Future Forest Podcast Transcript

Episode 3: The power of riparian zones

Episode overview:

* Speakers: FLS Resilience Manager, Alan Gale; FLS Planning Manager, Graeme Findley
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Graeme Findlay: A riparian zone is the area of land directly adjacent to a river or burn. It’s an absolute key habitat for both terrestrial and fresh water ecology.

Alan Gale: And that riparian zone is often associated with wildlife because it’s a permanent buffer of open land, grasses, trees, that we don’t use for timber production. And so, it’s a permanent wildlife place. New planting of riparian zones, really important in Scotland.

Meghan Kjartanson: This is Future Forest, a podcast exploring the environmental stories shaping Scotland and how land management can help create future ready places equipped for the climate emergency and biodiversity crisis.

Meghan Kjartanson: We’ve been planting broadleaf trees alongside our water way to help create stronger habitats. This is also a great example of the interconnectivity between biodiversity and climate change, and how trees can be champions for both.

Meghan Kjartanson: In this episodes, we’re talking to staff members who are working to plant more of these areas along our watercourses and explain why this is such an important habitat in Scotland.

Alan Gale: These broadleaf trees offer a number of different functions, they offer shade to fish. The shade offers reduced temperatures, that’s particularly important with climate change, where we expect our rivers and burns to increase in temperatures and that trees will offer the shade and help fish survive these very hot summer temperatures.

Meghan Kjartanson: That’s Alan Gale, he is the resilience Manager at FLS.

Alan Gale: Trees strengthen biodiversity corridors. So, typically our trees are planted in a linear fashion alongside the river and by planting long distances, long linear distances, perhaps many kilometer, what we’re doing is offering a home for wildlife to travel the length of that corridor in a permanent home where that wildlife can thrive and survive going forward.

Graeme Findlay: So, as well as targeted work that can help the fresh water ecosystems and salmon in particular, this habitat restoration will act as a spine that can flow through all of our forests.

Meghan Kjartanson: That’s Graeme Findley, he is one of our Planning Managers in the East region and he has been working on riparian zones for over a decade now,

Graeme Findlay: So, what we’re creating is a permanent habitat network that will benefit a wide range of plants and animals, allowing them a semi natural corridor that they can run through our changing forests as we produce timber for the nation. This restoration work will really form the basis of a much wider habitat network that will benefit biodiversity in general.

Graeme Findlay: So, lots of our forests were planted in the period of the ‘60s and ‘80s, where often the key driver was to plant up as much of the ground as possible, and some cased this meant that commercial conifers were planted right up against the banks of these rivers and streams, something we probably now recognise as bad practice.

Graeme Findlay: More recently, particularly up through the ‘90s and up to today our long term planning has focused on what is the right thing to do with a particular piece of land.

Graeme Findlay: The river Tay is a special area of conservation. So, most of the rain that falls in the public forests in Perthshire makes it to the Tay in one way or another. This is a really significant issues for us to consider through our land management plans and one of the key things we think we can do to maintain and improve the condition of the river is to make sure the riparian zones are healthy and robust and providing some of the building blocks for biodiversity, mainly though deadwood and leaf litter.

Graeme Findlay: So, over the past 10 – 20 years we’ve been planting native broadleaves, trees like alder, willow, and aspen across the Tay system along the riparian zone and our focus now is how we can expand this project further, particularly with the twin crisis around climate change and biodiversity right in the for front of our minds.

Meghan Kjartanson: Riparian zones are great examples of how connected ecosystems are and how important each piece of that network is to the wider habitat. Making them great at modelling how we can use nature to help us adjust to the changing climate.

Meghan Kjartanson: Alan mentioned how the tree canopy provides shade over the water, which helps protect the water and fish from the sun, overtime this should help with the increased water temperatures we are seeing now due to climate change.

Meghan Kjartanson: In autumn these broadleaf trees will start to change colour and lose their leaves, and some of them will land in the water. They will then break down, adding fresh nutrients and helping build up the overall food network for the freshwater fish and other wildlife.

Meghan Kjartanson: The tree roots can help stabilise the riverbanks and they will also use the water naturally which can help with increased flood risks. This is something we are going to look at more in a future episode on flooding. The other thing these trees are doing is cleaning the air around the water, and capturing carbon. Once this habitat is in place, the biodiversity has space to return and flourish. But, why are we planting mostly broadleaf trees around water?

Alan Gale: Lots of broadleaf trees instead of conifer along the river banks and the reason we do that is because we want to create a permanent broadleaf woodland alongside the watercourse, and that helps the water quality and it helps biodiversity in general, because we are creating a piece of land that is permanently for nature and biodiversity. We don’t enter that piece of land with machines to extract timber, we keep away from it and we leave it very natural.

Alan Gale: There is often different types of wildlife associated with living near water, whether it’s water voles, or dippers, or fish or whatever, they all use water so therefore we assign this area, this broadleaf corridor area near the river and plant the conifer trees further back from the rivers where there is less disruption to the wildlife.

Meghan Kjartanson: These zones vary in size, depending on the scale of the river and if there is any watercourses in them, but they make up a significant part of a forest anywhere from 5 – 15% being dedicated to this vital habitat.

Alan Gale: Riparian zones can help in a number of different ways, they can help with adaptation to climate change in Scotland. For example, a riparian zone can help flooding downstream, or it can help water quality by filtering the water through the vegetation, the grasses and the mosses.

Alan Gale: If it’s a new woodland, a riparian zone is additional trees and additional trees mean more carbon capture and less global warming, so the riparian zone is mitigating climate change, and thirdly the riparian woodland is great for the biodiversity crisis, it creates a permanent linear habitat that can be home to many different types of wildlife for the long term.

Alan Gale: We call it strengthening biodiversity corridors. So, for me a new planting of a riparian zone delivers right across the agenda, it’s helping us adapt to climate change, it’s helping us mitigate to climate change with carbon capture and it’s helping greatly with the biodiversity crisis. New planting of riparian zones, really important in Scotland.

Graeme Findlay: The Tay is one example we’ve talked about, but within east region it’s one of the a number of iconic Scottish rivers we have an influence on. So, we have the Tay but we also have the links of the Dee and they Spey, where a lot of our land drains into these watercourses and we are looking to replicate these exact same actions to benefit the fresh water ecology across them.

Graeme Findlay: But, it’s not just in our region, It’s not just in the East region, that we are looking at these things. Across FLS as a whole, there are actions happening right across the length and breadth of the country, from down in Galloway there is this kind of riparian zone restoration happening from there right up into the far north of the country in Caithness and Sutherland, to rivers like the Borgie in the far north which are absolutely key rivers for the likes of salmon fishing.

Graeme Findlay: So, this is something that we as FLS feel with the land holding that we have as something we can do on a scale that can have a national impact on the ecology of these absolutely key rivers for the future of Scotland.

Meghan Kjartanson: The project in Galloway that Graeme is talking about is the first of its kind in Scotland. The goal here is to repair the overall habitat of salmon along the Black Water of Dee, through the restoration of riparian zones, but also building up the riverbed to create a better area for the spawning salmon and trout.

Meghan Kjartanson: This is an exciting join project, with ourselves, the founders, Galloway Fisheries Trust, SEPA, Galloway Glens Landscape Partnership, DRAX, and the National Lottery Heritage Fund.

Meghan Kjartanson: Freshwater fish are important to the overall biodiversity and health of a water system. They are also great for supporting the rural economy.

Graeme Findlay: These riparian areas are just absolute honey pots for visitors coming to the area. You have these really nice, partly open, native trees that are casting this leaf litter into the water courses but they really are just nice places for people to go to, for people to walk through, to have picnics and sit down with their kids in this nice open woodland next to the watercourse.

Graeme Findlay: So, having these nice habitats with water and woodland really helps to attract people in, and another big part of the economy rule of Scotland is around eco-tourism. And again a lot of what we’ve talked about already is underpinning the ecology of these freshwater habitats and if you have more fish, more salmon, if we have more trout, in our watercourse and lochs, that can potentially lead onto the bigger animals that people really want to come and see, the likes of the otters, the white tailed eagles and the iconic ospreys which are key visitor attractions, come for photography, all these kind of things are underpinned by the basics, the building blocks of life in these fresh water habitat and that’s what we think we can really play a big part in helping to deliver.

Meghan Kjartanson: According to the Scottish Government, Scotland’s tourism industry is a large employer and economic driver and wildlife tourism plays a key role in this. However, there has been a significant decline in fresh water fish populations in recent years, making projects like the one in Galloway even more important.

Alan Gale: So, there is three things there that riparian zones are good at for climate change. One is we help Scotland adapt with the riparian zone, two the new woodland creates additional carbon capture, and three, they help with the biodiversity crisis.

Meghan Kjartanson: Future Forest podcast is produced by Forestry and Land Scotland, a Scottish Government agency. I’m Meghan Kjartanson and I’m a Content Writer at FLS. You can learn more about the topics presented on our website, forestry and land dot gov dot scot.

Meghan Kjartanson: Thank you to our Resilience Manager Alan Gale and Planning Manager Graeme Findley for being on this episode. And thank you for listening to Future Forest, we hope you join us next time as we look at how we can harness the power of trees to reduce the stress of flooding in Scotland.

Meghan Kjartanson: Our mission is to look after Scotland’s forests and land for the benefits of all, now and for the future. Forests and Land that Scotland can be proud of.