whether, seen through a Green Swan lens, Saddam Hussein was a human incarnation of the Black Swan? Something that comes out of the blue, has a massive impact, and in this case, a pretty adverse one. Afterwards, we fail to fully understand what just happened to us—perhaps, in this case, how the destruction of the Marshes symbolizes wider processes of ecocide?

By contrast, Green Swan solutions have to be assiduously planned and worked towards for years, decades—generations even. So can I start by asking a personal question? You grew up close to the Iraqi Marshes, visiting them with your father, who happened to be a duck hunter. What was that like?

Dr Azzam Alwash: For me, the marshes have this warm, safe glow. I'm now 63 years old, but I clearly remember when I was four or five, being with my father in a small boat. An old boat with a Perkins engine. And it would be Friday, one of the few times where I actually had my father to myself. We would be going into this incredible water world. The marshland world is flat, but to a child's mind, as you move through the reed beds, you're in this sweet forest. The boat would meander, and you would look over the side, into the water, and it was clear, fish darting everywhere. And it was hot. Then you go out through this wide opening and the breeze comes. I can't describe it, you have to experience it. A water world in the middle of a desert, birds all over the place.

Later on, as a teenager, a college student, we used to go to the marshes to enjoy picnics, stuff like that. Next, I went to the States to study—and became a kayaker with my now ex-wife. We'd be going around these small little wetlands in Southern California. And I kept saying to her, wait until we get back to Iraq. I'll show you what a real wetland is!

This was back in the middle '80s, the middle '90s, and we know now what happened next. Saddam invaded Kuwait—then we began hearing about the drying out of the marshes. I remember seeing satellite pictures in London in 1994, at an exhibition in the Houses of Parliament. I looked at the growing evidence of desiccation and wondered, how could this be possible?

JE: Before we get into that horror story, let's get a sense of the nature and scale of the Marshes. You describe them as warm, safe. But many people through history have seen them as pretty hostile. Even the Babylonians tried to drain them, unsuccessfully. I've read that, at their peak, they were bigger than the Florida Everglades. Almost as big as Wales. So can you give a sense of what we're talking about here?
AA: The basic fact to understand is that Mesopotamia is a sedimentary place. “Sedimentary” means the soil came from somewhere else, via water, and settled. So let’s look at the map. Southern Iraq has two mighty rivers called the Tigris and Euphrates emanating from mountains of what we now call Kurdistan. They brought—and bring—the water down to Mesopotamia, the land between the rivers. At one stage, the water level was 450 feet, or 150 metres, higher than it is today. So Southern Iraq used to be part of the Gulf. Then after the last Ice Age there were sedimentary fans coming in—all of a sudden, you have a natural dam that’s blocking the path of the Tigris and Euphrates, creating an inner world. The result is a plain, flat as a pancake area. And in that new system, the marshes acted as a form of natural flood control.

The annual floods were closely linked to the evolution of the area’s biodiversity. The floods would come in just as the reeds were coming out of hibernation, just as the fish were spawning, just as the birds were preparing to migrate, building up their bodies to migrate to Siberia. I call this pulse the “drumbeat of the biodiversity symphony.” And there you have the Mesopotamian marshes!

JE: It’s clear that you love that water world, Azzam. But it’s also clear that a lot of people have seen exactly that sort of environment as problematic. When I was working in the Nile Delta, trying to protect wetlands, I went to see people in the Egyptian government about the largest delta lake, Manzala. Their response was basically, “Manzala is a ditch—and the sooner we can bridge over it or drain it for agriculture, the better!”


AA: That’s the mindset of engineers, particularly the civil engineers trained in the ‘40s and ‘50s. My father’s generation. They called the marshes “swamps.” They looked at swamps as backward areas full of mosquitoes, disease, malaria, all sorts of problems. They saw the people living in marshes as backward. And in Iraq, famously, the marshes were where outlaws, brigands and deserters took refuge. The marshes were our version of Sherwood Forest, where people went to escape the Sheriff of Nottingham. And the problem for our Sheriffs was that if you sent in troops, they get lost in the maze.

JE: Some people say that the marshes were the origin of the Garden of Eden story. What do you think?
AA: You look at the map, and there are the Tigris and the Euphrates. Eden was fed by four rivers—and there are the four rivers here. I believe that it’s a memory of the collective history of mankind. And truth be told, if you are a primitive person, life in the marshes can be pretty easy. They have fish year-long. The water buffalo keep the channels open and supply milk. The reeds provide materials for housing. What more could they want?

But for farmers, relying on collective work to create the fields and bring in water, there was a problem. Salt. Evaporation is three, three and a half meters a year, so the salt crystallizes out. When the natural floods washed the fields, it was less of a problem. But farmers—civilizations—become greedy. They force the process. They stop fallowing, prevent the floods washing the soil. You see the result in satellite images. Across the Fertile Crescent, created by all that sediment, you see white deserts created by salt. And salt kills plants.

We are slowly losing our agriculture and the reasons for that include poor farming practices, Turkish hydroelectricity dams and climate change. It’s the perfect storm. Everybody views hydropower dams as the silver bullet, right? Clean, sustainable energy. But if you count in the impact on biodiversity downstream, it’s not remotely as “clean” as you might think it is.
JE: And population growth must be a significant factor in all of this?

AA: Yes, our population is increasing fast. Back in 2003, it was around 24 million. Today, it’s more like 40-41 million. By 2030, they say, we’ll have 53 million. So the demand on water is increasing at a time when there is less water than before. And biodiversity in the marshes is changing, because right now we don’t have that old water pulse happening. Species that depended on the flood are fading, while others, like carp, are increasingly dominant.

But the only constant in nature, they say, is change. The marshes will continue to exist, as long as there are people who are dependent on them for their livelihood. As long as there are people speaking for them. And that’s what I do these days. I have the self-assigned task of being a spokesman for the marshes in the outside world—and inside Iraq.

Inside, I generally let the marsh people speak for themselves. But I pay for buses to take people all the way to the marshes, including the rebels Saddam was trying to destroy when he turned the marshes into a desert. I talk to these people. Telling them that their resistance, their coming among us, led to Saddam’s deadly onslaught on the ecosystem and its people. And some of them convert, become very eloquent, speak up for the marshes. The message is that this ecosystem is not just mine, but yours too.

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JE: Interesting. When I had my genome tested some years ago, it turned out that a very high proportion of my genes track back to Mesopotamia. But you said that you are now an ambassador for the marshes, the ecosystem and the people who live within it. What an achievement!

One of the most moving moments in Suzanne’s book, Eden Again, was when you were having to explain to your children why you were going back to Iraq. You were in the United States, and you used Gavin Young’s book Return to the Marshes to show why your return was so important. Are you happy you took that fork in the road?
AA: Had I known how difficult the task would be, I might well not have taken that first step. But this is hindsight speaking. I thought this would be a two, three year hiatus. I'll do something for my native country, then go back to my family, to the comfortable life of the West. Right. Well, 17 years in, now almost 18, I've learned that this is a multigenerational task.

Yes, I regret losing those precious years with my children, the recitals, the spelling bees, the graduations. But my children have come to value what I have done. And I must say I'm eternally grateful to Suzie, who gave me the courage to leave my satisfying life. And go try. Give it a shot, because if I had not done it, I might have become a grumpy old man!

I was told by a certain class of people that the marsh Arabs did not need the marshes back, that they did not want the marshes back. But fortunately that's one battle I did not have to fight for long—because we discovered the marshes were already being restored by the people of the marshes themselves. True, I helped choose the areas where we should break the embankments. But nature is a great teacher. All you have to do is observe her and she will tell you what she needs.

And if you want me to summarise 17 years of experience, it is would be: Trust the way water flows, and get out of the way! You don't need PhDs, you don't need all the science—though they can be helpful. Let nature get to work. She knows how to do it. She's done this before, she's had around four billion years to work it out. Just get out of the way.
JE: Something that struck me in the book was that for some time after the water had gone back in, it wasn’t at all clear that you would see a full recovery? That must have been very tough!

AA: Once the processes start, you have to put up with the fact that, while nature may well recover, she has her own timescales. But I’m stubborn by nature. And once the recovery had started, it was so exciting! You see the possibility. I remember looking at this newly introduced water, the green shoots coming up. Yes, it’s possible that the soil has changed its chemistry, but it turned out that many of our assumptions were wrong. We had a bad moment with early satellite pictures, which seemed to show salt encrustations. But it turned out to be huge numbers of snail shells.

So the cyclical nature of the marshland regime turns out to be a key part of the reason why whatever survives today has an historic memory, the DNA, to recover. We worked out that you need to have continuous flow. If water pools, it stagnates. You get mosquitoes, the water stinks. So let the water flow and lo and behold, the thing works.

Sadly, this region is now producing oil. I cannot stop oil production. Anybody that stands in the way of the production of oil will be levelled. The marshes are alongside not just one but five supergiant oil fields. The good news, as I tell officials, is that the world is going to leave oil far behind!

‘THE WORLD IS GOING TO LEAVE OIL FAR BEHIND!’

Ladies and gentlemen, I say, you have a Black Swan coming. You will have less water—and you will have less income from oil than today. Of the 40-plus million Iraqis today, fully 60% of them are younger than 24 years old. They have no memory of Saddam. You cannot blame Saddam for what’s coming. So what are you going to do?

A key question is how to manage the water in the region, in the presence of the dams? We know full well that the dams that the Turks built are going to be full of dirt and soil in about 100 years. Soil that once flowed down into southern Iraq, that meant that the farmers didn’t need fertilizers.

And so all my passion for as long as I live is going to be focused on averting that Black Swan. What a weird thing if, after all that, this bread basket of humanity suffers famine!

JE: Some of the voices I heard coming through in the book argued that the Iraqi marshes are among the most disrupted ecosystems on earth. But I remember, too, there was a woman, an Iraqi exile in the United States, who said the marshes are like the Statue of Liberty of Iraq. And I also remember another line that said, Every time a civilization goes down in what is now Iraq, the marshes recover. So must our civilization go down for the marshes to truly recover? Or is there some sort of compromise?
AA: A compromise is possible. The marshes can exist, agriculture can co-exist. Turkish hydroelectric energy can co-exist. If we apply science properly and think of the collective interest. If we think of co-dependence, not zero sum politics—even if this war-torn region clearly suffers from a zero sum mindset. Iraq cannot go up unless Iran goes down, Iran cannot go up unless Iraq goes down. It all harks back to Ur, to Sumerian times.

Meanwhile it’s true some people are abusing the marshes. Fishing with poisons or electrocution, hunting flamingos. Why would you want to hunt flamingos? But they’re not bad people. They are people who just want to live, right? People tell me to take a stand against overharvesting. But what am I gonna tell a man who needs to feed his children?

What I’m trying to do is create an alternative. To promote eco-tourism. Today, we don’t even have a camping site. But it will happen. If people collect reeds in the marshes and can feed a family of 10, then they’ll support the marshes. Duck hunters, too. I have never shot duck in my life, but I like to eat them. Those benefitting from the marshes will fight to keep them alive.

JE: So you’ve set up two NGOs of your own, Eden Again, and then Nature Iraq. What happened?

AA: What do they say? Failure is an orphan, but success has many fathers? Today UNDP is working in the marshes, UNESCO is working in the marshes, UN Habitat is working in the marshes, Oxfam too. And that’s wonderful. That means that the international community has understood that the restoration of the marshes is like the Phoenix coming out of the ashes of destruction.
I love those advocates, I welcome them back, I kiss their cheeks and say, the more they work on the marshes, the better. We need all the advocates we can get. There will come a time when there is not enough water, when we struggle to maintain the marshes. I don’t know what climate change is gonna do. I mean, I’ve seen some models that show sea water inside the marshes, if sea levels continue to rise. Okay, but is that the end of the world? Again, change is the only constant in nature.

JE: You remind me of a character in one of Isaac Asimov’s Foundation series of sci-fi novels. Hari Seldon. Someone who could see thousands of years into the future—and tried to plan accordingly. Asimov also had a mutant, “The Mule’, erupt in the middle of the story, a bit like Saddam, throwing everything off track.

AA: Oh, Asimov! Seldon! Oh my goodness, you are giving me way too much credit. I’m a humble guy. But I’m also a product of the East and of the West. My childhood was spent in a country where the model of education is based on memorise, regurgitate, and you get to be the top student. Then I went to America. And those who argue best with the professor are the ones that are recognised. I learned that a lot of what I had read was not true. So I believe that critical thinking is one of the things that is still missing from the equation in Iraq. Critical thinking should be in demand everywhere.

JE: Have you taught in universities, business schools, schools, colleges in any way?

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AA: I taught back in the ‘90s, and the ‘80s, when I was a PhD student, when I was practising engineer. But I haven’t taught in a classroom since ‘97, though I’ve given a lot of lectures. I don’t think I have the patience to stay in one city for three months, four months to teach a course. But it’s on my to-do list.

JE: Well, that would be a gift to the world. In fact, your Eden story should be foundational in the teaching of everything that has to do with the future, with responsibility, resilience and regeneration. But, beginning to pull all of this together, if you had to come up with four or five key life lessons for people just starting out on this path, what would come to mind?

AA: The standard answer would be to follow your passion, right? That’s a cliché, but that’s because it’s true. Don’t worry about the money. If you’re actually working in something you like, you’re going to enjoy it so much that you don’t really need the money. And if you’re doing it well, the money will come to you.
And another lesson. Don’t think you’re central. You’re not, we’re all part actors. Nobody’s irreplaceable. What else? Well, the best one. The universe gives you what you need, not what you want. It has come through for me time and time again. I don’t know why something happens. Maybe I get pissed at something happening. Then years later, Oh! now I would finally see how it made sense. The process of living is the process of learning—and of taking the next step. It’s plodding along, working on something that is bigger than you.

JE: You suggested earlier that you were drifting off the subject, Azzam, but the solutions we now need depend on experiments, meanderings, like water finding its way through a marsh Then one final question, if I may? I came back to my own country aged nine and found that Christianity doesn’t particularly like nature. In fact, it has often been quite hostile to it. It may have harvest festivals, but they typically celebrated agriculture rather than wider nature. Then I read the Quran aged 14, delighted by the poetry, but shocked by the intolerance, as with the Bible. So how would a Muslim see the Marshes?
AA: The Pope just came to Iraq, and he gave a prayer. He talked about Abraham. Judaism, Christianity and Islam, and to a certain extent the Mennonites, all have a similar creation story. They believe that God created Earth for mankind, not to abuse but to live from.

Then you listen to their various descriptions of Heaven. And it’s a description of a wonderful forest with rivers, almost describing Eden. There’s plenty of water, plenty of green. No surprise, perhaps, given that these were often desert peoples.

All humanity is based on harvesting natural resources. That’s what we have done with gold, silver, oil, whales. We think of nature as an unlimited source of resources. Well, now we’re beyond 7 billion people, we’re coming to the understanding that we’re really a virus on this earth. It really doesn’t matter whether you’re Christian or Hindu or Buddhist, it’s all about harvesting natural resources. We think of ourselves as superior to animals. That’s the fault of all mankind, not just of religion.

I’m not a communist, I’m free market, but we abuse nature—take more than we need. As a young engineer, I was taught that we have the tools to control nature. Engineers, you were told, are smarter than nature. So off we go and build Hoover dams, but then you learn that every project that you have done has had negative effects. And maybe they are bigger than the positive effects, even with the dams we view as silver bullets today. They’re not. But it’s gonna take us a while to figure that one out.

‘ENGINEERS, YOU ARE TOLD, ARE SMARTER THAN NATURE’

JE: Whatever the future may make of you, Azzam, I wish you a long life! You have a genius not given to many. And you’ve chosen to use it in a profoundly positive and impactful way. Thank you.

AA: John, I hope that the universe will give us an opportunity to meet in the Marshes. Give me 10 days of your life and I’ll show you the cradle of civilization. I would love to take you from the Marshes all the way to the source of their waters. The headwaters of the Tigris are an incredible place to be. Iraq has over 25,000 archaeological sites. True, this land has been cursed by the oil, but Iraq should continue to enjoy its location, as a meeting place of cultures.

JE: An irresistible invitation, Azzam! When we can fly again, I’d love to come and see Eden finding its feet, its wings. The business world is now talking about its growing commitment not just to responsibility but to system resilience and to regeneration. All good, but perhaps we should make it a pre-condition of using the term that they come to the Iraqi Marshes, too! But then you’d need more than that non-existent camp site you mentioned. Maybe there could be a university alongside the Marshes, dedicated to regeneration, with the restoration of Eden as the core of its curriculum?
If you enjoyed this …

Read Suzanne Alwash’s book, *Eden Again: Hope in the Marshes of Iraq*. She is seen in the Marshes, below. It is also well worth investing an hour in the 2011 BBC film, *Miracle in the Marshes*. And key books include Wilfred Thesiger’s *The Marsh Arabs* and Gavin Young’s *Return to the Marshes*. For more information on the work of Nature Iraq, please click here.