

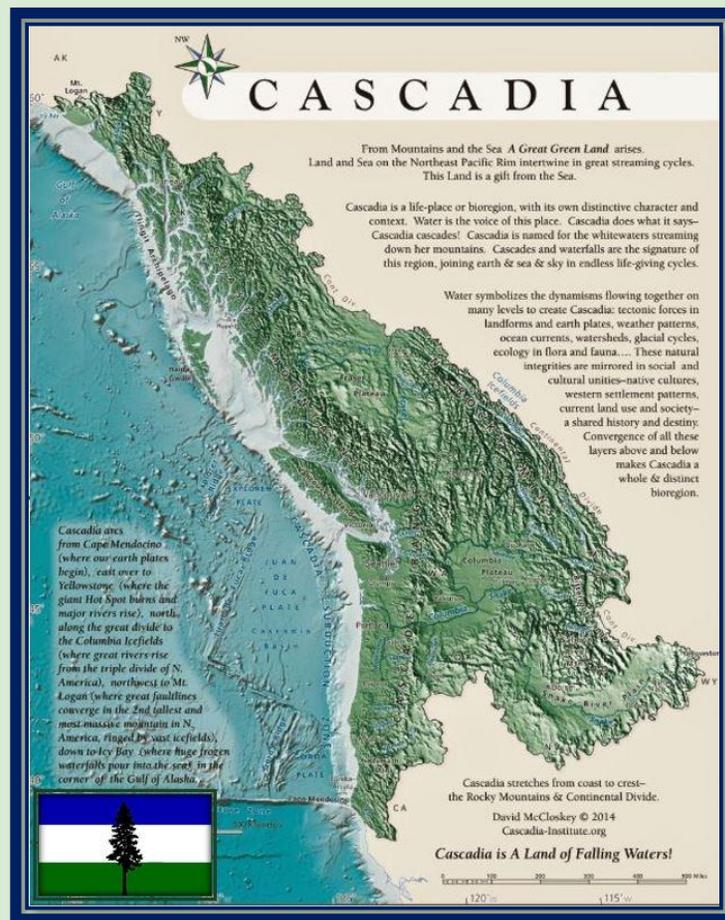


Below is an excerpt from a recent Cascade – my weekly premium letter. I got away from writing about nature for a few months, but I am making a concerted effort to fix that, and to include some thoughts on nature and trading once per month going forward. Enjoy!

Why “The Cascade”?

Forty four volumes in – I thought I would explain why I chose the name *The Cascade* for this letter. There are a few reasons that sort of triangulated into it being an obvious name for me. In explaining the name, I am going back to my roots with a dive into nature and something it can teach us.

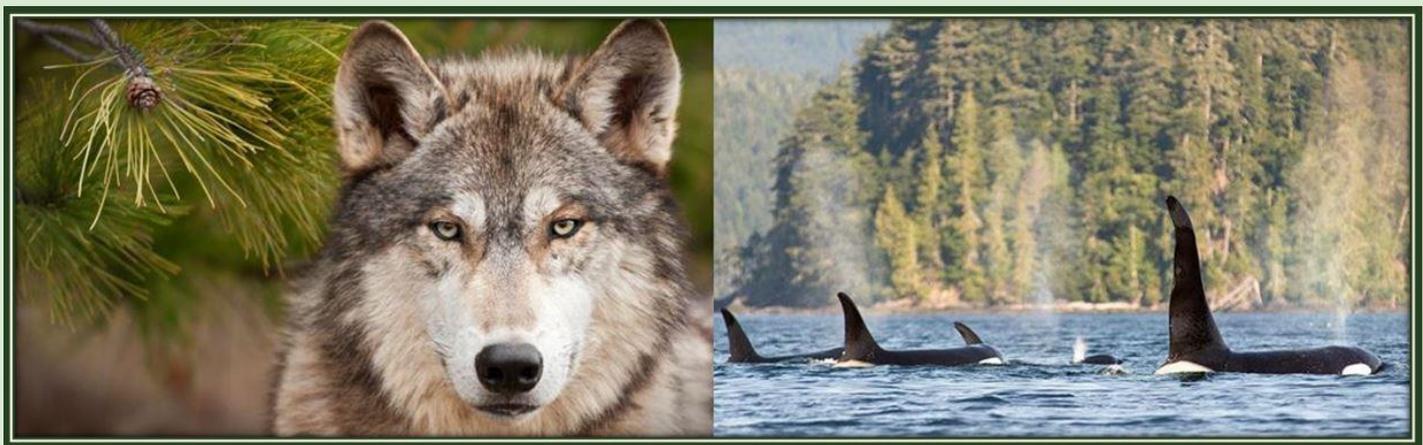
Firstly, I love the Pacific Northwest, the Cascade Mountains and the bioregion known as Cascadia. This is where I feel most at home and most at peace.





Second – the definition (2.) of Cascade: *a process whereby something, typically information or knowledge, is successively passed on.* That is my mission with the letter – to keep passing on information, what I know, and what I think I know. This is my passion and hopefully I can do this over many decades. Lastly, as many of you know, I love nature and the lessons it can teach us as human beings and as investors. This is where the Trophic Cascade comes in. If not familiar, a Trophic Cascade is an ecological phenomenon triggered by the addition or removal of top predators and involving reciprocal changes in the relative populations of predator and prey through a food chain, which often results in dramatic changes in ecosystem structure and nutrient cycling. Let's dive into this in more detail to understand why it applies to the markets.

Those of you who have followed my work since the days of my nature writings via the White Mountain Letter know how much I like studying and learning from pine trees. The other corner of nature I most enjoy learning about is apex predators and their impact on the world around them. I think apex predators and keystone species (sometime overlap) have much to teach us. This is why I have a deep affinity for Killer Whales and am passionate about protecting the Southern Resident Orcas in the Puget Sound. The impact just one creature has on an entire ecosystem is astounding when it is an apex predator. This impact reminds me of the nonlinear impacts that can be found in macro – the kind of impact that escapes models and experts. No expert would have predicted that reintroducing wolves to Yellowstone would literally change the path of rivers – but it did exactly that. Drop everything and watch that video. For those that didn't or can't – here is a summary. But seriously...watch it.





- ❄ Wolves were introduced into Yellowstone in 1995 after a 70yr absence
- ❄ Wolves' prey like deer became overpopulated and overgrazed vegetation
- ❄ Wolves not only started killing deer but changed their behavior
- ❄ Deer avoided chokepoints they could be trapped in and those areas had incredible growth in vegetation (some trees height quintupled in 6 yrs)
- ❄ Bare valleys became forests
- ❄ The new trees brought back birds and beavers
- ❄ Beavers built dams that brought ducks, muskrats, otters, fish, amphibians
- ❄ Wolves killed coyotes – helping to boost the population of rabbits & mice
- ❄ Mice attracted hawks, bald eagles, foxes, badgers
- ❄ Eagles and ravens ate the leftovers of the kills of bears and wolves
- ❄ The bear population thrived because there were more animals and berries
- ❄ The regenerating forests stabilized the river banks, fixing the course
- ❄ Without the wolves and the forests – the soil had eroded at the rivers

So adding a few wolves to an ecosystem changed everything – including geography. This is referred to as a Trophic Cascade because the apex predator changes the abundance and behavior of their prey and then their prey's behavior and abundance cascades one level to their prey and feeding levels. Apex predators indirectly benefit and increase the abundance of their prey's prey as we saw with the regeneration of vegetation in Yellowstone thanks to the wolves. To be considered a cascade, this must occur across a minimum of three levels – although nature holds trophic cascades that go deeper.

Overgrazed systems ensure low biodiversity and productivity. Overgrazing has turned savannas into sandy deserts and underwater kelp forests into barren rock and sandflats – destroying entire ecosystems of thousands of forms of life. Runaway consumption destroys without apex predators. The health, wealth, and beauty of nature depends on dominant hunters.

This of course can be seen in markets and in the global economy. If you used a trophic cascade model to think about trade and supply chains as food chains – you can think of the prey's prey of the US as a place like Vietnam. In the current ~~trade~~ cold war between the US and China – China is the prey of the US (apex predator) and that has strengthened China's prey (level lower in



supply/trade chain). Vietnam has run out of capacity to accommodate incoming manufacturing. Factory space filled quickly after the apex predator went after China.

If you look at the Fed as a monetary apex predator and view their prey as interest rates – you realize the prey of interest rates could be considered yield-based allocations of capital. In the way mice attract eagles, higher yielding assets attract yield starved investors. The Fed (grey wolf) creates the conditions (lower rates on high quality assets) for mice (low quality assets with higher yields) to thrive – attracting eagles (investors who need yield to survive e.g. pensions). The analogy is far from perfect – but hopefully it helps you build out the food web of investing in your mental model. Realizing that apex predators change the fortunes of their prey and their prey's prey in a manner that changes entire systems is a useful mental model for investors. It is also useful to appreciate that the keystone species and apex predators of the economy change the economy in ways we will never predict, which is why risk management has to be robust and never based on linear models built on the recent past.

This is why I was able to profit from the decline in the fortunes of the Australian economy over the past year. Realizing that the Australian economy was dependent on the fortunes of China made it clear that a trophic cascade could occur that would impact Australia. Australia is not an apex predator and thus requires the chain above them to function in a manner that allows them to thrive. Australia is like an aspen tree that needs the deer population kept in check by wolves. Understanding the difference between economies that are apex predators and economies that depend on apex predators is vital for the macro practitioner. Some countries have more of an ability to control their destiny directly than others. It is often easier to determine the fortunes of prey and prey's prey than the fortunes of the apex predator.

Remember the deer did not just leave the valleys because the wolves killed them – they left because of *fear*. This is the ecology of fear, if you will. An example is in beautiful Zion National Park in Utah. The number of humans visiting has spiked over the years which has changed the behavior of Cougars in the park. Due to fear, the Cougars avoid some areas that have a lot of humans, allowing herbivores to overgraze the areas, dramatically changing the biodiversity and beauty of some areas of the park. Simple fear changed an



ecosystem. Thinking about the trade war again – it is not just the actually killing done by the apex predator (tariffs) that has affected the ecosystem – but the fear the apex predator creates. For example, some companies have left China due to tariffs (actual hunting) – while many left China due to fear or chose not to expand in China or move to China. This has an unseen effect models and experts will not catch on a spreadsheet. This unseen fear is changing the makeup of the global economy just as much as the seen effects of tariffs from the apex predator. I hope to keep writing about nature at least once a month moving forward – I hope you enjoy it.

Disclosure: Pinecone Macro Research, LLC is an independent research firm. Pinecone Macro's letters are based upon information gathered from various sources believed to be reliable but are not guaranteed as to accuracy or completeness. There are risks in investing. Any individual report is not all inclusive and does not contain all of the information that you may desire in making an investment decision. You must conduct and rely on your own evaluation of any potential investment and the terms of its offering, including the merits and risks involved in making a decision to invest. The information in this letter is not intended to be, and shall not constitute, an offer to sell or a solicitation of an offer to buy any security or investment product or service. The information in this report is subject to change without notice, and Pinecone Macro assumes no responsibility to update the information contained in this report. There is risk in trading markets. Pinecone Macro is not an investment advisor. My letters are based upon information gathered from various sources and believed to be reliable, but are not guaranteed as to accuracy and completeness. The ideas and trades I share are my own and are for informational and educational purposes only and should not be construed as investment advice. Accordingly, you should not rely solely on the information in making any investment. You should always check with your licensed financial advisor to determine the suitability of any investment.