Nature Tech Investing: Thoughts & Top Picks

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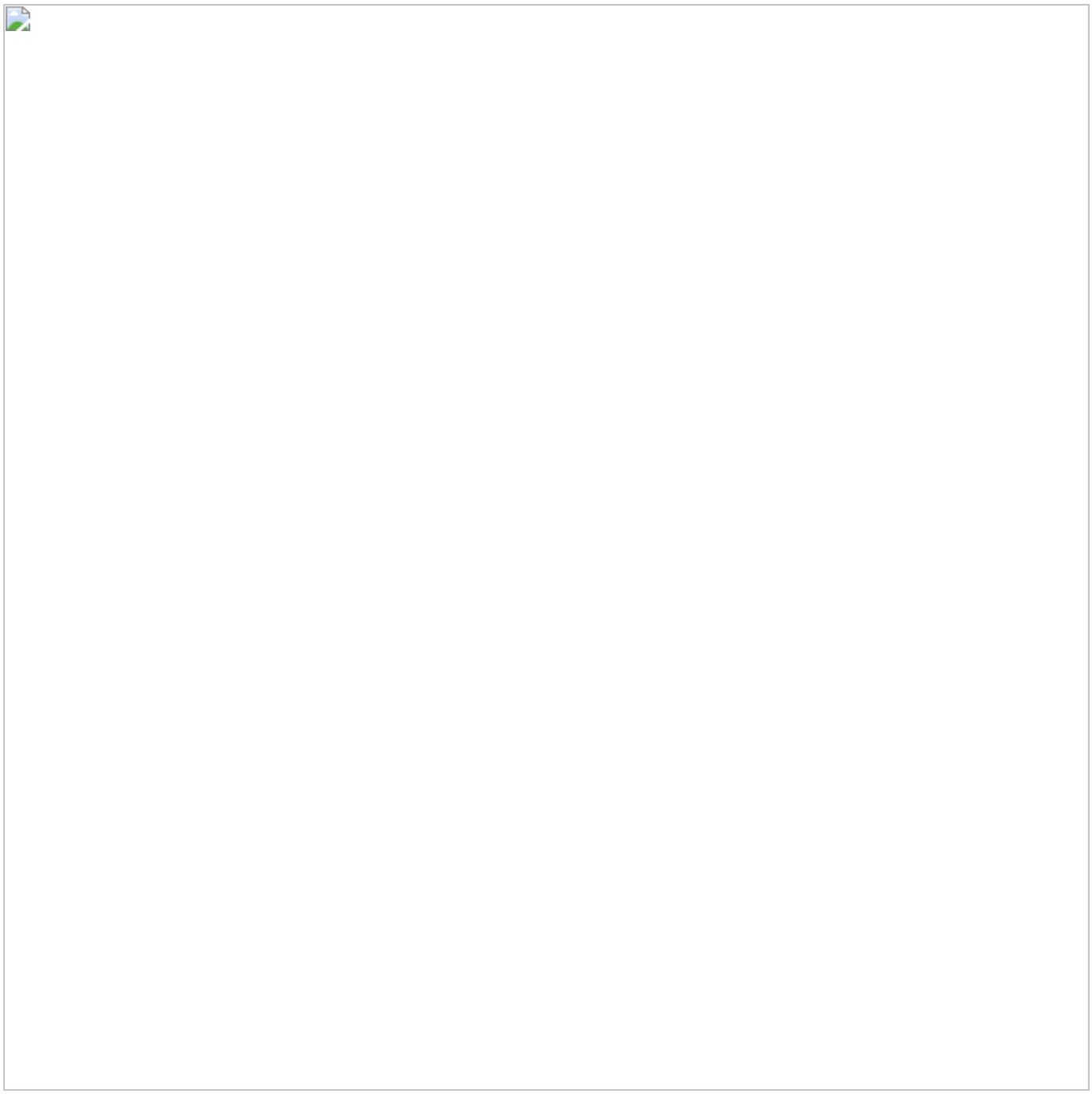
Hi folks 👋

For those who don't know me, I'm Simas from Bloom Labs - a biodiversity finance newsletter & consultancy. I focus on all things biodiversity markets, nature accounting & biodiversity measurement, reporting and verification (MRV).

Cheers!



What happens if you combine 1. an obsession with nature, 2. startup background and 3. love for investing since teens? As it turns out - a compulsive interest in nature tech investing.

Over the past years, I went through thousands and analyzed probably almost a hundred such companies. I couldn't help but find myself wondering which of them I would invest in, given the chance.

For this piece, I structured some of my thoughts on nature tech venture. And what fun would it be if I didn't share my own fantasy draft picks? Hopefully, it'll be useful to others in this space, especially the new venture capitalists (VCs) poking around nature tech.

I know this is a bit out of left field compared with my previous works but exploring the investment side seemed so fun. And, as a writer, I'm learning that I should never say no to writing about something that seems fun.

Let's get into it.

What's so special about nature tech venture?

Not all traditional VC rules apply to nature tech. Those that do are more like "yes, and" type of rules. Yes, you need to return the fund. But you also need to achieve impact goals, which might be at odds. You also need to quantify these impacts somehow (just look at Planet A's incredible work on assessing the impact of their investments on biodiversity). You also need to ensure social impact, since it's often inseparable from biodiversity impact. As a startup, you also need to make sure that your revenues are fairly shared with the on-the-ground nature stewards. Sooner or later, you also need to get involved in politics, since nature tech is about resource allocation and all resource allocation gets political at some point. And finally, you need to convince corporates that spending money on nature is good for them. Nature tech is a rare breed.

It might feel unethical to look for ways to make money in this historical environmental crisis. In many cases it is. But in others, it's one of the mechanisms to incentivize innovation and channel resources to the right places. And fast.

Characteristics

The most common definition of nature tech is a broad set of technologies that can accelerate and scale the implementation of nature-based solutions (NbS). Folks at the Nature Tech Report 2023 (a must-read) also define it simply as "technology that is 'good' for nature". It has a good ring to it, doesn't it?

Let me dig deeper and share a couple of unique characteristics I observed in nature tech:

Longer return windows

Nature doesn't follow the traditional venture capital conventions of exponential growth in a couple of years. The addressable markets might be just as large but since most of them are inherently connected to land, there are limits to exponential growth. Material and social changes on land take time, sometimes generations. That brings difficulties to funds who usually must return the money to their investors (limited partners) within 10 years, let alone 3x it.

"Just increase the return window" sounds like a simple solution. Not as easy in practice. If a VC manages to raise a fund with, let's say, a 20-year return window, that makes them less attractive co-investors to VCs with shorter return windows. Why? Because the "10-year return window" VCs can't afford to wait longer. That can lead to conflicting incentives among the co-investors. And since the 10 years is the default, the "20-year return window" VCs can struggle to close deals. Not to mention that only very few folks can even raise such longer-term funds now. Breakthrough Energy Ventures is one of the exceptions (being led by Bill Gates helps 🙂).

Nature impact requirements

Again, financial returns aren't enough in nature tech. Nature impact should be at least the co-leading performance indicator. That also usually involves stricter investment criteria and risk assessments which result in a smaller pool of investable companies.

Social impact requirements

Nature tech is arguably a public benefit industry. Nature and the communities embedded in it are inseparable. That's why fairly engaging with the local nature stewards is key, especially in the Global South. That usually makes nature tech deployment slower and less profitable on a per-unit basis (e.g. gaining free, prior and informed consent, respecting data privacy agreements, agreeing on benefit sharing, fairly employing the locals, etc.). The reward - if done well, the startups' revenues become more stable long-term.

Mostly B2B

Corporates are the main customers of nature tech companies (next to smaller companies, governments and NGOs). The fun part - spending on nature is not always the strategic priority for these corporates. These expenses are rarely spent to directly increase revenue. They are usually forced on them by regulations and public pressure (although nature-related risk is finally becoming a strategic topic, and strategic topics get more internal resources).

That's why many nature tech companies have to work extra hard to get companies to invest in nature. Apart from the commercial long-term benefits of such nature investments, there are significant short-term costs. Costs that didn't exist before. Or rather, weren't priced in. For corporate managers, chasing short-term returns feels (and usually pays) better than setting the company up for long-term success.

Resource allocation

Our economy is built on top of the gifts of nature. Or, as the industrialized world says, natural resources. We are now forced to acknowledge its limits and manage what we receive. By definition, our wants (not needs) are larger than the resources available. By monitoring and helping to manage them, nature tech is involved in global resource allocation. That's a unique place to be in.

Political

And this unique place is political. Limited natural resources require making decisions that leave some unhappy. Some politicians use the "green growth" banner to move things forward (I recently heard a friend call it an oxymoron and I can't get it out of my head). Others are more direct about the economic consequences.

If their companies become significant enough, nature tech founders will inevitably find themselves in the political halls at some point. The same halls host many who are incentivized to maintain the current status quo. Just look at COP28.

	Nature Tech VC	Traditional VC
Return Windows	10 years but should probably be longer	Usually 10 years
Nature Impact	Required	Not required
Social Impact	Implicitly required	Not required
Sales Channels	Mostly B2B	Varies
Political Involvement	Strong	Varies
Market Structure	Public benefit	Private benefit

A very rough comparison of nature tech and traditional VC.

Megatrend

No matter how much more difficult nature tech is, it's riding a historical megatrend - the integration of nature into the global economy. The nature and climate-related economic shocks are becoming unbearable. If I had to bet, this trend is irreversible.

And with increasing consumption demands and decreasing natural resources available, the tensions will only rise. It's a breeding ground for conflict. But it's also an opportunity to change the way our economy operates. Either way, nature tech is here to stay.

Competitive advantages in nature tech

Early-stage investing is an art. I won't pretend otherwise. Much has been said already, so I'll try not to bore you with the obvious either. At this stage, founders will always come first - smart friendly ambitious doers who are a little crazy, have deep industry or technical expertise and, most importantly, are (overly) optimistic.

I have noticed a couple of additional patterns that seem especially effective in nature tech though:

Structural advantage

Examples: vertical integration, technical moat or local community buy-in. Such precious advantages are gained from years of operating (and often struggling) in related fields.

Network

Since nature tech is mostly built on corporate demand, folks with a deep network have an edge. As anyone who tried selling to corporates will tell, their sales cycles are long enough to kill many young companies.

Nature tech is also tied to the real world. That requires trusted local partnerships with many different stakeholders: local communities, environmental NGOs, local governments and more.

Whoever can compress the corporate sales cycles and build a partner network fast wins.

Counter-positioning

The creator of the concept, Hamilton Helmer, defines counter-positioning as “A newcomer adopts a new, superior business model which the incumbent does not mimic due to anticipated damage to their existing business.” In other words, if a startup creates a different business model and requires the established company to suffer losses or change their way of operations to compete, it is successfully using counter-positioning.

Top picks

So, with my limited knowledge, here are some companies I would gladly invest in:

3Bee

Bioacoustic-first biodiversity MRV provider and project developer for pollinators and birds.

Reasons

> *Vertical integration*
>
> Over 7+ years, 3Bee developed a unique expertise in deploying biodiversity monitoring tech and managing projects across hundreds of land plots in Europe. They also have a deep client network. They’re leveraging this expertise and network to enter new verticals: biodiversity credit project development (using their own scheme) and corporate value chain assessment (nature accounting).

Concerns

> *Conflict of interest*
>
> Doing MRV, developing biodiversity credit projects with your own scheme and offering nature accounting services to corporates bundles a lot of nature-related activities that increasingly more corporates are forced to do. That also brings perverse incentives like inflating credit issuance and prioritizing your own credits over 3rd party solutions.

Cecil

Nature data infrastructure provider focused on standardizing, aggregating & organizing nature data.

Reasons

Counter-positioning

No other company is doing exactly what Cecil is doing. They're going a layer below the nature accounting companies to do nature data plumbing, metric by metric. Just look at their Epic on plant biomass. In a way, they're setting nature data standards. If they succeed, they might be the layer every corporate, or nature/carbon accounting company will need to use, next to natural asset managers.

Concerns

Scope & monetization

Building true infrastructure takes time. Cecil has been at it for 3+ years. Managing all this complexity to monetize on time must be difficult. And I'll be honest - I still don't understand how they make money.

Climatiq

An API for automated carbon footprint calculation. It's the largest database of scientifically vetted emission factors.

First, Climatiq aggregates the emission factor databases. Then, they standardize, quality-check, enrich and offer easy access to them via granular APIs.

Reasons

Scale economies

More integrated databases lead to higher quality and more use cases. These lead to lower unit costs.

Climatiq is a personal favorite. It's a first-mover that is capital-light to operate (apart from the initial investment of buying data, hiring PhDs to ensure its quality and software engineers to patch & serve it), immediately scaleable, likely much cheaper than the incumbent consultants and is riding the permanent carbon footprinting wave.

Concerns

Competition

Climatiq is running such an elegant lightweight playbook. But I still don't understand why others couldn't do the same, especially the larger corporate cloud providers.

Jeev

Reasons

Founder

I've followed the hustle of Jeev's founder, Adithya Pradeep, for close to a year now. I'm a believer.

Concerns

Competition

The carbon & biodiversity MRV space is packed. It's difficult to develop a competitive advantage.

Mozaic Earth

Smartphone-based citizen science biodiversity MRV provider. Oh, and they're officially fundraising right now.

Reasons

- *Founder*

  Sylvain Vaquer's energy is contagious. He's been operating like crazy, recently announcing a partnership with rePLANET, one of the pioneering carbon and biodiversity project developers.

- *Counter-positioning*

  Most MRV providers avoid citizen science. My reasoning - it's just so difficult to control biodiversity data quality as it is. If Mozaic manages to build a cost-effective and scientifically valid method to monitor biodiversity using a network of smartphones, they'll be in a tough position to beat.

Concerns

Scope

Mozaic needs more than just making monitoring tech to work. They also need to align with the most-used biodiversity metrics: for credits (here's a list of them I made earlier), corporate nature disclosure frameworks (e.g. TNFD or CSRD) and corporate nature target setting frameworks (i.e. SBTN). And finally, they must build an incentive mechanism for individual observations that are relevant, frequent and wide enough.

Nala Earth

Corporate nature & biodiversity management platform.

Reasons

Founders & network

In a space where every other startup idea is something like “let’s help corporates manage their nature-related activities”, it’s difficult to stand out. Thankfully, Nala has a (very) capable trio of founders with data, risk management and climate tech backgrounds. One of them - Anna Alex. She’s one of Germany's climate tech pioneers who’s previously built Planetly, a successful carbon accounting company. She knows the playbook that Nala needs to run.

Concerns

Competition

Fellow nature accounting startups, carbon accounting platforms and corporate cloud providers are all targeting the same market.

NatureMetrics

Leading eDNA biodiversity MRV provider that recently expanded into nature accounting advisory and software solutions.

Reasons

- *Vertical integration*

  Similar playbook to 3Bee: NatureMetrics is leveraging their (likely largest) proprietary eDNA dataset, eDNA sampling deployment expertise and corporate customer network to enter nature accounting.

- *Potentially: scale economies*

  Since they have the deepest distribution network for eDNA sampling globally, the cost to deploy & analyze the data might decrease with scale.

Concerns

Spreading themselves too thin

Always a risk when you enter multiple new business lines at the same time. Thankfully, their target customer remains the same.

Pivotal

Biodiversity data collection & analysis company that combines drone, acoustic and imaging data.

Reasons

Founders

You could do a lot worse than get Cameron Frayling and Zoe Balmforth at the helm of the company. Cameron is a successful serial deep tech entrepreneur and Zoe is a biodiversity powerhouse, with biodiversity policy, research, diplomacy and consulting experience under her belt. Knowing that, their strategic partnership in developing a biodiversity credit standard with Plan Vivo is less surprising.

Concerns

MRV stack

We're now seeing how different biodiversity MRV stacks perform in practice. The most common technologies used are bioacoustic sensors, camera traps, drones, satellites and eDNA sampling. Dozens of companies are using different combinations of these to achieve a winning cost-benefit ratio. What if Pivotal's isn't it?

Renoster

Carbon credit ratings agency that produces the deepest available reports on individual carbon projects.

Reasons

Founders

Elias Ayrey, team's head scientist is unique. His background (previously head scientist at Pachama) and skillset allows Renoster to produce reports that are the most in-depth ones in the market. And although they can't assess every project in real-time, every additional report moves the market.

Concerns

Scaling

If my assumption that the product is built around Elias doing manual work to assess each project is true, I wonder how they'll scale it.

Savimbo

Indigenous-led environmental credit project developer. It has doubled down on biodiversity with their own credit methodology.

Reasons

- *Counter-positioning*

  Savimbo has done the hard work of co-designing a biodiversity credit methodology together with Indigenous leaders while the top-down approach is the default. As a result, many competitors are unable to directly compete. If they do, they'll be forced to (implicitly) admit that their original approach isn't the right fit in rewarding neither Indigenous Peoples nor many local communities for nature conservation.

- *Founders*

  Those who know Drea Burbank, know that she's a force of nature. She moves fast, communicates complexity exceptionally well and understands the market she's in. I hear that the other Indigenous co-founders are superb as well.

Concerns

- *Conflict of interest*

  As always, companies who develop biodiversity credit projects using their own credit methodologies face perverse incentives to favor their own projects.

- *Public positioning*

  Savimbo is not built and does not look like a traditional venture company. And VCs care about the looks, often for the right reasons. Can Savimbo scale their organization and operations? Can they bring a "billion-dollar" outcome? These are the questions I'd have.

The Landbanking Group

Natural capital market infrastructure provider, building a new asset class they call Nature Equity. They define natural capital as land's health metrics in biodiversity, carbon, water and soil.

Reasons

Founders & network

The founders, Dr. Sonja Stuchtey and Prof. Dr. Martin R. Stuchtey, are probably the most networked team in nature tech. Previously, Prof. Dr. Martin R. Stuchtey founded Systemiq, one of the most influential environmental advisories and capital providers. Unsurprisingly, they've raised capital from the top VCs and built a top-tier team.

Concerns

Scope

To pull this off, TLG is building the MRV aggregation, legal, market transaction and assetization layers. A single layer is already a gargantuan task. TLG needs to succeed in all of them to create a new asset class. A sign of how large their scope is - I haven't yet met anyone outside the company who can actually explain what TLG does.

wildflow

OpenAI for marine biodiversity. wildflow is building the foundational AI models for biodiversity, starting with marine ecosystems.

Reasons

> *Founder*
>
> Sergei Nozdrenkov led the ML-powered biodiversity moonshot on invasive species management at Google X. He is technically uniquely positioned to pull the “digital nervous system for the planet" vision off. Plus, he’s dedicated - he worked on the idea alone for over a year.

Concerns

> *Scope*
>
> With a solo founder and an unimaginably large scope, prioritization alone might not be enough.

Final thoughts

Probably not many surprises for those in the field. My thinking is nowhere near as deep and systemic as some of the biodiversity investing pioneers like Superorganism, Wedgetail, Planet A, Pale Blue Dot or Silverstrand Capital. I have no investment theses or assessment frameworks. I’m just as excited about the same new tech as the others. The above is the result of some patterns I’ve recognized, that’s all.

I sometimes envy the work of nature tech investors. They get to talk to and support ambitious folks regenerating the Earth every day. I only manage to do so at odd hours (still blessed for that!).

This is just the tip of the iceberg. There are dozens of companies I wish I had the time to look into. I’m absolutely convinced I missed countless other brilliant startups. Would love to hear your own top picks in the comments!

If you’re an investor curious about nature tech, I’d love to jam with you. Just ping me on LinkedIn or at simas@bloomlabs.earth!

Cheers!