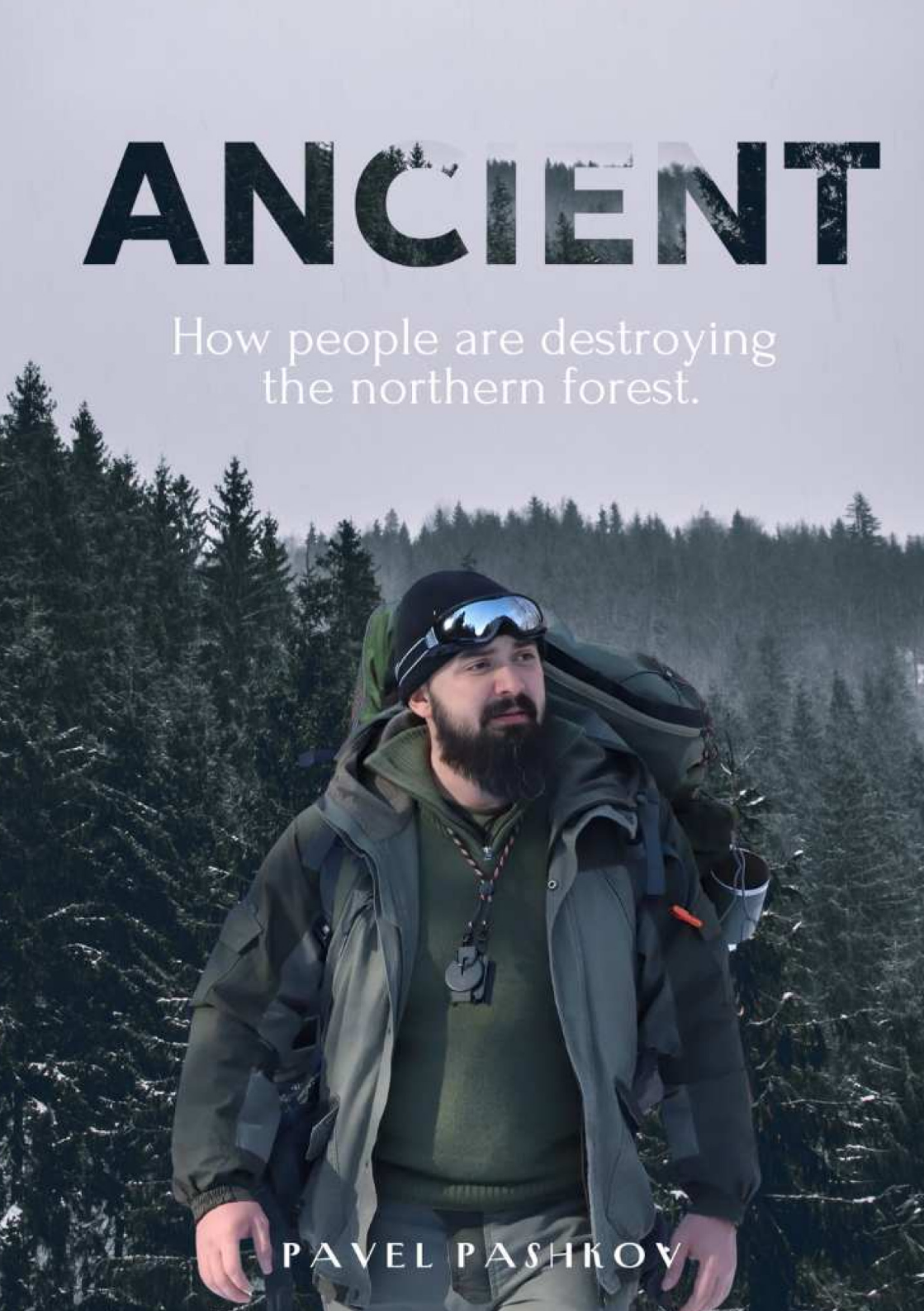
# ANCIENT

How people are destroying the northern forest.



PAVEL PASHKOV

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PAVEL PASHKOV

ThePashkov

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Song of the Russian Taiga

# Preface

Businesspeople and officials often laugh at us: "Are you going to say the forest is alive, that it breathes and thinks?" To which I always reply: if you had ever touched a truly ancient forest, if you knew how to feel and think, you would understand that the forest is indeed Alive! A cancerous tumor will never understand that it is merely a disease. From the tumor's perspective, it is the most important thing in the universe, and the afflicted organism is just meat on which it parasitizes!

It's been ten years since I first began advocating for the protection of Russia's wilderness. Ten long years of active struggle for the Russian Taiga, against the destruction of forests, against the total annihilation of all living things. Studying ecological problems, exploring the expanses of the Russian Taiga, I have become thoroughly imbued with the troubles that humanity is causing to the living world around us.

We have truly become a parasitic system that is rapidly killing the Earth. That's why it's extremely important for me to fight for the wilderness! Yes, maybe we won't succeed. Yes, perhaps our struggle will remain just an echo somewhere far away. But I know for sure that my children will grow up knowing that their father didn't just sit idly by. That I fought, tried to change this world. And my personal conscience, my personal inner world, will always be clean.

As part of my public activities, I have been conducting expeditions for years to the most remote corners of Russia's wilderness. The main goal is to personally see the problems, to touch them with my hand, to feel the living nature, and to fight for Life. It's impossible to change the world while sitting still. Our bureaucratic officials, calculating the living flesh of the Russian Taiga in raw timber, have no idea what a complex forest system truly is. They can't understand that a Living ancient forest is a single biogeocenosis, a single organism that breathes, feels, and fights for its existence.

The book "Ancient" is my research notes in defense of forests that regulate the climate and about the extermination of wild animals. I worked on the book during my expeditions. Just recently, after traversing

thousands of kilometers of living taiga, I realized an incredible yet simple truth: the overwhelming majority of ecological disasters in the world are the result of the destruction of ancient climate-protecting forests! By connecting all the threads, all the problems, all the disasters, I can confidently say that the life of Humanity, like the life of all terrestrial ecosystems, depends on ancient forests! On those patches of forest that humanity has not yet managed to destroy. The last refuges of wilderness!

If the unified organism of the Forest is alive, then we are alive too. Simple things that bureaucratic officials and businesspeople, who are cutting down ancient forests, have yet to grasp. That's why it's so important for as many people as possible to know about the problem of destroying climate-protecting forests. This is how we activate the immune system that must respond to the rapid spread of the dangerous disease called "Humanity." This is how every free-thinking, analyzing person becomes part of the immunity.

Simple things we need to understand today! A simple question: who are you personally? The immunity that has recognized the disease and is fighting it, or a cancer cell in a large cancerous tumor. I've made my choice! I hope my book will help many people around the world

make theirs. And our unified immunity against the destruction of Life on Earth will begin to work.

# Chapter 1. What is the boreal forest?

Today, Russia has a real opportunity to protect the world's greatest natural heritage—the ancient boreal forests that regulate the climate! Our northern taiga is one lung of planet Earth. The other lung—the tropical forests in South America—has already been nearly destroyed.

If you visit the English Wikipedia page for “Boreal forest,” you'll be redirected to the page titled “Taiga.”

As you can see, it's quite simple! The Russian Taiga is the boreal forest!

The term “Boreal” in the name comes from Latin, meaning “northern.” In our language, we even have a somewhat outdated poetic term for the north wind—Boreas.

The taiga is the largest terrestrial biome in the world. In North America, it covers most of Canada up to the northern tundra zone, Alaska, and small parts of the northern United States.

On the Eurasian continent, the taiga covers most of Scandinavia and Finland, as well as, naturally, a large part of Russia: from Karelia in the west to the Pacific Ocean in the east, including a significant portion of Siberia.

The area of the taiga is at least 15 million square kilometers. Maximum expert estimates reach 17 million square kilometers or 11.5% of the Earth's surface. This variation is due to different specialists slightly differing in which types of forest biomes to include or exclude from the taiga zone.

In any case, the taiga is the largest landscape zone in Russia. It's a key ecological zone of our country. Its width in the European part reaches 800 kilometers, and in Western and Eastern Siberia, it extends up to 2150 kilometers!

Most of Western and Eastern Siberia, the Far East, the mountain ranges of the northern and middle Urals, Altai, Sayan, Pribaikalye, and northern Sikhote-Alin—all of this is the “endless sea” of the Russian Taiga!

The concept of “taiga” to describe the biome of northern forests was first used in 1898 by Russian botanist P. N. Krylov. He defined the taiga as a dark coniferous boreal closed forest and contrasted it with pine forests, larch,

pine, and small-leaved forests. In modern understanding, larch forests are also included in the boreal taiga belt. Today, most researchers define the taiga by its species composition as a biome characterized by the predominance of coniferous forests, mainly formed by boreal species of spruce, fir, larch, and pine.

It's worth adding that historically, the taiga in its current form is a relatively recent phenomenon, existing only for the last 12,000 years since the beginning of the Holocene epoch. According to well-founded theories, the taiga shapes the planet's climate as a whole. The Russian Taiga shapes the climate of the entire Eurasian continent! Only the Amazon rainforest has a similar significance for shaping the climate of an entire continent—South America.

A crucial characteristic of the taiga is that it is a northern forest. A frosty forest, where harsh winter frosts are a key factor shaping everything in this biome. Consequently, there are few warm summer days, and taiga species make incredibly efficient use of the warm summer time.

The growing season is most often defined by frost-free days. Data for North America indicates 80–120 frost-free days. In the boreal forest of the Arkhangelsk region, there are an average of 108 frost-free days. The longest growing season occurs in small areas with oceanic influences. In coastal areas of Scandinavia or Finland, the growing season can be up to 145–180 days.

Another feature shaping the boreal forests is the significant role of taiga fires.

The fact is, most boreal forests are less than 100 years old. Only in relatively few areas that have escaped burning can you find, for example, spruce forests older than 250 years. This shows that catastrophic natural fires have occurred in the taiga before. The taiga recovers. But the cycle of self-recovery is long—100 years or more.

And quite recently, in terms of the geological time scale of our planet, the impact of fires on the appearance of the taiga has been surpassed by the anthropogenic factor—mass industrial logging.

As for our country: after the collapse of the Soviet Union, vast areas of the Siberian taiga began to be logged. Previously, the taiga was protected by restrictions from the Soviet Ministry of Forestry.

Logging was conducted centrally, based on unified, scientifically grounded plans. But with the dissolution of the Soviet Union, those restrictions disappeared. Legislation was even changed to accommodate multinational companies.

Another global factor affecting the taiga is insect pests. They have started destroying the taiga on a scale comparable to both fires and logging, thanks to the disappearance of harsh winter frosts.

The number of days with extremely cold temperatures is systematically decreasing throughout the boreal region. This allows insects that damage trees to survive better. For example, in Alaska, the frost-free season increased from 60 to 90 days at the beginning of the 20th century, and then to about 120 days over the next century.

In recent years, there have been outbreaks of insect pests so severe that their impact rivals that of forest fires and massive, uncontrolled logging.

This is the current state of the boreal forests and their condition today.

Our Russian Taiga.

No embellishments, just reality.

What do we lose by losing the Russian Taiga? What, in fact, is the significance of the Russian Taiga for us?

THE SIGNIFICANCE OF BOREAL FORESTS (THE RUSSIAN TAIGA) — SHAPING THE CLIMATE OVER THE ENTIRE EURASIAN CONTINENT, AND MORE BROADLY, SHAPING THE CLIMATE OF THE ENTIRE PLANET EARTH.

Contemporary scientific understanding is that boreal forests have existed for about 12,000 years. They are directly linked to the climate.

Three global processes are leading to the destruction of the Russian Taiga. Moreover, all these processes reinforce each other.

1. Over the last 100–200 years of observations in the Northern Hemisphere, extremely severe winter frosts have disappeared, and the warm summer period has slightly increased.

Winter frosts no longer kill insect larvae. As a result, pest insects are destroying vast areas of the taiga, turning trees into deadwood. This, in turn, leads to an increase in the scale of fires.

A drier and longer summer than before also leads to the drying out of the taiga and an increase in the scale of fires.

2. The scale of logging has grown so much in the last 30 to 50 years that it has become comparable to the scale of fires. The areas left bare after logging dry out even faster, which triggers new fires. The vicious cycle of the destruction of the Russian Taiga is ultimately set in motion by human influence!

3. In recent years, fires in the Russian Taiga have reached sizes never seen before. In fact, extinguishing them has become impossible. People simply don't have the equipment capable of dealing with these fires. The most powerful firefighting aircraft are nothing more than a child's water pistol compared to the scale of the fires in recent years.

Insect pests, logging, and fires combine into an intensifying cycle of destruction of the Russian Taiga, growing year by year in geometric progression.

Can we do anything to break the cycle of self-destruction, taking us and the Russian Taiga with it?

At the very least, we can slow it down—yes, we can!

The public demand that has formed over several years has led to some changes. Unfortunately, these changes are small and only in the initial stages. We can only hope that these changes will continue. And we must not weaken our efforts—keep pushing the authorities and

society to preserve the Russian Taiga.

# Chapter 2. Stop the destruction, revive life

STOP THE DESTRUCTION NOW — TOMORROW WE REVIVE LIFE!

The mass destruction of the boreal forest belt in the Northern Hemisphere "on a new technological basis," so to speak, began about a century ago, around the mid-20th century. This process was simultaneous worldwide. It wasn't just happening in our country! It was linked to a certain stage in technological development. On one hand, new industrial methods for destroying the taiga emerged—machines and logging technologies that hadn't existed before. On the other hand, there was an exponentially growing demand for lumber. The rise in the "white man's" prosperity practically demanded a "genocide of trees" across the globe: in the USSR, post-war Europe, and America.

The 1950s and 1960s of the 20th century were not just the era of "man's leap into space," but more so the time of man's leap towards the "feeding trough."

Technologies for industrial, individual "kit homes" were developed for factory production followed by quick assembly. Strangely enough, such technologies existed in the USSR too. What are now called "Canadian houses" or "Finnish houses." This pertains to wooden construction. And in the panel "Khrushchyovkas," what were the floors, doors, and window frames made of? That's right, all from the same wood! And industrial furniture made from particle board (DSP), which suddenly everyone needed—also wood. And, and, and...

The creation of the "happy consumer" simply demanded it—and the mass "genocide of the taiga" occurred worldwide.

It was then that the Siberian cedar ceased to be the "bread tree" and was classified as "lumber," with the primary use of forest areas being "logging." This is the most vivid illustration.

The century-long genocide of the Russian Taiga has not been stopped even now. So far, only two things have been achieved, essentially:

First, we need to raise the issue of the importance of preserving the Russian Taiga to the public.

Second, we must draw the attention of government officials to illegal logging. Authorities are taking measures to account for and control the timber trade, aiming to make the market completely "above board" and collect all taxes. This isn't about preserving the Russian Taiga as a primary goal, but at least it partially moves in that direction. Striking at the "grasping claws" of the "black loggers" is certainly not unnecessary! However, it's not quite enough...

The forestry industry has been accelerating for a century and shows no desire to stop. "The economy must grow." "These are taxes for the regional budget and jobs." "Demand in the global market is increasing, and we must meet it." Familiar phrases? The media is full of them!

All these "green turns" are mostly PR, words, and distractions for the public suddenly concerned with "saving the planet." By the way, a kraft paper bag with the green label "ECOLOGY" is still part of the pulp and paper industry. It's the same Russian Taiga as raw material. The same "black hole" of the forestry complex, devouring and grinding the Living Russian Taiga with its steel jaws.

There is a way out. Preserving the Russian Taiga is possible. Inevitable, even! But this process is long. And we are not only witnessing the beginning of the decline of Technocratic civilization and its transition to a Biosphere civilization, but we are also striving to actively participate in this process!

Once again: this is an INEVITABLE process, in which you can and should participate with your efforts right now!

The industrial monster, clanking with rusty teeth, screams with saws out of impotence—it's dying. The blind machine is destroying itself. Not everyone understands this, but it's a classic "colossus with feet of clay"!

Let's illustrate this by going back a century. To the early to mid-20th century. Industrialization. "We will build our new world..." That was in our country. Back then, the state was called the USSR.

They built it! The brightest and most charismatic example is the Aral Sea, which no longer exists. The massive rivers Amu Darya and Syr Darya that fed it were simply drained by canals to irrigate cotton fields. On the salty crust of what was once a sea, the rusting remains of the Aral fishing fleet's ships still lie. Can you

imagine? They used to fish here on an industrial scale! And this wasn't millennia ago, in ancient times, but literally yesterday: 50 to 100 years, and the sea is gone!

And maybe someone will remember the project to divert Siberian rivers to those same cotton fields... Thankfully, that "didn't pan out"!

The cotton underwear of the "happy consumer," for which this was done, has long since rotted away. No one remembers the old cotton underwear now, and the vast ecosystem of Central Asia is irreversibly destroyed. The "new world" of technocratic delusion, where man is the master of nature, turned out to be short-lived...

A classic "colossus with feet of clay."

Now let's look at the economy of using the cedar of the Russian Taiga before the point when Siberian cedar became merely "timber." Not so long ago! You can still find grandfathers who remember it firsthand!

Back then, the economy around the cedar forests was much more complex. And its foundation was the sable.

The sable is a small predatory animal with a very expensive pelt. Since ancient times, sables have been hunted for their fur. What were princes and boyars supposed to wear? That's right, sable furs!

Speaking of the economy, the wealth of the Moscow principality, and later the centralizing Russian state, largely depended on the fur trade. It's like oil or gas today! And much of it was based on sable hunting. This continued in the Soviet state until the mid-20th century—fur played a significant role in foreign trade.

Until the 17th century, the sable was found in Finland. Until the 19th century—in Karelia, the Baltics, and Western Poland. By the 20th century, it survived only in the USSR, practically speaking! A monopoly on high-quality sable fur!

The total number of sable in our region in 1973 was about two hundred thousand. According to the 1961 estimate, it was 296,000. A one-third decrease in the population over 10 years. By the 1930s, the sable was almost completely exterminated within the Krasnoyarsk Krai. This includes the so-called "Barguzin sable" of the Baikal region, which had particularly valuable fur.

Around this time, large-scale commercial hunting of sable was halted. Efforts began, instead, to preserve the species in the wild. It was then that cedar forests, once hunting grounds for sable, were reclassified as exploitable forests and began to be mindlessly and ruthlessly destroyed.

In the wild, sable prefer the dark, cluttered taiga. They especially love cedar forests. Although sable are predators, they also eat cedar nuts. They are the only animal species for whom cedar nuts are a vital part of their diet. Soviet officials decided that if the state could no longer profit from killing sables, then the cedars were no longer needed either. They could be mercilessly cut down as well.

Yet another sad story, of course.

But this is a telling example that the economy of the Siberian cedar doesn't necessarily have to be built on the destruction of the cedar itself. And it was like this just 50 years ago, until the sable population was decimated—initially, the cedar forests were used as hunting grounds!

And this is a telling example that a technocratic so-called “economy” is a self-destructive “colossus on clay feet”!

This is a SIMPLIFIED ONE-DIRECTIONAL SYSTEM.

Got money from sable? We kill the poor creature!

Wiped out all the sables? We devour whatever's next in profitability!

A COMPLEX SYSTEM IS NOT BEING BUILT.

STRATEGIC TASKS ARE NOT BEING SET AT ALL.

A mindless monster blindly devours everything until it completely destroys it. And then it rots and rusts on the lifeless wasteland it created.

In case anyone's unaware, large enterprises in the forestry industry are already facing a shortage of raw materials. So many factories of such capacity have been built that even the trees in the Russian Taiga can't sustain them! Meanwhile, new mega-projects continue to be built or planned...

New “turns of Siberian rivers”...

New Aral Seas for slaughter...

Greedy businessmen are focused on money, money, and more money right now. The corporation's board of directors demands it!

A government official, for a small bribe, is ready to help them with this. And simultaneously solving the tasks of higher officials to fill the treasury with taxes.

But this is done on the old technocratic foundation. These are outdated models of action. The world has become more complex. The sum of human knowledge and experience has increased. Not everyone understands this yet. Scientists and researchers are the

first to grasp it. Generally, those with broader horizons of knowledge and understanding of the world. But this is the INEVITABLE future! Including the transition from primitive techno-economic models to COMPLEX economic systems.

Biological systems are COMPLEX systems.

And the social development of society is moving towards the COMPLEXITY of organization.

Our task now is to preserve the last undisturbed areas of the Russian Taiga. We will need them very soon! We will soon be lacking Siberian cedar seeds because we will soon need to plant cedars on millions of hectares!

This is an INEVITABLE process, including the COMPLEXITY of NATURE UTILIZATION. The creation and design of biocenoses.

The creation and design of Living Systems.

Such “forest garden” projects are already emerging. Tomorrow they will be especially important as successful models that need to be scaled to larger areas.

With the cedar, the “bread tree,” at the center of the DESIGNED ecological system.

A COMPLEX SYSTEM of Biosphere civilization, instead of the SIMPLE SYSTEM of the Technocratic pseudo-civilization of the “Rusty Age” of the past.

# Chapter 3. The northern forest

The Russian Taiga also holds significance as a temple of life that shapes human worldview. Perhaps its philosophical importance is even greater—it allows us to remain human and recognize ourselves as part of humanity.

Imagine that the forests on Earth are the lungs of the planet. One lung is here in Russia—these are the northern boreal forests. The other lung is the tropical forests of South America. Unfortunately, it was the southern forests that people destroyed first. In Russia, it was previously difficult to do so due to the sparse population of northern Russia, the harsh conditions for logging, and the vast expanses of undeveloped land. But the great Amazon forests, the mighty southern expanses of climate-protecting forests, have always been easy for people to destroy. From the moment European colonizers arrived, the violence against wild nature began, and the total deforestation for immediate profit.

And they almost destroyed the southern tropical forests, reduced them to a catastrophe, and continue to destroy them completely right now. It turns out that one of Earth's lungs is practically non-functional. But our northern forests are still capable of protecting terrestrial ecosystems; they still regulate the climate and manage hydrological cycles.

The northern forests of Russia are the boreal forest. 'Boreas' is the north wind, which appears in fairy tales and legends.

And this is also the Russian Taiga—different terms, but we're talking about the same thing! Russian Taiga is also the name of my project, which for many years has united caring people from all corners of Russia. Different peoples, but united by a common Russian language! We speak one language, understand each other, and therefore the Russian Taiga is united by peoples speaking one language.

And we will keep saying it, repeating it many, many times, because:

The boreal belt of the Russian Taiga shapes the climate over the entire Eurasian continent.

Naturally, it also affects the climate of planet Earth as a whole—given such a scale of impact!

Attention, a fundamental contradiction: not only officials but also the general public continue to live under the dangerous delusion that the forest is nothing more than a source of lumber. Well, barbecues on holidays... uh... what else?!

Such childish ignorance would be funny if it weren't so sad—the Russian Taiga continues to be destroyed!

Progress? Technology? 'We will build our new world'?!

For now—we're only destroying the existing world at an accelerating pace.

For now—we're 'sawing off the branch we're sitting on,' routinely and deliberately.

People in cities are so isolated from the real world that their connection to reality is a little more than completely lost. There's no understanding of the connection between basic causes and effects. There's no basic understanding that we and our cities are still part of the surrounding world. What is a city? A super-parasitic structure, essentially, consuming matter and energy from the surrounding world tens of thousands of times faster. Producing waste at tens of thousands of times the speed. And where does the air for breathing and burning fuel come from? And the drinking and technical water, where does it come from? And the

wooden facades of your kitchen, 'so cute,' made of natural cedar, where did they come from?

Simple questions that the average person can't even ask themselves!

And against this backdrop, with an already almost complete detachment from reality—information technology is everything to us. All the resources of states are only for the development of information technologies. Gaming worlds, the construction of virtual meta-universes, expanding technologies for surveillance and control over citizens, augmented reality—all this just finally takes a person beyond the bounds of reality.

The only one.

The real one.

The natural one.

Or divine—whichever you prefer.

But the only true reality, where there is still air, water, and sunlight!

'Hello, garage,' will you be eating meta-burgers in the meta-universe instead of those ersatz products you're already eating instead of real food?!

We probably can't even talk to those who have fallen deeper from the illusion of 'man as the king of nature' into the illusion of 'man creating a meta-universe.' Some connection to reality must be preserved!

And when you stand in the Russian Taiga, you realize—not even lessons in natural science or basic ecological knowledge in schools will help.

Practical experience is needed!

A living connection with the living world is needed!

What to do and how to be?

The Russian Taiga communities on the internet have been around for many years. Do you know how many of us there are, what our audience is like? Yeah, it's practically nothing! The audience of an average nail art page is ten times bigger! There are so few of us who stay connected to the real world—dwindling numbers! Just percentages, if not fractions of a percent, of the total number of people!

'Can one be a sensible person and think about the beauty of nails'?

Probably yes... or maybe not?!

You know, the most limited resource we have is time.

Yes, we've come close to lacking clean air or clean water. For now—it's a local shortage. For now—just leaving the city allows you to breathe clean air and drink fresh spring water. And note, in Russia, this is more or less an 'available option'! From 39-million Tokyo or 35-million Jakarta, it's a long way to go for clean air! In our country (for now!) the largest Moscow agglomeration ranks only 15th in the world by population—17 million 125 thousand people. The rest are smaller! And the expanses of the Russian Taiga (still!) allow for a place to go for clean air!

But time is irreplaceable for everyone!

Work in the city with a good salary but poor ecology until retirement, then buy a house in the village? Okay! Just subtract five years of life as payment for a high salary in the city! And retire with ruined health, on pills...

It might be unpleasant to hear: 'Ugh, what nasty things'!

You can turn your face away, touch up your nails. Watch a movie. Play a computer game.

But these are the thoughts that come to mind when you have a living connection with the living Russian Taiga.

And yes, this is not a departure from the topic of preserving the Russian Taiga—this is the very meaning of preserving the Russian Taiga!

By preserving the Russian Taiga, we preserve ourselves. We preserve the truly cosmic horizons of our humanity. We maintain the balance of this world for our children and grandchildren.

It's one thing to read that the area of cedar forests has decreased by 7% over 30 years in a remote region with the beautiful name of Altai Mountains.

It's another to look at the 'bald hills' with small birch and aspen groves in the ravines and compare them with a photograph of the same place shown by a local historian. A black-and-white photo from the 60s. But the cedars are recognizable by their outlines. There was a sea of taiga! That place, for sure, that one! The outlines of the surrounding mountains are more than recognizable!

Just like that...

The Russian Taiga, the boreal belt of northern forests—it's also about our self-definition as people.

Awareness of oneself as a human being in general.

Awareness of the starry sky above the giant cedars.

Awareness of the cosmic scale of even the smallest personal actions.

Awareness of one's own choices.

The boreal belt of the Russian Taiga shapes the climate over the entire Eurasian continent.

Naturally, it also affects the climate of planet Earth as a whole—given such a scale of impact!

That's right. Everything is correct and true from a practical value standpoint. It's not just about lumber! Even if you crudely calculate it in terms of money, the same cedar forest yields profits from cedar nuts that are dozens of times greater than from timber. The problem with logging is that the profit from cutting timber is here and now. But the profit from cedar nuts is "spread out" over decades.

# Chapter 4. Disasters of South America

In the "era of hamburgers," the vast majority of all tropical forests in South America were destroyed, and the destruction continues to this day. If we don't protect the ancient forests of Russia, we face the fate of the South American continent.

On the other side of the world, in Latin America, ecosystems are degrading faster than anywhere else. Floods, abnormal heat, and the longest drought in history! The devastating effects of climate change will worsen, as reported in 2022 by specialists from the World Meteorological Organization.

The main reason is the total destruction of forests, which regulated the climate and formed the backbone of all terrestrial ecosystems. Moreover, the forests that have been destroyed in South America in recent years were crucial to the climate of the entire planet.

The longest mountain range on Earth, stretching 9,000 km, the Andes, covered with tropical forests, has also suffered from deforestation. Large companies and logging operations, in conjunction with national governments, actively destroyed these ancient climate-protecting forests. As a result, this accelerated the melting of glaciers in the Andes, which by 2022 had already lost over 30% of their area and continue to melt. The glaciers provide fresh water to many regions and sustain local ecological systems!

At the same time, sea levels are rising, and the increase is higher than the global average. Some regions are experiencing severe droughts, while others face devastating floods. In Central Chile, a "mega-drought" has been ongoing for 13 consecutive years. It's the longest drought in recorded history! Scientists say that nearly all the disasters in Latin America are due to deforestation, which has been increasing annually since 2009 and is a severe blow to the environment. If the forests weren't being destroyed, the biotic regulation provided by ancient forests could have mitigated the effects of climate change.

But the truth is that in Latin American countries, ancient forests have been practically wiped out, and along with them, all terrestrial ecosystems have been completely

destroyed. Just think about it: since 1950, two-thirds of all forests have been destroyed solely to clear land for pastures. This period is called the "hamburger era." Major U.S. monopolies operating globally used "third world" countries for commercialization. Thus, the "developed civilized world" essentially destroyed all the forests on the continent! Just stupidly for profit. Cattle were raised on harsh chemicals and hormonal drugs, an ideal scheme for quickly producing meat, which was then made into patties and supplied worldwide.

In Guatemala alone, 98% of all primary forests have been destroyed. The same trend is seen across all Latin American countries. There are very, very few forests left on the continent! Yet, the lifestyle of the local population still depends on logging. And the destruction of the last tropical forests is happening right now.

As we know, forests help absorb and store carbon dioxide, which heats the planet. But when forests are destroyed, carbon emissions increase, provoking and accelerating global climate change! We must also remember that ancient tropical forests, like our boreal Russian Taiga, regulate the climate and direct moisture into the continents. This is biotic climate regulation!

Cut down the forests, and you get droughts, abnormal heat, and the death of all terrestrial ecosystems. Due to deforestation in Central America, over 140 animal species, which were part of a single food chain, have become completely extinct forever. Other animals are rapidly dying, with their numbers decreasing each year, as people "knock out" various species from ecosystems one by one.

Understanding this, fully aware of what's happening, people can't stop! Deforestation in the Brazilian Amazon has doubled compared to the average from 2009 to 2018, and in 2021, 22% more forest area was destroyed than the previous year.

The Amazon forests provided oxygen production and carbon capture, which were of immense importance to the entire world.

In the wake of devastating cataclysms and complete ecological degradation, millions of people in many South American countries were plunged into extreme poverty and hunger due to the aftermath of the COVID-19 pandemic. And in 2022, because of abnormal heat and catastrophic climate disasters, the continent will be engulfed by a global food catastrophe. There will be no food! At all. And no one will come to help.

"Rising sea levels and ocean warming are expected to continue impacting livelihoods in coastal areas, tourism, health, food, energy, and water security, especially on small islands and in Central American countries... And for many Andean cities, glacier melt means the loss of a significant source of fresh water... for domestic use, irrigation, and hydroelectric power," says Petteri Taalas, Secretary-General of the World Meteorological Organization.

"Food and water supplies will be disrupted. Large and small cities and the infrastructure needed to support them will be increasingly at risk," experts say.

Scientists are adding fuel to the fire: this is just the beginning, the atmosphere and ocean continue to change rapidly, and the pace is increasing! If people had preserved the ancient tropical forests, they might have survived. The fact is, a healthy forest is a single living organism that functions, breathes, develops, and protects itself from natural anomalies. The forest organism can create a microclimate above itself, shielding itself from wildfires, diseases, and climate change.

Ancient forests, living for hundreds of years, encounter various cataclysms and remember them, learning to withstand disasters. But in South America, the forests have been destroyed, ecosystems killed, and businesses under the protection of the authorities are right now continuing to reach the most remote areas of the last ancient forests. And they are cutting them down to the ground!

They made patties for American fast food... now nature is killed, ecosystems destroyed, climate regulation disrupted! Experts are openly talking about impending hunger and lack of water, leading many to predict millions of casualties in South American countries alone.

If we don't preserve the ancient northern forests in Russia, we'll face the fate of South America, where right now business is devouring the last refuge areas of wildlife, from which ecosystem self-restoration would have been possible in the future.

# Chapter 5. Over 11 million hectares of climate-protecting forests lost in one year

Every year, millions of hectares of forests vanish from the face of the Earth. People are completely destroying the living environment, not realizing that our own lives depend on the existence of ancient forests.

Why am I now actively engaged in protecting specifically ancient climate-protecting forests? The situation is truly on the brink. The last patches of critically important primary forests are rapidly being destroyed due to human actions. We are losing forests that regulate the climate! We are irreversibly destroying millennia-old biocenoses, and there will be no turning back. The point of no return was crossed long ago, but there is still a last chance to preserve the wild.

Recently, statistical data was published according to a study by scientists from the World Resources Institute. The experts did an enormous amount of work, and the results are shocking: in 2021 alone, the Earth lost over

11 million hectares of climate-protecting tropical forests.

I want to immediately draw my readers' attention to the importance of this issue: it wasn't just trees that were destroyed, but millions of hectares of untouched forests that regulate the climate.

From the Amazon in Brazil to the Congo Basin, tropical forests lost 11.1 million hectares of tree cover in 2021! Of these, nearly 4 million were primary forests, meaning these are the ancient climate-protecting forests that are almost gone from the Earth. These are the forests whose destruction would completely annihilate all the world's forest ecosystems.

These are the very forests we are now standing against destroying. Scientists are already sounding the alarm, pointing to the rapid loss of biodiversity and critical rates of global warming. Ancient primary forests pass on genetic and physiological heritage to all other forests. Destroying them will inevitably lead to the demise of humanity and all life on Earth.

11.1 million hectares of tropical forests were lost in 2021 alone! Last year, millions of hectares of the Russian Taiga burned as well. For the first time in recorded history, smoke from forest fires reached the

North Pole! According to official data, fires devastated over 14 million hectares of forests in Russia in one year. And this year, there's a risk that fires will break more records. Fire is already "devouring" the wild due to human actions. 99% of all forest fires are man-made!

Of the primary ancient forests destroyed in the tropics, 40% disappeared forever in Brazil! The remaining forests were destroyed in the Democratic Republic of the Congo, Bolivia, Indonesia, and Peru.

"When you look at the unchanging statistics year after year, you might conclude they don't really offer a compelling headline. But when it comes to the loss of primary tropical forests, the persistently high rates are tied to climate, the extinction crisis, and the fate of many indigenous peoples. The high rates of loss continue despite promises from countries and companies," says Rod Taylor, director of the Forest Program at the World Resources Institute (WRI), which compiled the report on the disappearance of ancient forests.

Figures were only announced for forest loss due to fires in 2021. And these numbers are horrifying, staggering in their scale. But besides fires, forests face other problems: land clearing for agriculture, general

degradation of secondary forests, and massive logging. At this rate, we will soon lose the last ancient forests and will never be able to stop the rapid degradation and extinction of Mother Earth's unified biogeocenosis.

"If we continue to degrade the world's greatest forests, from the Amazon to the Congo Basin, the consequences for millions of people will be dire. We are destroying complex natural systems on which we all depend, and this, in turn, makes it impossible to achieve any of our shared global goals—from peace to prosperity," says the UK Environment Minister Goldsmith.

Senior Fellow at the World Resources Institute Frances Seymour comments on the catastrophe: "We have 20 years of data showing the consistent annual loss of millions of hectares of primary tropical forests alone. But we are running out of fingers to count how many years we have left to bring this number to zero. We already knew that such losses are a disaster for the climate. It's a disaster for biodiversity. It's a disaster for indigenous peoples and local communities. We must drastically reduce emissions from all sources. No one should think about planting trees instead of reducing fossil fuel emissions. It has to be both, and it has to be now, before it's too late."

# Chapter 6. Ancient forests cool the planet

The importance of ancient forests is diligently ignored by governments worldwide because they haven't yet figured out how to monetize this issue, how to make money from promoting the need to ban the logging of ancient forests! They've already found a way to use the carbon footprint, but protecting ancient forests? Not yet.

Many people believe that the sole function of ancient forests is to absorb carbon dioxide. Bureaucratic officials also have no idea about the real significance of ancient forests on Earth! Nor do they want to understand, as it doesn't help them make money. Of course not.

The climate-protective functions of ancient forests are ignored. Authorities turn a blind eye to hundreds of international studies by scientists who have been researching the impact of old-growth forests on climate regulation for years! One such study was conducted by scientists at Ohio State University a few years ago. The

experts were able to prove that forests play a crucial role in keeping the planet cool!

Researchers created a model that helped combine meteorological data with satellite data and other Earth observation systems. They managed to discover significant differences in surface heat exchange in forested areas compared to areas with pastures and agricultural lands. Thus, scientists were able to assess the change in surface temperature when transitioning from one type of vegetation to another and study the mechanisms that lead to these changes!

Before this study, scientists worldwide had an incomplete picture of how local ecosystems affect the climate at a local level. Now, with the model created by Ohio State University specialists, they have proven that forests play a vital role in cooling the surface in almost all regions of the Earth! Trees influence the climate by regulating the exchange of water and energy between the Earth's surface and the atmosphere.

In their study, the specialists found that forests often contribute to annual cooling in temperate and tropical regions and warming in high-latitude areas of the world! They also proved that the mechanisms responsible for regulating surface temperature, such as the transfer of

water and heat from land to the atmosphere through convection and evapotranspiration, are much more important than previously thought.

I suppose the bureaucrats in power, calculating profits, haven't even come close to hearing about this!

> "In a world facing increasing competition for land resources for food production and livestock, sensible forest protection policies will be especially important in our efforts to mitigate the effects of climate change, particularly local warming," says lead author Ryan Bright from the Norwegian Institute of Bioeconomy Research. "Our study can help identify regions where measures to protect forests, restore forests, or policies promoting the creation of new forests should begin or be intensified."

Why, with all the scientific research, studies, and work by world-renowned scientists over the past decades, do governments around the world view trees only as carbon stocks and absorbers? Why is the connection between trees and water in climate change ignored?

Simple things, elementary, that, in my opinion, should be known by EVERYONE IN HIGH POSITIONS IN WILDLIFE MANAGEMENT IN POWER. Ancient forests play a crucial role in the water cycle and temperature

reduction, contributing not only to the protection of all terrestrial ecosystems but also ensuring food security, especially in the world of humans. Ancient forests also mitigate the effects of climate change on Earth! This means fewer disasters, fewer climate anomalies, fewer floods, and droughts.

The direct impact of ancient forests on climate through precipitation and cooling is more significant than the topic of carbon release and absorption. By the way, the "carbon issue" is currently being exploited worldwide solely to profit from nothing. Again, monetary interests, who and where to tax for the "carbon footprint."

Carbon absorption is merely an accompanying benefit of the recirculation of precipitation and the cooling capacity of trees! Ancient forests redistribute and manage water in ecological systems while simultaneously cooling the planet's surface. The direct significance of forests for the protection and intensification of hydrological cycles related to cooling and the distribution of atmospheric moisture with leeward areas is PROVEN BY SCIENTIFIC RESEARCH!

To understand these processes, it's necessary to combine sciences such as biology, chemistry, geology, hydrology, climatology, and even social sciences. Only by combining knowledge can people today understand

the complexities of biological systems!

# Chapter 7. The ancient forest — the living breath of the planet

Do you realize that soon we'll only be able to see truly ancient forests in photographs?! There are practically no living examples left. All that's left are photos of loggers standing in front of the massive trunk of a thousand-year-old sequoia.

The official area of forests on Earth is about 38 million square kilometers. Of these, according to official statistics, around 7% are forests planted by humans.

When evaluating the forest areas that existed a century or two ago, scientists conclude that by the beginning of the 21st century, humans have destroyed half of the forests.

50% of the world's forested areas have been 'developed' by people, turned into tree-free spaces. They've been logged, burned, converted into pastures or croplands. And agricultural lands continue to degrade, turning into barren patches. In some places, they've already become deserts. There will be no more forests there. Even if you

wanted to, you couldn't grow anything on completely depleted lands! Even on clear-cut areas, it takes at least 150 to 500 years for a forest to recover to a more or less viable state as a complete ecosystem!

Our country ranks first in the world for forested areas. More than 800 million hectares make up Russia's 'green sea of taiga.'

According to statistics, the Russian Taiga is only growing and expanding.

According to international statistics, only 7% of forests are planted by humans. The remaining 93% are 'wild,' 'real' natural forests, right?!

But this international statistic doesn't match the actual situation at all!

Loggers are complaining that they have to conduct second and third passes and are eager to get into the last untouched areas where no logging has occurred.

There's really no secret why the statistics don't match what you see with your own eyes in the Russian Taiga. They log — record it in documents as 'measures to promote natural forest regeneration' — and the forest remains in the country's forest fund under the category of 'forest.' But the fact that it's just birch and aspen on clear-cuts is visible to the eye, yet completely irrelevant

to the 'impartial international statistics' documents!

And this very 'impartial statistics' allows for simply demanding increased logging quotas. 'Look,' say the multinational forestry holdings, 'we keep logging and logging, and yet the forests only seem to grow! Give us more and more areas to log!' And government authorities, considering the statistical data, accommodate the business...

But a completely separate and crucial question is the qualitative state of the Earth's forest fund.

How many 'wild' forests do we have left on the planet? And have they survived at all?

A brief explanation of what we're talking about.

A virgin forest (or primeval, primary, primitive — different terms are used) is a forest untouched by human activity.

What is the special significance of virgin forests that have not yet been touched by the industrious hands of humans?

Due to its untouched nature by humans, the primeval forest maintains a higher diversity of both plants and animals, including species that are found nowhere else.

But the main thing is the unique ecological characteristics of the biosystem of such a relic forest as a whole!

In scientific ecology, this is described by the term "climax community." This term is used for a community that, through the process of ecological adaptation in the development of the forest over time, has reached an effectively 100% stable state. It is believed that such equilibrium is achieved because the community consists of species most adapted to the average conditions in this area over millennia!

Note: we're not just talking about trees, but about the entire biocenosis. Right down to the last single-celled microorganism! Truly a forest-organism exhibiting exceptional properties!

The idea of the ancient forest as a single organism, formed in a specific regional climate, was conceived by Frederic Clements in the early 1900s. The first analysis of this type of biome was described by Henry Cowles as far back as 1899!

Today, there is also the philosophical concept of Gaia, which views the entire Earth as a single conscious organism.

There is also Vernadsky's concept of the Biosphere.

And in just the last few years, the theory of the biotic pump has been added to this, showing that ancient forests don't just adapt to the local climate—they create the climate they need! It's truly fantastic: century-old assumptions are now being confirmed in practice! The ancient virgin forest is a single living organism, creating its own conditions for life!

The largest primeval forest in Europe is considered to be the virgin forests of Komi, located within our country. Their area is about 32,000 square kilometers. Overall, according to UN estimates, primary forests make up 36% of all forests on the planet. Given the "objectivity" of international statistics, the question remains—how truly "virgin" are these forests?! In the Komi Republic, for instance, there is no information about trees that are several millennia old.

We're facing a situation of acute contradiction:

— on one hand, there is compelling scientific evidence that ancient forests are not just unique biogeocenoses, but they also directly regulate the climate over entire continents. There's even a well-founded hypothesis that these forests possess some form of intelligence that we do not yet understand.

— on the other hand, governments, in cahoots with transnational capital, simply ignore this data in their pursuit of profit, chasing gains for a small group of individuals. This puts the climate of entire regions at risk, and consequently, the global agriculture and future of billions of people.

Even the UN is an intergovernmental-corporate institution. A bureaucratic setup no different from a minor bureaucrat in a remote region, except the financial interests are not in millions of rubles but in trillions of dollars.

The media hype around real environmental issues ends with suggestions for the public to buy eco-friendly bags at supermarkets and other "psychotherapy for the poor." Real scientific theories are not covered. Ancient relic forests, whether in the tropical jungle or the boreal belt of the taiga, continue to be cut down.

The only option left is to create some international public projects capable of drawing the attention of billions of Earth’s inhabitants to the real problems.

That's what I think. What do you think?

Apparently, without billions of people recognizing themselves as Earthlings, nothing will get done!

# Chapter 8. Artificial substitute for life

When questions that should be asked by millions are only asked by a rare few, that's when the degradation of not just the wilderness, but our entire society, occurs.

For centuries, and even millennia, the living system of the forest has been forming!

What is a forest, really? You don't think it's just trees, do you?! That's only what the 'oversight and control bodies' believe! The authorities or greedy merchants see nothing but tree trunks. Yank a trunk out of the taiga by any means—case closed, count your profits!

I constantly write about this utter stupidity: 80% of the forest's living system goes unnoticed! It's exactly like ripping bones out of a living body for some purpose and just discarding the rest! In essence, it's not even an analogy; that's exactly what it is!

The living body of the forest. The living organism of the Russian Taiga. And the tree trunks stand like bones. Like a skeleton. Only the visible part! The 'responsible

and competent' keep pouring lies into our ears: 'It's economically justified. It's not economically justified.' It's an outrageous level of deception!

This isn't economics at all, but sheer stupidity! The very approach itself is beyond anything reasonable!

Simple assessments at an elementary school level: they take the trunk. The bark with part of the trunk—at best for firewood. Slabs, non-commercial wood. Leaves and branches are discarded. Roots are discarded. And the rest is completely ignored: neither the mycelium in the soil, nor the soil bacteria, nor the insects, nor the birds, nor the animals, nor the lower layers of the forest made up of shrubs and grasses.

This is "economics"?! It's a psychiatric ward, not economics!

I won't go into detail about how and why this happens. In short: it's a systemic problem. The issue lies in the very structure of society as a whole, where personal enrichment is prioritized. Where 1% of the population owns everything, and 99% can't do anything about such redistribution. And most don't want to. Or don't understand what's happening!

Environmental issues have now become the number one topic in the media. "Green shift." "Green energy." "Eco-friendly lifestyle and reduced consumption." I'm personally involved in the subject of environmental protection. And I read everything with the utmost attention! All UN documents, all international agreements, all major media materials.

And you know, I'm just horrified! Such an extreme level of deceit in history has probably never existed before!

People are encouraged to "be responsible" and "give up excessive consumption." Give up beef because cows emit too much carbon dioxide. And apparently all dairy too: no cows, no dairy! Go to the store only with a reusable bag instead of plastic ones. Sort your trash. Stay home and don't travel anywhere. Give up personal cars and private homes and apartments. And so on and so forth.

But! It's completely obvious and right on the surface: if one average wealthy person gives up their "excessive consumption," it would be about the same as if an average city gave up milk for kids in favor of eating trash from biofactories!

That's just how the world is set up: once a year, a few dozen families fly off on a plane for a vacation in Turkey. There and back once a year. And not everyone does

this—most people just sunbathe at their country house! And, you understand, this applies to residents of our relatively wealthy country! There are plenty of places in the world where life is even more modest: hut—sweet potato—starvation—cemetery.

And on the same size plane, one family of the "masters of this world" flies around once a week: to Switzerland for skiing, to the Canaries for sunbathing, or to Paris for shopping.

Off to another UN climate summit. To decide how we, the common folk, should cut back on consumption and thereby "save the planet"! You can choose not to think about such global issues. The "ostrich policy" is quite common! Stick your head in the sand, ignore the frightening prospects—and you won't see any problems. But the "ostriches" end up with their bare butts exposed!

We still have time: events are unfolding quickly, but not instantly! Our society defends itself passively due to its size: it's vast and inert.

The Russian Taiga defends itself passively because of its size: new trees grow where others have been cut down. Mother Earth, in essence, is defending herself against ecocide! And if we want to live, if we want our children

to live, the first thing we need to do is:

Try to understand the real problems of the real world!

During the world wars, people were fed ersatz products. Imitations made from all sorts of junk instead of real food. Ersatz coffee. Margarine. Saccharin.

Now the situation is such that we're being pushed into an ersatz life instead of a real one!

Yes, and ersatz products are back again too! This time, the motivation isn't "wartime hunger" but "the need to save the planet." Hunger, for clarity, might be organized simply by cutting off food supply chains.

But it's much more dangerous! They're trying to sell us on metaverses and gaming worlds. They're pushing augmented reality glasses on us, forcing us to view the world through them. The plot, by the way, is old! "The Wizard of the Emerald City." The VR glasses of the "wizard" Goodwin, making the city "emerald." Nothing new, right?! Outrageous, brazen lies just to hold onto power—that's all there is to it!

If you pull your head out of the sand, it's clear they're preparing a "final optimization" for us along with the Russian Taiga!

To the tune of shamanic "songs with drums" in international organizations about the "green shift," "triumph of technology," and "artificial intelligence," natural ecosystems are being destroyed at only accelerating rates!

And we are being destroyed along with them...

We're already suffocating in the polluted air of cities. We've long been poisoned by ersatz products instead of real food. And most people don't even notice! They were born into these conditions, their parents lived in these conditions. They consider this state natural simply because they've never seen anything else.

If you personally allow yourself to switch your attention to an ersatz world, it will be your personal act of suicide. You can boldly consider it a form of suicide! A slow and peculiar suicide. Something like a drug addict's suicide, only through technical means. When a drug addict, in moments of clarity, fully understands they're killing themselves but continues to chase the next "fix."

But switching to an ersatz world is indeed suicide! And yes, it's not just your personal suicide, but also the destruction of your children and your lineage.

"Childfree"—free from children. Discussions about how "our world is a computer simulation." "Esports" instead of sports. The metaverse instead of walks in the park. VR glasses of augmented reality from "the wizard Goodwin," making your gray, polluted little town into the Emerald City.

Most people already genuinely believe this is stylish, trendy, modern. The overwhelming majority are already adherents of this new techno-religion.

I don't think the future is so clearly in the hands of the techno-god of artificial intelligence! It's more like the "wizard Goodwins," rushing for unlimited power over cities!

It's more like a safety valve for the evolution of the real world—a crowd of lemmings rushing off a cliff into the sea. A swarm of locusts devouring everything in its path and perishing itself. That's how it looks...

Go to the forest or at least to a park. Feed the birds.

This is a connection to the real world.

It's a way to maintain personal contact with the real world. This is important primarily for yourself. It's not just a way to participate in the life of the forest, in preserving ecosystems! It's a way to build immunity against mental and spiritual contagion. The pandemic of

replacing the real world with an illusory one is more dangerous than any viral or bacterial epidemics!

A walk in the forest, by the way, also boosts immunity to any physical ailments!

# Chapter 9. Regulation of the local climate by the taiga

There's a rule in Russian law: "Ignorance of the law does not exempt from responsibility." Isn't it time to apply this principle to the protection of wildlife? We're committing ecocide on a planetary scale, a crime against Life. And ignorance of the laws of nature does not exempt us from responsibility.

The Russian Taiga is a vast expanse of northern boreal ecosystems. It's the largest biome in our country.

In fact, at least two-thirds of such northern forest ecosystems are located here!

And the fact that the taiga regulates the climate over the entire Eurasian continent is of colossal importance to us!

What is currently the focus of environmental scientists' research worldwide?

Basically, just the "carbon footprint." Who captures or stores how much carbon. Who emits how much carbon. As if there are no other issues! But that's just the

surface. It's important to understand that the "carbon" topic is funded. Such research is not only promoted but also hyped in the media. It's a political issue! Global warming, a real problem needing study, has been turned into a political lever.

As usual, transnational corporations turn everything into a means of enrichment for themselves. It's sad to see, but it's true! Instead of real solutions needed by all humanity, topics about who will impose what "carbon tax" on whom are pushed. Energy markets are being restructured. And environmental issues are nothing more than a pretext here.

So, if we look deeper than the hyped-up surface of the so-called scientific mainstream, we'll find much more interesting things!

What does science know about the taiga's influence on the climate? Since the 19th century, there have been water protection zones along rivers where logging is prohibited. More than that! Such measures to protect rivers are known from even more distant times!

It's all clear here. Verified. Known precisely, quantitatively: logging on the banks causes huge problems. Water doesn't stay, banks erode, gullies form, and massive soil erosion occurs.

But there have long been suggestions that the taiga's role as a climate-regulating factor might be even more significant.

I've often talked about the biotic pump theory by Russian scientists, which has been increasingly confirmed in recent years. The essence is that large masses of trees regulate evaporation from the earth's surface. This means they also regulate the temperature in the surface layer of the atmosphere and cloud formation. And only mature ecosystems work in this capacity! That is, the Russian Taiga, allowed to grow "mature," not planted forests or regrowth after logging.

An objective, fact-supported theory shows that by cutting down the Russian Taiga, we're not just destroying a single biocenosis, but disrupting the stable climate over the ENTIRE continent! "Cleared" the firs in the Russian North — got droughts and crop failures in the Russian South!

And more evidence of the Russian Taiga's subtle yet significant influence on the climate is being found.

You wouldn't believe how delicate these interactions are, yet they have a global impact! It's truly fantastic!

First of all, it's important to clarify the following: all such research has emerged literally in the last few years. In the 20th century, there wasn't a network of satellites collecting data from the entire Earth's surface. We need measurements of surface and air temperature, humidity, wind patterns, cloud cover, the reflective capacity of clouds, and much more. All this data is required over vast areas. And to draw any conclusions, all the data needs to be dynamic, gathered over many years of observation.

The second technical problem was processing such enormous datasets. The computational power of computers 10–20 years ago didn't allow for this.

And now, these two technical capabilities have emerged: long-term satellite observations and the ability to process data on supercomputers.

Now, let's look at specific examples of fascinating scientific work.

A recent study published in "Nature Communications" in March 2022 is the first quantitative assessment of the impact of regional taiga forests on cloud formation worldwide.

A 17-year dataset from two different satellites was analyzed. It was found that the presence of forests leads to a greater number of clouds in temperate and boreal regions.

This occurs on both large subcontinental scales and smaller regional scales. Warming is observed over forests in boreal regions, including much of Europe. This provides a mechanism for increased evaporation and air uplift, leading to cloud formation.

In 2021, "Nature Communications" published material using global data on cloud and land cover obtained through the "ESA’s Climate Change Initiative."

"Earth observations increasingly show that trees and forests affect the climate by influencing the biophysical properties of the surface," stated one of the study's co-authors, Alessandro Cescatti.

The article provided quantitative estimates showing that cloud cover increased by as much as 15% in forested areas during the summer. Meanwhile, during the boreal winter and spring in North America, Russia, and Eastern Europe, when trees lie dormant under a blanket of snow, there is a reduction in cloud cover over forests compared to open land.

In other words, the amount of cloud cover directly depends on whether there are trees on the ground or not. If everything is cut down, there will be 15% fewer clouds and rain.

Even more intriguing are the research results released by the University of Helsinki earlier this year: aerosol particles formed in boreal forests affect clouds in the troposphere!

Now that's truly an unexpected result! Can you imagine how delicate this connection is?!

The study shows that through the formation and evaporation of aerosols, forests can mitigate climate change and have both regional and continental impacts. Here's the thing: boreal forests emit gaseous compounds that form aerosol particles. That magical scent of the Russian Taiga! The smell of pine resin evaporating from needles and tree trunks. As these aerosol particles rise, they have the ability to influence the properties of clouds! For example, by increasing their reflectivity.

Observations were conducted over air masses from the Arctic Ocean, as maritime air transformed into continental air and became infused with the "scent of the taiga" over boreal forests.

A noticeable increase in aerosol concentration in the lower boundary layer was observed one to three days after clean maritime air arrived in the boreal zone and moved through it. It was found that the increase in concentration aligns with the number of new aerosols forming and being released in boreal forests. Along with water evaporating from soil and plants, these particles alter the reflectivity of clouds in the lower boundary layer of the atmosphere.

The results show that the emissions of gaseous compounds from boreal forests, as well as the interaction between aerosols and clouds, are interdependent processes. These processes occur over several days in air masses moving from the sea through the boreal belt. And they are very sensitive to any changes.

Amazing, right?! The state of the taiga, how much the pines or spruces emit various substances, affects the reflective ability of clouds high in the sky!

What can I say? Each year, we learn more and more about how little we know about the Russian Taiga!

And yet, we increase the areas of deforestation to satisfy the profit-driven thirst of transnational capital. Risking the irreversible disruption of the planet's established

climate rhythms.

# Chapter 10. How Vancouver residents are protecting the last 1% of ancient forests

Ancient Mother Trees protect their offspring. They even go so far as to divert their roots to create a protective ring, making space for young trees to grow! This is something almost no bureaucrat managing forestry departments knows.

The destruction of ancient climate-protecting forests is happening not only in Russia but worldwide. People are increasingly recognizing the importance of the last ancient wilderness areas! Let me tell you about the tough fight for old-growth forests on the west coast of Vancouver Island, in British Columbia. Right now, just like us in Russia, the island's residents are trying to protect the ancient cedars. These are red and yellow cedars around 1000 years old. Truly the last patches of genuine ancient forests.

The logging company, a major monopoly with ties to the government, Teal-Jones, holds exclusive rights with a license to clear a massive forest area—230 square miles (or 370.15 square km)! An absolutely colossal section of ancient forest in the southwest of the island, where there is a GLOBALLY RARE temperate rainforest zone. To give you an idea, these forests are not only a cultural heritage for indigenous peoples and settlers but also influence the formation of microclimates and regulate the region's ecological state.

Just like with us! A big company comes in, waving a 'piece of paper with a stamp,' and shouting 'it's all legal!' starts cutting down old-growth forests.

One of the main logging areas on Vancouver Island, which the local company has the right to clear, is the headwaters of Fairy Creek, about 50 miles (or 80.47 km) northwest of Victoria, the provincial capital. In these old-growth forests grow great Douglas firs, Sitka spruces, and tall cedars, some of which reach over 30 meters in height! To give you an idea, one such cedar has a circumference of about three meters. A true giant, a colossus, of which there are hardly any left in the world.

Once, not long ago in the planet's timeline, just a moment ago, old-growth forests covered large areas of British Columbia. Unfortunately, today there is ATTENTION LESS THAN 1% of ANCIENT FORESTS left here.

Just imagine, above your head, dense evergreen giants! Mighty branches filter light into rare sunlit patches. Under your feet, thick moss, and even the tree trunks are covered with extraordinary mosses. Ferns grow all around, with rain dripping from their leaves. And this magical forest corner, the oldest biogeocenosis, is simply decided to be cut down for immediate profit.

This became the last stand, when local residents simply took to the streets to defend the mighty cedars! And it's understandable, because even official statistics show that the provincial government allows the destruction of forests KNOWINGLY, knowing that 85% of British Columbians are AGAINST THE DESTRUCTION OF FORESTS.

Since August 2021, mass protests have begun. Groups of people are setting up blockades, trying to prevent logging trucks from entering areas with ancient forests. After 10 months of struggle, in a fierce battle with loggers, many of the makeshift blockades are still

standing. But in recent weeks, the Royal Canadian Mounted Police have decided to increase arrests of protesters, with a total of 185 activists arrested. They are being "framed" with criminal charges, imprisoned, and slapped with huge fines. Yet people continue to defend the forests! So on one day, amid increased police pressure, protesters gathered over 2,000 activists to strengthen the blockades.

Then, people from other regions began to support them, and protests erupted across North America, from Vancouver to Toronto and in many Indigenous communities. A petition was organized, gathering over 70,000 signatures from concerned individuals in defense of the ancient forests! Moreover, the views of the protesters and the Indigenous peoples, who have lived on this land for over 13,000 years, are now backed by science!

This is what I keep writing to you about, friends! Our fight against the destruction of the Russian Taiga is a scientifically grounded mission, essential for preserving the integrity of all biogeocenoses. It's necessary for us, for our survival, and for the survival of our children! As scientists learn more about mycorrhizal networks, the symbiotic relationships between tree roots and microscopic fungi that CONNECT TREES and facilitate

the transport of vital nutrients THROUGHOUT THE FOREST, the importance of ancient forests becomes undeniable. Ancient forests must not be destroyed!

The term "mother trees" is not widely known! Recently, I met a representative of the small Ket people of Russia, named Haivalam. Her name translates to "Mother Cedar." Can you imagine, our ancient peoples, who lived in harmony with nature for millennia, being an integral part of it, already associated mighty cedars with Mother. And now scientists SCIENTIFICALLY CONFIRM that some trees truly are mother trees.

Mother trees act as hubs of mycorrhizal networks, which means a symbiotic relationship between fungi and the roots of mature trees! It's a true symbiosis that almost no one knows about, a complex and majestic connection. Do loggers think about this when they cut down ancient forests? Do the governments of the world consider this when they sanction the destruction of trees? Of course not. No one cares! And that's the plain truth.

Mother trees are an integral part of the forest's health and resilience, and it takes hundreds of years to establish their role in biocenoses. Right now, many of the old-growth cedars on Vancouver Island function as mother trees. Their destruction will lead to the total

degradation of all remaining ecological systems.

It's important to understand that ancient forests are among the most biodiverse ecosystems in the world! These forests still hold so much that is unexplored by science, so many living organisms that even scientists and specialists haven't heard of. Every living creature, every plant or fungus, supports the HEALTH OF ALL TREES IN THE FOREST as part of a single biological chain. And the ancient old giants are the foundation for sustaining the life of ALL organisms in the forest, both big and small.

1% of ancient forests remain for the residents of British Columbia. Slightly more or slightly less in other countries around the world. These are equatorial forests, southern tropical, African forests. Here in Russia, we still have something to protect, something worth fighting for! But in other countries around the world, ancient forests have been reduced to practically nothing, and businesses continue to forcefully push into the last patches of still-living ecosystems.

# Chapter 11. Mother of all trees

The living Ancient Forest is the living planet Earth!

Trees are the mothers of the entire Ancient Forest.

I find it hard to speak the same language as officials. It's even harder with 'business people,' with various types of entrepreneurs. Sometimes I just want to shout, wave my hand in front of such a person's face: 'Hey! Hello, can you even hear me?!'

It's like completely separate universes!

Totally different languages with no possibility of mutual understanding!

Here's what I mean: concepts like 'biosphere,' 'biogeocenosis,' 'ecological system' have long been firmly established in scientific discourse. Students are taught these things. But in the 'bureaucratic language,' it seems these concepts simply don't exist!

One joy is you, my readers! Let's talk about very important topics. About the living forest. About the living Russian Taiga. About the ancient northern forests. Honestly, I'm tired of reading and writing about those

crazy poachers who have committed yet another atrocity. Or counting the millions and millions of hectares of newly cut Russian Taiga.

Let's talk about life today!

This is truly important!

Vladimir Ivanovich Vernadsky. The concept of the living biosphere of the planet and living biogeocenoses, linking the Earth's mineral matter with life. A century old. These are not new ideas. It's quite predictable within the framework of thinking about the living biosphere that we will find and understand these subtle connections in the surrounding world more deeply. Learn more precisely how all this is arranged.

And now human knowledge is expanding. We're starting to understand something! Absolutely amazing things! And what? The dead bureaucratic machine continues to consume ancient forests. New amazing knowledge is not known to everyone. Rather, not to many. And the nature of this knowledge is such that the very picture of the world should change. We are beginning to understand the depth and complexity of the connections in the living world around us.

I'll start with Peter Wohlleben.

Peter is a German forester and writer. His 2015 book about natural forests, 'The Hidden Life of Trees: What They Feel, How They Communicate—Discoveries from a Secret World,' was a revelation for many people around the world. The forests of the living Earth are a worldwide web through which trees exchange nutrients and signals. These are scientific facts. This is proven. Peter simply presents what was clear to Vladimir Ivanovich Vernadsky, what is clear to biologists, but in a more accessible and simple language. 'The Hidden Life of Trees' is worth reading!

There are several documentaries featuring Peter. In one of them, he appears with Suzanne Simard. Suzanne is a professor of forest ecology at the University of British Columbia. Since 1997, she has been researching interactions between trees through mycorrhizal networks. And, like Wohlleben, she tries to share her academic knowledge with people. She writes and publishes popular science books.

It is Suzanne Simard who introduced the beautiful image of the 'mother tree,' the 'mother of the Ancient Forest,' which she unfolds for the reader in her books.

The image is simply majestic!

Mother trees. Guardians and Protectors of the Ancient Forest.

For our boreal northern forests, it's definitely the cedar.

The most interesting thing is that this beautiful image is based on completely scientific facts!

Simard identified what she called a hub tree or 'mother tree.' Mother trees are the largest trees in the forests that act as centers for extensive underground mycorrhizal networks. The mother tree supports seedlings, transfers its microflora-mycelium to them, and supplies them with the nutrients needed for growth. Think about it! Small saplings are shaded by the canopies of large trees. And the ancient giant tree transfers nutrients to them through the mycelium network!

Suzanne Simard discovered that Douglas firs provide carbon to small firs. She found that small firs connected by mycorrhiza to a mother tree had more carbon than those not connected. It was also found that mother trees change their root structure to make room for young trees. This is not fiction, but purely scientific observations! The ancient tree feeds the small saplings like a mother feeds a child with milk. And it moves its roots from the place where a small tree has begun to

grow.

Suzanne Simard's book 'Finding the Mother Tree' is mainly about this. But it also contains a huge number of other fascinating moments. For example, interspecies cooperation. That is, trees of different species help each other in the ancient forest! Firs used the mycelium network to exchange nutrients with birches during the season. Essentially, they 'lent each other sugar' during seasonal shortages. This is an especially beneficial exchange between deciduous and coniferous trees.

Their energy shortages occur at different times of the year. The benefit of this 'cooperative underground economy' seems to be in improving overall health, more complete photosynthesis, and greater resilience to disturbances throughout the ancient forest. This is not fiction, but fully proven scientific experiments! Suzanne Simard used rare carbon isotopes as indicators to measure the flow and distribution of carbon between individual trees and species. And she clearly showed, for example, that birch and Douglas fir share carbon. Birches receive additional carbon from Douglas firs when birches lose their leaves. And in return, birches supply carbon to Douglas firs that are in the shade.

We must protect the mother trees of the forest and the ancient forests from final destruction. Besides us, there's no one else! In the 'bureaucratic language' of officials, such concepts simply don't exist. There are only concepts of 'profit,' 'tighten sanctions,' and 'cubic meters of timber on the stump.'

They don't see the living soul of the forest, unfortunately!

Cedar is the mother of the ancient boreal Taiga. The cutting of cedar must be stopped!

The ancient forests that remain untouched are the soul of Mother Earth herself. And they too must be protected from final destruction!

# Chapter 12. The battle for the ancient forest — a battle for life

The more I learn about ecological disasters and what we're doing to our Earth, the more it seems to me that a deliberate ecocide is taking place. The living world around us is being consciously and methodically destroyed!

Think about it: only 1% of the Ancient Forest remains — 99% has already been destroyed.

And the logging company stubbornly pushes into this miserable 1% of territory.

What is this even about?!

Are the profits so enormous that it's worth destroying everything for them? No. The company controls vast territories. Compared to the income from secondary forests, it's just a pittance.

The local population is fiercely resisting. People couldn't take it anymore and simply rose up against such brutality! These are the LAST Ancient Trees in the region. In fact, they are a religious symbol for the locals.

People block roads to the logging trucks. They stand as a human shield to protect them. There are actual clashes with the police.

And so? Why doesn't this stop the businessmen?

Why do the businessmen keep pushing forward, even when they're clearly not MAKING a profit, but LOSING money on expensive bribes to local politicians and in battles with the people?! Even just the downtime for equipment and logging crews is already a HUGE LOSS!

Why do they try to destroy the Ancient Forest at any cost, even when it's NOT PROFITABLE?!

These are the questions I ask myself. Not for the first time, by the way! I've had these doubts many times before.

Now — regarding Vancouver Island in British Columbia, where there's a fierce standoff between locals and loggers.

Once again, the metrics of what's happening:

— Ancient Forests once covered large areas of British Columbia. Now less than 1% remains in the province!

— Red and yellow cedars over 1000 years old are being cut down for lumber.

— The provincial government has allowed the logging of the LAST section of Ancient Forest, despite 85% of British Columbians being STRONGLY AGAINST this decision.

— The logging company “Teal Jones” has exclusive rights to log an area of 230 square miles. That's almost 600 square kilometers! A large, serious company that operates over vast territories. And, accordingly, is capable of restructuring its operations.

— The issue is about Vancouver. This is a temperate rainforest zone, not the boreal (northern) belt of the Russian Taiga. Therefore, secondary forests grow much faster there. The logging cycle for secondary areas is short. There's no point in stubbornly going into the 1% of remaining Ancient Forests.

So why, at any cost, at a loss to themselves, overcoming fierce resistance from the population, do they insist on destroying the Ancient Forest?!

I'm not pondering this for the first time: OBVIOUSLY UNPROFITABLE PROJECTS.

Economically, it's NOT PROFITABLE!

In our country, cedar logging is ECONOMICALLY NOT PROFITABLE even with a superficial assessment! Just the pine nuts bring more profit WITHOUT DESTROYING

the ecosystems!

What's the deal?! Or is destroying the last sections of the Ancient Forest a fundamentally important task?!

I'm not the only one talking about this. Scientists, forestry experts, biologists — they've all been pointing out these FACTS for many years. Regarding cedar in our country — literally since the permission to log cedar in the USSR, all experts have said it's economically unfeasible. Not profitable at all!

As for the last sections of the Ancient Forest — it's insanely expensive to develop. All such preserved Ancient Forests are very remote. They weren't logged for this very reason! There are no roads. And even building winter logging roads costs significantly more than the potential profit from development. Yet now large companies are rushing to cut down the Ancient Forests. I looked at the development projects — they're UNPROFITABLE! The cost of development in the documents is higher than the expected profit. How is that?! Why “develop” if no profit is expected?!

The simplest explanation is a critical defect in the system of societal management.

Simply put, the “brain of society” (the authorities in conjunction with business) has “gone insane.” We have a “mentally ill” society!

Officials think about “kickbacks.” They simply don't care what and why things are being done. Corporate brand managers want their multimillion-dollar salaries. The company's eventual losses don't concern them. And scientists or ordinary people are so removed from societal management that they can't influence anything. At all.

But, looking at the fury with which corporations rush to destroy the Ancient Forests, you start to think that this explanation is insufficient. Too much effort. Too much expense is incurred for the destruction of the Ancient Forest.

Another fact draws attention. Not just one fact, but an observation of several facts:

— Most politicians and influential public figures exhibit an extreme degree of misanthropy. How openly they hate people!

Misanthropy (from ancient Greek “hatred” + “man”; literally “hatred of mankind”) — alienation from people, hatred towards them; misanthropy. Some researchers consider it a pathological psychophysiological trait of

personality.

— In addition, influential public figures constantly demonstrate fear of Living Nature, fear of diseases that “might escape from natural ecosystems.”

— In the mass media, this fear of Living Nature is being amplified more and more. Crossing all reasonable (and not very reasonable!) boundaries!

— In many respects, there is a conscious, complete destruction of living ecosystems, justified by nothing but fear of them.

Under the pretext of African swine fever (ASF), all wild boars are being totally exterminated.

Under the pretext of a rather vague “danger of predators,” wolves, for example, are being totally eradicated.

Forests are being isolated from people on contrived grounds.

So answer this: isn't this a deliberate attempt to DESTROY the Living World by completely insane, yet extremely influential people?!

I don't know. But such thoughts occur. And there are quite serious grounds for them.

It turns out that this is indeed a battle. A battle for the Russian Taiga. A battle for the last 1% of Ancient Forests. A battle for the Living Planet. A battle for Life itself!

# Chapter 13. Altai — The Explorer's Homeland

I want to tell you about my homeland, where I was born and raised. This land instilled in me a love for nature and a drive to fight for the Russian Taiga. A unique mountainous region in the south of Western Siberia.

Altai. One of the southernmost corners of the boreal forest belt. Alongside the spurs of the Sikhote-Alin in the Russian Far East, where boreal forests give way to broadleaf ones.

The majestic Russian Taiga in its richest form. Rich in both species diversity and the abundance of taiga gifts for people.

Yes, in every way! Altai is simply the gold of the Russian Taiga. It's no coincidence that the word "Altai" itself means "gold," "golden."

Here, mountain ranges stretch from north to south, enclosed by ranges running from west to east. Like a giant outstretched hand, Altai gathers the moist air masses coming from the north, leaving the arid deserts

of Mongolia behind. And the taiga here is lush, nourished by the juices of Mother Earth. From here, the Biya and Katun rivers originate, merging to form the Ob — one of the continent's most significant rivers.

The Altai taiga is steeped in myths and legends.

Here is the ancestral home of many peoples.

Here is the magical land of Belovodye, sought by Russian pilgrim Old Believers.

Here is the heart of Asia, celebrated by the famous Russian artist Nikolai Konstantinovich Roerich.

For us, it's important to see the Altai mountain region as one of the key territories of Russia's boreal forests.

A territory of river sources that must be fully protected.

A territory that shapes the climate of the entire Asian part of our country.

And in terms of its natural wealth and the number of preserved endemic species, the Altai mountain region is also unique.

Just consider the magnificent Altai cedar!

Though, the correct name is "Siberian pine." That's according to scientific classification. People usually just say "cedar" or "Siberian cedar."

The cedar belongs to the pine family, genus Pinus.

A distinctive feature of the cedar is five needles growing from one spot. In a regular pine, the needles grow in pairs.

Under favorable conditions, the cedar can reach a height of over 40 meters and a trunk diameter of 1.5–2 meters. Can you imagine how majestic this tree looks?

The maximum lifespan of a cedar is about 600–650 years. However, many researchers suggest that the Siberian cedar can live up to 800–850 years or even longer! The only problem is people. The cedar, an exceptionally unique tree, is mercilessly destroyed by humans.

The cedar is a zoochorous tree, as biologists say. That is, it spreads with the help of animals. The main "sower" is the nutcracker bird. The nutcracker, storing food for winter, prefers to hide it in open spaces: clearings, burn sites, and similar places. Why it does this seemingly illogical thing, the bird can't tell us. It's just instinct; how would the bird know? For us, for people, it's yet another convincing illustration that a biocenosis is a SINGLE organism.

During the fall, while the cedar is bearing fruit, each nutcracker bird stores about 60 kilograms of nuts. If the nutcracker used all the nuts it stored, ornithologists estimate it would last the bird 4 to 5 years. Just like that! The little bird gathers 20% of the food for itself and works 80% for the entire forest ecosystem, planting the cedar trees that feed it!

Cedar seeds are also consumed and spread by mice, chipmunks, squirrels, bears, and sables. Scientists say this is an example of evolutionarily developed consortial relationships with positive effects for all species.

A forest-forming tree.

That's putting it simply.

The backbone, the spinal column on which the entire local ecosystem rests.

In general, the relationships between the cedar and animals and birds are much more complex than those of other coniferous species. The phenomenon of "cedar symbiosis" is unique. The cedar is not just a symbol of the Siberian Taiga but a real, tangible foundation of Siberian biocenoses.

Forests with Siberian cedar stretch across vast areas. According to various data, cedar forests cover between 37 and 40 million hectares. Outside Siberia, only 4.6% of

cedar forests grow: 1.8% in the Urals and the European north of Russia, 0.1% in Kazakhstan, and 2.7% in Mongolia. That's it!

The total forest area in the Republic of Altai is about 3.5 million hectares. Of these, about 1 million hectares are cedar forests. Almost a third.

In the neighboring Altai Krai, forests cover 2.7 million hectares. Cedar forests account for no more than 39 thousand hectares. Only 1.4%.

In fact, not so long ago, cedar forests in Altai covered a much larger area than they do now. According to forest inventory data from 1966 to 1999, due to intensive logging, the share of cedar in the Republic of Altai decreased from 37% to 30%. Cedar has practically disappeared from the foothills of Altai and has become rare throughout the Biya basin, except for the upper reaches of its tributaries.

Let's briefly review the timeline of cedar destruction in the Altai.

Until the 1930s, cedar forests were primarily seen as the basis for nut and fur trades. However, in 1931, a decree by the Council of People's Commissars of the USSR, "On Measures for the Development of the Cedar Nut Economy," initiated large-scale logging in the cedar

forests. This marked the beginning of truly tragic events for the ecosystem.

The mass allocation of forest resources to logging enterprises from 1948 to 1952 proved to be the final blow for the cedar forests. All of them were drawn into logging. Scientists and experts tried to stop this senseless destruction. But it took many years to achieve that. Even the establishment of nut-harvesting zones in 1953 couldn't change the situation. The foundation of the most ancient cedar groves was destroyed.

It wasn't until 1978 that a resolution was adopted "On Improving the Comprehensive Use and Protection of Cedar Forests." This was based on developments for the comprehensive use of cedar forests for nut production, forestry, and hunting. Logging was slightly slowed down, but not stopped.

And it was only in 1989 that the Supreme Soviet of the USSR passed a resolution banning the logging of cedar for primary use.

But the logging of cedar hasn't been completely stopped even now.

The forestry activities as they are currently conducted still allow for the destruction of cedars. It's specifically "forestry," not "forest industry." But that doesn't make it

any easier for the cedars! The logging happening now is formally not considered timber harvesting but is documented as "forest maintenance." In reality, it's just a lie that allows the continued destruction of cedar! Cedar harvesting continues under the guise of maintenance and sanitary logging. That's all there is to it.

And cedar logging, especially in key ecological regions, absolutely needs to be stopped entirely!

For example, in the Far East since 2011, thanks to the efforts of ordinary people, a complete ban on the logging of Korean pine has been legislatively established. It is included in the list of tree and shrub species for which timber harvesting is not allowed.

So, it is possible!

And this can only be achieved through the collective efforts of people to protect their native land.

The legendary taiga of the Altai Mountains is the heart of the cedar's range. Thanks to the flora and fauna of the cedar forests, the Altai-Sayan ecoregion is among the two hundred unique ecoregions in the world for biological diversity.

The "Golden Mountains of Altai" are included in the UNESCO World Heritage list. Some of the cedar forests are protected within the Altai State Nature Biosphere Reserve.

However, the issue of protecting the Altai cedar is not fully resolved. Exploiting loopholes in the laws, there are those who continue to profit from the destruction of everyone's future. This must be stopped! A complete ban on the logging of cedars in Altai is necessary!

# Chapter 14. Altai cedar? Exactly

The Altai is a refuge—a sanctuary for the ancient forests of Russia! For the mighty cedars that form the backbone of the millennia-old biogeocenoses of the Russian Taiga.

Siberian cedar. Siberian pine.

These are rather formal names used by forest engineers or botanists. You could say they are the "official passport names."

"Altai cedar" is not commonly written. Yet, there is meaning in this name, and it's significant!

"IN QUESTIONS OF THE ORIGIN OF THE CEDAR TAIGA, THE PREVAILING OPINION IS THAT THE FORMATION OF THE SIBERIAN CEDAR OCCURRED ON THE WESTERN SLOPES OF THE ALTAI, SAYAN, AND IN THE UPPER BELTS OF THE YENISEI RIDGE during the Oligocene and Miocene. In the Quaternary period, cooling and advancing glaciers reduced forest areas, including cedar forests. During interglacial periods, following the larch, the cedar migrated north, and in the post-glacial period, it spread from the Altai-

Sayan refuges across Siberia, the Urals, and the Russian Plain.

Centuries of climate fluctuations led to the expansion or contraction of cedar territories and regulated the distribution of cedar within its range.

The warming that began in the middle of the last century and the increase in precipitation are contributing to the current expansion of the cedar's range and its increased presence in forest stands."

(From the book by I. A. Bekh, S. A. Krivets, E. M. Bisirova. "Cedar — the Pearl of Siberia.")

So we can confidently say "Altai cedar," also meaning that the ancient homeland of the cedar is the Altai Mountains!

The word "refugium" is very important.

"Refugium (Latin refúgium — refuge) — a section of the Earth's surface or the World Ocean where a species or group of species survived or is surviving an unfavorable geological period, during which these life forms disappeared over large areas," — here's a brief definition from Wikipedia.

The Great Altai, the Altai Mountains — this is an ancient REFUGE!

A territory where scientists now find a huge number of endemic species. That is, extremely rare species found nowhere else.

For millennia, the Altai has preserved the cedar. It was the "point of system recovery," from which, with the improvement of external conditions, the restoration of the Russian Taiga throughout Siberia began.

Scientists suggest that a species can not only survive in a refuge but also later spread again over a wider area.

In biology, a refugium is a refuge that supports an isolated or relic population of a once more widespread species. This isolation of the "last of the Mohicans" can be caused by climate changes, geography, or disasters.

Or, for example, through human economic activities, which by themselves already surpass the scale of natural disasters. Such as those "most beneficial" activities for ecosystems like deforestation, senseless hunting of all living things, or the rerouting of Siberian rivers at the whim of the "human master."

Recently, the term "refugium" is increasingly used by ecologists to describe areas that can provide relative climate stability in the face of modern climate changes, for instance. Or to hinder large-scale deforestation due to mountainous terrain. In other words, to place

obstacles specifically in the path of humans on their rapid and irreversible path to destroying everything they can reach.

The idea here is that if neither society as a whole nor the scientific community can do anything about the transnational capital destroying ecosystems, then at least they can protect key areas, the "points of self-restoration" of ecological systems.

In systematic biodiversity conservation planning, ecologists use the term "refugium" to identify areas that can be developed into protected regions of "last hope."

And the most important refugium region in Eurasia is the Greater Altai.

A key area that, in an extremely unfavorable scenario, will allow us to preserve at least something!

The Altai cedar is:

— Old trees preserving the oldest genotype. A source of both scientific knowledge and seed material.

— Small patches of intact cedar ecosystems, preserved thanks to geographical isolation and inaccessibility to humans.

A crucial point! It's not just an "Altai cedar," but a "whole cedar grove ecosystem"!

The thing is, cedars form especially extensive connections with ALL species, creating massive biocenoses around them. For instance, there are known species of mushrooms that exist in symbiosis with specific trees. Even seasoned mushroom hunters know this and go, for example, to a particular forest for porcini mushrooms. Cedars, however, form symbiotic relationships with MANY DIFFERENT MUSHROOMS. The cedar grove biome is the most complex and diverse. By preserving ancient cedars, we preserve the ANCIENT ECOSYSTEMS of the cedar forest.

The Greater Altai ecoregion is already significantly damaged.

We can only talk about "undisturbed ecosystem areas" locally. And even then—with some reservations! Even the Altai Reserve is partially developed by humans. And it continues to be developed further!

In the 20th century, at least 10–20% of the cedar forests in the Republic of Altai were completely destroyed. They were there, and now they're gone!

During the 18th and 19th centuries, even more cedar forests were destroyed. There's no statistical data on them, but all the southern and western slopes of the Altai ranges are "bald"! And there are archival

photographs. There are records of timber rafting on local rivers for the needs of the cities and factories being built here at the time. So, all of these were vast ancient cedar forests! Exactly how much area these cedar forests covered is unknown. Now, most of this land just lies empty. It's only partially used for agricultural production. There are enormous opportunities for the restoration of the Altai cedar! If the nutcracker bird can expand the cedar's range by a couple of kilometers a year, then humans can do it over thousands of hectares!

But no one even raises such a question...

Only tourist clusters and traffic routes to China through the Altai are being planned and built...

# Chapter 15. The pine nut market: where the battles rage

Every year, hunters embark on a massive quest for pine nuts. They plunder the inhabitants of the Russian Taiga, stripping away so many pine cones that wild animals are left with no chance to stock up for the winter.

Initial reference:

The nonprofit partnership "Union of Wild Plant Processors," in collaboration with the World Wildlife Fund (WWF), published reference materials on the pine nut market in 2016.

As of 2016, the global market distribution of pine nuts by type is:

— 60% Korean pine;

— 20% Siberian pine;

— 15% Pakistani cedar (Pinus gerardiana); — 5% Italian stone pine.

By country, the global sales volume is:

— 72% China;

— 10% North Korea;

— 10% Turkey;

— 2% Spain;

— 1% Portugal;

— 0.5% Russia.

The numbers a bit confusing? Let me explain!

First.

How did European countries end up on the list? For at least 5,000 years, the European stone pine has been cultivated on plantations in Mediterranean countries.

Second.

Korean and Siberian pine nuts collectively hold 80% of the global market.

China controls 72% of the market, despite having only small areas where Korean pine grows in the far north.

Not too hard, right? If you specify "country of origin of the nut," then it would be 70%—Russia! But for now, we only sell 0.5% ourselves. The rest is bought in bulk and then resold by the Chinese.

THE RUSSIAN TAIGA PRODUCES 70% OF THE WORLD'S COMMERCIAL PINE NUTS.

99% of these nuts are resold on the global market by China.

That's just how the global market works: nuts are exported from Russia as raw materials. Then they're sold to end consumers from China in a finished and processed form.

So, how is the pine nut market structured in our country?

Well, first of all, the market here isn't structured at all. It's a "chaotic market." Ever heard terms like "bazaar-station," racketeering, "showdowns," "redistribution of spheres of influence"?

Here's a brief timeline:

Around the 2000s, a market for "secondary forest use" began to form. This includes mushrooms, nuts, berries, and so on. The most significant market then and now is the pine nut market.

The Tomsk region became a pioneer in this area, including not only collection but also processing. The most successful models implemented in practice are from Tomsk.

For about 20 years now, federal authorities have been eyeing "wild plants." They've been mulling over projects for "collection and procurement." Debating whether to "allow" or "not allow" ordinary citizens into the forest. For now, everything remains the same: the country's Forest Code allows people to collect mushrooms and berries for themselves "freely and without duty." Perhaps only for now...

Since around 2015, regional authorities have become very interested in "wild plants." In the Far East, they banned the logging of Korean pine. Which is entirely correct! They tried to limit the amount of wild plants citizens could gather for personal use, but such legislative initiatives didn't pass. They only restricted the collection periods for nuts.

Such legislative initiatives for "accounting, control, and prevention" are not so straightforward! Legalizing the existing market is necessary one way or another. The question is: how exactly to do it? "Accounting and control" in practice turn into bureaucratic chaos locally. In the long run, they simply destroy the existing market. Yes, it's a grassroots market, even if "poaching," but it has developed this way.

The problem is that officials at any level just want to "pocket" this market, without understanding the existing market or the lives of people in the taiga villages! Well, they saw the money! Give us the budget! Give us the taxes! And they just reach out with "grasping hands." Are they offering anything to the people? No! They just say "you have to share," and that's it!

Not long ago, you could just go into the taiga to gather nuts. Now, large nut-bearing areas have been leased out to tenants on long-term leases. Most likely, these leases are arranged using "administrative resources." A quasi-governmental "buffer" of local "landlords" is being formed. They sublease small plots of cedar forests to locals—those same people who used to harvest the nuts.

Formally, according to the documents, subtenants pay a nominal fee. In reality, people say they have to pay much more "under the table." These local "landlord-tenants" conduct fire prevention activities as per the lease agreement, oversee the nut harvesting on their territory, and "keep outsiders" out of the taiga. And when funds are lacking for these activities, they bluntly cut down cedars for lumber and sell it, just like before!

Direct quote. Bichursky District, Buryatia.

Georgy Savelyev, the CEO of LLC "Kedr," speaks to the newspaper "GAZETA-N1.RU":

“We incur annual expenses on forest development projects exceeding 3 million rubles. This includes a rental fee of 800,000 rubles, maintaining a staff of four employees with a payroll fund of 1.5 million rubles. Fire prevention measures cost 300,000 rubles, covering firebreaks, poles, banners, and training people. Additionally, we purchased four vehicles for traveling through the taiga, fire-fighting equipment, and special clothing. Over the entire rental period, expenses have totaled around 25 million rubles. With the price of nuts at 30–40 rubles per kilogram, it hasn't ‘paid off’ for a long time, and we had to offset the costs of the hunting area by harvesting timber.”

This is an example of such a tenant.

Once again, to clarify: it was necessary to offset the costs of the commercial plot by harvesting timber.

Media material dated 03/23/2022.

The REAL price at which "middlemen" are buying nuts in Siberian regions, according to "ground-level" information from people, is now reaching 600–650 rubles.

Yeah, "with the nut price at 30–40 rubles per kilogram," it definitely "won't pay off," so they'll just have to cut down the cedars!

Is it correct to understand that the nut gatherers were "voluntarily-compulsorily" selling nuts for 30–40 rubles if they harvested them on the lessee's plot? And then they "dumped" them on the spot to the "middleman" for "cash" at 600 rubles or sold them directly to the Chinese for more? And what was the volume of such an operation conducted over the season (a couple of months of nut gathering) with a "markup" of 20 times (bought for 30 rubles with the real price at the "middleman" on site being 600 rubles)?

Yeah... Just "have to cut down the cedars"...

Truth is, Colombian drug cartels say they don't even make that kind of "profit," not even on their goods...

I took the quote from a published media source. The person SAID IT THEMSELF. Maybe without thinking... Or maybe I misunderstood something...

Locals say pretty much the same thing. With the same numbers. They just ask not to mention them or even the region: "You'll leave, but we have to live here."

Something like that...

Yes, people in the taiga villages confirm what officials, wide-eyed and shaking their hands, declare: you can really make 200 thousand on nuts.

Per season. Through hard labor in the taiga. With absolutely no other income in the region at all. 200 thousand a year—that's about 16 thousand a month. Enough to get the kids ready for school once a year. Or for a young person to buy a one-way ticket to the big city. "Get out," find a job, and never think about their hometown again... Maybe we don't understand how everything is set up. Maybe everything is "all nice and fluffy."

Like the northern fur-bearing animal called the ARCTIC FOX—pesets in Russian, also slang for disaster, for example...

But then...

THE RUSSIAN TAIGA PRODUCES 70% OF THE WORLD'S COMMERCIAL PINE NUTS.

99% OF THESE NUTS ARE RESOLD ON THE WORLD MARKET BY CHINA.

...and the villages in the Russian Taiga are emptying out...

Why would that be, with such wealth around?!

# Chapter 16. How much is your meat worth?

A brutal question?

But don't go "eww" just yet—read a little further! I promise it'll be interesting!

We all live trapped by the familiar notions that have been instilled in us since childhood.

They drum things into us from preschool, pounding it into our heads: boom, boom, boom!

And here's the sad part—they hammer it in so well that it's hard to remove something that's been forcefully embedded for years!

Yep, they don't really "instill" it; they "hammer" it in!

I want to talk once more about the Siberian cedar.

About the economy surrounding the Siberian cedar.

Not a word about the cedar as the backbone of the Russian Taiga in Siberia! Not a word about the ecological systems of the cedar forests!

Just cedar. And just economics: money, money, and only money. Exactly what traders and government officials love: just business, nothing personal. No shame, no conscience, no other "intangible values."

So.

A cedar grows slowly—roughly 0.3 centimeters a year. In 100 years, it reaches about 25 meters in height and 30 centimeters in thickness. This is roughly around 0.5 cubic meters of lumber from one tree.

Wood is expensive. On the first couple of websites I check, I see 30 thousand per cubic meter.

1 cedar — 0.5 cubic meters — 15,000 rubles.

The nut yield of a cedar is estimated at approximately 10 kilograms per year from young trees. Yes, considering that harvests occur once every few years: this is the average used to assess the bioproductivity of a cedar forest.

The price of pine nuts, also on the first websites you come across, starts at 1,000 per kilogram in the shell.

1 cedar — 10 kilograms of nuts — 10,000 rubles. Per year!

In 100 years — 1 million rubles!

This isn't economics, it's anti-economics!

Exchanging 1 million rubles for 15 thousand rubles is beyond economic stupidity!

During a typical cycle of a large nut harvest, roughly every 3 years, a cedar tree brings in twice as much money (from 30 thousand rubles) as a felled cedar for lumber (only about 15 thousand rubles).

I understand that this estimate is extremely approximate.

But! No amount of clarification will change the essence!

Cutting down cedar trees is economically beyond unprofitable!

Sure, we can evaluate the so-called 'economic efficiency' of producing lumber from other trees. But when it comes to nut-bearing trees, it becomes sheer stupidity! Just idiocy from a financial and potential profit standpoint! Without even bringing in any moral or ethical evaluations of this kind of 'economy.'

This is an emotional reaction when you witness the destruction of the cedar taiga firsthand.

But it's an emotional assessment with a 'cooled-off' head. Purely 'numbers' and 'money.'

Now you can roughly estimate how much a person would cost 'for meat' by live weight. That's about how impartial the assessment of the 'economic efficiency of Siberian cedar' would be.

And that's about how impartial the moral assessment of such an 'economy' would be.

Bloody butchery and cannibalism of ecological systems!

Returning to the economy.

Biologists give similar assessments from the perspective of the taiga's bioproductivity. Especially the cedar, nut-bearing taiga. Logging is the most unprofitable thing you can imagine!

This so-called 'economy' exists only because certain people want to profit here and now. They cut down cedars and pocket, say, 10 million rubles at once. Destroying a cedar grove that could yield 10 million rubles annually for the next 500 years. From pine nuts alone. And a cedar grove that will take at least 100 years to restore.

Just numbers! Just about business and money—'nothing personal'!

Since childhood, things are drilled into our heads. Then we live in captivity to certain perceptions of the world around us. Established perceptions that are hard to reassess and rethink.

Now, environmentalism has become a trendy topic. An eco-friendly lifestyle, eco-friendly habits, and so on. And all this overlays the perceptions we formed earlier. It overlays quite superficially. And it's easily exploited by various advertising specialists and other social technologies.

What follows will be intense—sensitive people are advised not to read!

Strictly for mature, balanced individuals capable of critical thinking!

Cedar wood is more than 'trendy.' Accordingly, it's all sold under 'eco' brands. From talismans and charms made of 'Altai cedar chips' to cedar log houses and saunas. As well as cedar kitchen facades, cedar bread boxes with natural antiseptic properties, cedar kitchenware, cedar barrels and tubs, cedar ladles.

If you've been or will be in Altai, you'll see a huge number of souvenir shops and stalls where you can buy a variety of cedar products.

You can just search online, and you'll see a vast array of offerings.

And maybe you already have some 'cute cedar trinkets' at home.

Now, here's the question: are you sure this isn't 'sponsoring terrorism and child pornography'?

Demand creates supply, is that how it works?

Hundreds of thousands of tourists visit the Altai Mountains every year. Some of them just buy "cute little cedar charms."

This is about the "chips of Altai cedar"—where do so many "chips" come from that they fill the shelves of countless souvenir shops? In reality, it's cubic meters of wood and production, isn't it?

The term "chips" is crafted by savvy advertisers. It's meant to ease buyers' concerns about cedar logging: "They're just chips, nothing serious!" Just like the explanations from retailers: "These are only made from dry twigs! Only from fallen dry trees!"

And this is just the "souvenirs"—simply multiply the volume of a "charm" by the hundreds of thousands of purchases each year, and you get the volume of cedars cut down in cubic meters!

This is just one part of the "souvenir" market!

Not counting log cabins, saunas, paneling, ladles, bread boxes, kitchenware, and other goods made from cedar!

Produced for consumers willing to pay for environmentally friendly cedar products.

Demand is growing.

Cedars grow significantly slower: only about 3 millimeters in trunk diameter per year.

In Altai, a government program is being implemented to build a tourism cluster. Authorities and businesses are counting on increased tourist traffic.

The demand for simple cedar trinkets will grow accordingly, equivalent to the increase in the number of tourists...

And tourists want to stay in cedar houses, in rooms paneled with cedar wood...

All for the benefit of the consumer...

In reality, the economy as it's portrayed to us is not the only possible one.

It's a model of an exclusively predatory, exclusively exploitative economy.

But it's not the only possible "economy" even within the existing social system! People are just taught only this. It's the only thing taught in "schools of economics" as well.

If we shift our perspective to view, for example, a cedar forest as a holistic biocenosis, the "economy" itself changes. To the biological productivity of cedar nuts, you add: bracken fern, wild garlic, blueberries, medicinal herbs, and much more—all connected to an integrated ecological system. A taiga apiary, as an element of agriculture introduced by humans, completes the picture. And the issue of cedar logging becomes quite questionable in such a context...

# Chapter 17. The life-giving power of the taiga: how the forest heals us

We underestimate the importance of ancient forests for humanity. While some destroy, others remain silent! Not even trying to understand what we're actually doing... Some want money, others don't want to notice the problems.

In March, the World Wildlife Fund (WWF) released a fascinating report: “The Vitality of Forests: Illustrating the Evidence Connecting Forests and Human Health.”

“The Vitality of Forests: Illustrating the Evidence Connecting Forests and Human Health.”

The report is great, but the title apparently didn’t translate well into Russian. The thing is, WWF recently published an extensive report that was translated into Russian as “The Vitality of Forests.” It discussed the vitality of forests as biological systems. How much forest land has already been destroyed and the rate of further degradation of forest regions on our planet.

The identical translation of the titles likely caused confusion. Or perhaps the topic of the new report seemed less interesting to many.

But the fact is: no relevant articles appeared in the Russian-speaking space. And that's a shame! The topic is simply fascinating!

Let's correct this oversight!

And let's start with “the art of the right title”:

THE LIFE-GIVING POWER OF THE FOREST.

So.

The report itself doesn’t contain anything particularly innovative. Anyone interested in both environmental topics and their own health won’t find anything essentially new in it.

Yes, breathing clean forest air is much better than car exhaust on the highway.

Yes, sanatoriums, especially for bronchopulmonary diseases, have always been located in coniferous forest areas of mountains or foothills. For example, in the Altai Mountains, there’s the Chemal Sanatorium with its ancient pine forest. And everyone understood—the air of the pine forest heals!

Yes, yes, and yes—this has been known for a long time! But!

THE UNIQUENESS OF THE NEW WWF REPORT “THE LIFE-GIVING POWER OF THE FOREST” IS THAT IT’S THE FIRST DIRECT AND UNEQUIVOCAL RECOGNITION OF THE IMPORTANCE OF FORESTS FOR HUMAN HEALTH AT THE HIGHEST INTERNATIONAL LEVEL!

Do you understand the significance?!

Why do we need your “lumber” when it’s about the life and health of people?! — that’s what this report DIRECTLY says!

Now a summary of the document itself.

— Illustrative factual data connecting forests and human health were obtained as follows: around 750 million people worldwide live in forested areas.

Based on large datasets collected, the health of forest dwellers was simply compared to the health of all other inhabitants of the planet living outside forest zones.

And this data clearly showed: yes, those who live among the forests get sick significantly less!

Let me remind you that the global population exceeded 7.9 billion people as of November 2021.

And only 750 million of them live among forests.

From the interesting quantitative information in the report, it can also be added that 60 million of the forest dwellers are indigenous. That is, representatives of small peoples and ethnic groups.

According to the report's authors, 1.6 billion people directly depend on the forest for their livelihoods. That is, twice as many people as those who actually live among the forests.

And yes: forests are also home to more than three-quarters of the world’s terrestrial life. This is besides humans. And all these forests, crucial not only for humans, are under increasingly serious threat of destruction literally day by day. Human impact has already led to the loss of about 40% of the Earth's forests. And the rate of forest destruction is only accelerating.

— The authors of the report highlighted the overall significance of forests: climate regulation, water flow regulation, protective effects on agriculture in adjacent areas, and so on.

This is not a direct but an indirect influence on human health. But no less important because of it!

— The impact of forests on non-communicable diseases in people, based on vast real statistics, is simply astounding!

Many non-communicable diseases are effectively treated just by being in the forest! The list of such pathological conditions is huge: diabetes, asthma, other bronchopulmonary diseases, heart diseases, and metabolic disorders related to liver and kidney pathologies.

It turns out: it’s no wonder they say that 90% of diseases are a consequence of an unlivable urban environment! And vast amounts of statistical data only confirm this once again.

Additionally, the study highlights the beneficial effects of the forest on human psyche.

In general, in the taiga, you don’t need a gas mask or a psychotherapist—something like that!

It should also be added separately that cancer, oncological diseases, according to the report's authors, occur significantly less frequently among forest dwellers.

— Completely unexpected data, however, on infectious diseases.

How have we been scared for years? Don’t go into the forest—“you’ll be dead, listen!” A tick will bite you—you’ll die from encephalitis. A mosquito will bite you—you’ll die from malaria. Eat a fly agaric—and you’ll die too.

Well, they blatantly lied to us!

Our forests, the Russian Taiga—this is our life!

And for the first time, we encounter an international report that sheds light on the real state of affairs.

The authors describe in detail how deforestation leads to the emergence and spread of zoonotic pathogens. Infectious diseases that are transmitted from animals to humans. They account for most of the recent internationally publicized epidemics. COVID-19, Zika virus, human immunodeficiency virus (HIV), severe acute respiratory syndrome (SARS), H1N1 flu, Ebola virus, and similar “horror-horror” in the media space.

The report explicitly states that the reduction and fragmentation of forests, deforestation, concentrates interactions between animals and the diseases they carry. And this is what leads to increased opportunities for disease transmission, both between animal species and between animals and humans.

Hey, government bureaucrats! The statistics are such that there’s no need to kill forest pigs under the pretext of fighting African swine fever (ASF)! And there’s no need to shoot or destroy anyone at all! It’s not just useless, but harmful! Instead, we need to preserve intact forest areas!

So, let’s add from ourselves: all this data is old.

The report only publicly “highlighted” what has been known for several decades.

And yes: even the red fly agaric isn't "witch's poison," as we've always been told, but a valuable medicinal plant. This is a separate topic in itself, not considered by the report's authors. Forest ecosystems are a source of the most valuable raw materials for pharmaceutical production.

# Chapter 18. What did 100 countries agree on?

Nothing…?

The problems of deforestation worldwide are so vast that even if we take drastic measures to limit logging right now, it won't be possible to fully restore the destroyed ecosystems. Many species of animals and plants are on the brink of complete extinction. We are fighting for the Russian Taiga, for the nature of Russia.

For many years, we've been diligently protecting our animals, trying to address issues and defend ecosystems. And if a few years ago, when we talked about the large-scale destruction of Russia's forests, we were discredited and told there were no problems, today all the countries of the world acknowledge the issues! We've achieved publicity, but we haven't yet achieved any global changes.

Some changes are coming, but so far, they're just "long-term commitments." At the environmental summit in Glasgow (UK), 100 countries agreed to reduce

deforestation by 2030. The 26th Conference of the Parties to the UN Framework Convention took place in Glasgow. The decision to ban deforestation is a colossal achievement that will undoubtedly go down in history! That's what the conference participants themselves say.

However, the governments' decision states that only logging that harms nature will be reduced. In other words, no one plans to completely ban deforestation. And the concept of "harming nature" is quite flexible and can be interpreted differently by each country. For instance, today in Russia, deforestation is massive, with decades of severe theft in the country's forestry sector, yet no one has stopped it! And no one intended to. The authorities, having acknowledged the problems in the forestry sector, began to monopolize the Russian Taiga to make money themselves. A digital system has already been created, and they have started digitizing every tree from logging to processing. Reforms are underway, and necessary bills are being signed! And all this is not done for nothing. I'm sure the Russian Taiga is seen as one of the main areas for making colossal money in the coming years. And we might face irreversible consequences very soon.

There's another point I want to mention. Those who are now making decisions to limit deforestation by 2030 are old men in power. They're all already 60-70 years old! So, they'll stay in power for about ten years, no more. This is considering that, for instance, our authorities have legally allowed themselves to "rule forever."

So it turns out that now 100 countries have sat down at the negotiating table and agreed to ban deforestation in 10 years! Knowing that by then, none of them will be in power. They can spend these 10 years stealing and destroying forests, and then "pass on" the colossal environmental problems to our children. Meanwhile, in the eyes of society, lawmakers will look like real heroes for all these 10 years, who "discussed for a long time and reached an agreement."

Or am I wrong?

Among the countries that signed the agreement are the USA, Russia, Brazil, Canada, and China. These countries hold over half of the world's forest reserves, with 20% located in Russia.

Scientists nod in agreement and confirm: the significance of the decisions made is undeniable, as forests absorb about a third of all global carbon dioxide emissions annually! Forests also regulate air currents,

climate, form ecological systems, and essentially protect our world from extinction. Destroy the forests, and all life on the planet will perish.

And everyone swallowed the "good news," rejoicing that "finally, the authorities have come to their senses." But no one pays attention, for instance, to the fact that in 2014 in New York, again at a climate summit, various measures were also taken to protect the world's forests. However, NO real changes followed. They tore up the money, showed themselves to society from a "trustworthy" side, and... that's it. Meanwhile, forests are being destroyed on a catastrophic scale.

And just so you know, representatives from Russia and China decided not to attend such a "massive" event! They say they participated remotely. Biden responded that he was extremely "disappointed by this circumstance," after which he fell asleep right at the plenary session. Grandpa's catching up on sleep, he's tired.

And finally. At the summit in Glasgow, they acknowledge that forests in Russia absorb over 1.5 trillion tons of carbon. Meanwhile, the West is actively lobbying for the need to tax all products from Russia for their "carbon footprint." Our people are sitting there calculating

whether they might take the opportunity to tax the West instead. After all, our forests absorb carbon gas, which means they protect the whole world!

They're counting money, talking about how in 10 years they'll stop logging. Meanwhile, the "old elite" is preparing to dedicate the last years of their lives to deforestation, to take as much money as possible to the grave.

That's all.

# Chapter 19. Can we live without air?

Have you ever thought about what you're breathing? And what your children are breathing?

“As essential as air” is what people say about something you absolutely can't do without.

But can we do without air?

No, we're not talking about professional divers who can hold their breath for a few minutes! We're talking about us, about people. We're talking about how possible it is to live without CLEAN air!

Sometimes you come across a piece of news and you're just blown away! There's no other way to put it!

99% OF PEOPLE ON PLANET EARTH BREATHE DIRTY AIR!

How about that?!

These are the conclusions published by the World Health Organization (WHO) on April 4, 2022:

ALMOST THE ENTIRE POPULATION OF THE PLANET (99%!!!) BREATHES AIR THAT EXCEEDS THE QUALITY LIMITS ACCORDING TO CURRENT WHO STANDARDS!

THEREFORE, SUCH AIR THREATENS THEIR HEALTH!

THE AIR WE'RE FORCED TO BREATHE THREATENS OUR HEALTH!

Where do these figures come from?

Today, a record number of cities in human history are continuously monitoring air quality. In 6000 cities across 117 countries, air quality is currently being tracked.

People living there (EVERYONE!!!) breathe unhealthy levels of fine particles and nitrogen dioxide. Naturally, people in low- and middle-income countries suffer the most from air pollutants. But despite efforts to combat air pollution in wealthy countries, clean air in cities remains a dream even there.

That's how it is. These are WHO's conclusions.

And let's figure out how objective these conclusions are.

Let's say it right away:

Yes, unfortunately, scientific research and conclusions are used for POLITICAL purposes by Trans-National Corporations (TNCs), monopolizing markets worldwide for their ECONOMIC interests.

Including WHO directly serves the interests of TNCs.

“These conclusions prompted the World Health Organization to emphasize the importance of limiting fossil fuel use and taking other tangible measures to reduce air pollution levels,” as you can see, WHO directly voices a POLITICAL agenda. For making POLITICAL decisions on a global level.

Once again: UNFORTUNATELY, but that's how it is!

Instead of many truly necessary measures, various “environmental taxes” and “restrictions on fossil fuels and livestock emissions on farms” are promoted. Which is nonsense and blatant lies upon superficial analysis:

— All “environmental taxes” ultimately fall on ordinary people, raising the price of goods. We, the ordinary people, pay more and more money. Question: to whom and why? And how much of these additional taxes actually benefit the cause, and how much just further enriches officials and profiteers?

— Behind “restrictions on fossil fuels” (coal, oil, and gas) and the “green transition” lies the struggle of TNCs for global control over OUR planet. Such interests aren't very well hidden!

— And behind “restrictions on livestock emissions” are attempts to completely monopolize the food market on Earth. Only megacities and only industrial production of some “brew in vats” from bacteria to feed the controlled masses. Here, private farming with cows or goats is practically an “ideological enemy”!

But, setting aside the INTERESTS defended and promoted by WHO among others, we must acknowledge that COMPLETELY REAL SCIENTIFIC DATA is used as arguments.

Look at the basis on which these conclusions are made.

FIRST.

For the first time, large-scale air quality studies were conducted in 2011. Over a decade, there have been many more air quality monitoring stations. So, we simply didn't objectively know what kind of crap we were breathing, just due to a lack of observations!

“Released ahead of World Health Day, which this year focuses on the theme ‘Our Planet, Our Health,’ the 2022 update of the World Health Organization's air quality database INTRODUCES for the first time ground measurements of annual average concentrations of nitrogen dioxide (NO2), a common urban and environmental pollutant, a precursor to particulate

matter and ozone. It also includes measurements of particulate matter with diameters equal to or less than 10 microns (PM10) or 2.5 microns (PM2.5). Both groups of pollutants mainly result from human activities related to fossil fuel combustion.

The new air quality database is the most extensive in terms of coverage of air pollution exposure on land. Currently, ground monitoring data for particulate matter, PM10 and/or PM2.5, is recorded in about 2000 more cities/settlements than in the last update. This means almost a 6-fold increase in reporting since the database was launched in 2011."

SECOND.

WHO has finally acknowledged that pollutants previously not considered officially dangerous to humans are indeed harmful to health! There are no "maximum allowable concentrations of crap in the air" — that's a myth! WHO is ready to officially recognize this for the first time! Any pollution is dangerous and harmful!

"Meanwhile, the volume of actual data confirming the harmful effects of air pollution on the human body is rapidly growing and INDICATES THAT SIGNIFICANT HEALTH DAMAGE IS CAUSED EVEN AT LOW LEVELS

OF MANY AIR POLLUTANTS. Particulate matter, especially PM2.5, can deeply penetrate the lungs and enter the bloodstream, causing cardiovascular, cerebrovascular (stroke), and respiratory effects. Evidence is emerging that particulate matter also affects a range of other organs and causes other diseases.

NO2 causes respiratory diseases, particularly asthma, leading to symptoms of airway damage (such as coughing, wheezing, or difficulty breathing), hospitalizations, and emergency room visits. Last year, WHO updated its air quality guidelines, making them stricter to help countries more effectively assess air pollution levels in their territories."

The Director of WHO's Department of Climate Change, Health, and Environment, Dr. Maria Neira, commenting on the new WHO air quality report, said: "It is unacceptable to still see that DUE TO AIR POLLUTION THERE ARE 7 MILLION CASES OF PREVENTABLE DEATH and countless preventable lost years of good health. This is what we are talking about when looking at data sets, factual materials, and available solutions regarding air pollution. However, too much investment continues to be absorbed by the polluted environment rather than being invested in ensuring clean, healthy air."

Once again, as a summary — WHO has officially acknowledged for the first time:

— 99% of people on planet Earth breathe dangerous crap;

— 7 million people a year simply die from this crap in the air;

— There are no such things as "maximum allowable safe concentrations of crap in the air"—crap is crap, and it's always dangerous, no matter the concentration!

We don't need multinational corporations fighting for control over us; we need clean air!

And no WHO can defend our basic right to breathe—only we, the ordinary people, can do that by joining forces!

# Chapter 20. Is it possible to grow a forest?

Proper forest management is a reality. But to get things in order, officials and businessmen need to pull their snouts out of the trough, which they are unwilling to do.

You know, there are huge problems where there shouldn't be any at all!

In other words, these problems are ARTIFICIAL.

On one hand, logging companies are eager to access ancient forest areas. These are parts of the Russian Taiga where no logging has occurred, where the ecosystem has developed on its own for millennia, without human interference.

On the other hand, in our country, there are, by various estimates, between 50 and 100 million hectares of forest perfectly suitable for human use. But this forest has grown on unused agricultural lands. Therefore, according to officials and the paperwork laws they operate under, this forest doesn't exist. Consequently, it can't be used in any way.

So, for years, this completely insane situation remains unresolved: there are large volumes of raw materials for the forest industry that can't be used. At the same time, there aren't enough unleased plots in the country's forest fund. The available forest fund for logging is already leased out. And businesspeople in the logging industry are increasingly eager to reach remote ancient forests.

Paradox?

No, this paradox is only apparent!

Yes, in the objective real world, this situation seems abnormal. It's sheer idiocy, to be frank!

Only in the twisted world of bureaucratic logic is this situation normal. Quite familiar, even.

The metrics for a bureaucrat's effectiveness aren't the trees that actually grow, but the 'funds invested in reforestation.' So, they haphazardly plant miserable saplings in dry soil or swamps, without the necessary follow-up care. Huge sums are wasted just for reports. And no forests grow afterward.

The same situation applies to trees that have grown on abandoned agricultural land. We have at least 50 million hectares of such birch or aspen groves aged 30 to 60 years. Public environmental organizations have been

trying to get the authorities' attention on this issue for decades, estimating these forest areas on agricultural lands to be around 70 to 80 million hectares.

A couple of years ago, the issue finally started to move. A government decree was passed allowing the legalization or even cultivation of forests on agricultural lands. It's too early to say that anything has significantly changed in practice. But the government's acknowledgment of the problem and initial steps toward solving it are significant!

Within Rosleskhoz, there's an institution responsible for accounting for the country's forests, Roslesinforg.

In 2022, Roslesinforg will, for the first time, accurately count the trees that have grown over the past decades on abandoned agricultural lands.

At the beginning of the year, a Roslesinforg representative made this statement: 'The Ministry of Justice has registered a new procedure for conducting a state forest inventory. For the first time, it will be conducted on agricultural lands overgrown with forest. According to Roslesinforg, this is about 50 million hectares or 3% of the country's territory. After the state inventory, an exact figure can be given. Previously, no separate detailed accounting of these forests was

conducted.'

Once again:

— 50 million hectares of unaccounted forest;

— 3% of our VAST country's territory —

These are the rough figures acknowledged by the MOST COMPETENT FOREST ACCOUNTING INSTITUTION IN THE COUNTRY!

In 2022, Roslesinforg will survey forests that aren't officially recognized as forests in 27 regions. As a result, the country's authorities will finally get data on where exactly the forests on agricultural lands are located, their exact area, their total timber stock, and species composition. Then, the authorities can make decisions about the future legal status of former agricultural territories that haven't been used for about 50 years, where mature forests have grown in the meantime.

Special preliminary work has been conducted, and new accounting regulations have been developed. By law, forests are now considered plots larger than half a hectare, 75% covered with trees and shrubs over 5 meters tall with closed canopies. The status of a forest plot on agricultural land is assigned only if all these parameters are met simultaneously. This is important because forest fund lands and agricultural lands are

controlled by different ministries, and there are conflicts between agencies on this issue.

Forests on agricultural lands can be added to the forest fund only after the completion of the state forest inventory program. This is a strategic type of forest accounting work. It checks not only their existence in principle but also their condition. Quantitative and qualitative characteristics of these forests are determined to avoid conflicts between agencies.

Interim inventory results in certain regions have already been obtained. The numbers are simply astounding! For example, in the Altai Krai, about 1 million hectares of forests have been identified on agricultural lands. This is at least 20% of all forest plantations in the region! And the actual numbers might be even higher than expected!

'The area of former agricultural lands overgrown with forests may exceed statistics by FIVE TIMES. Simultaneously, new rules are being prepared under which overgrown areas can be considered forests,' said Pavel Chashchin, head of Roslesinforg.

What area do forests in Russia cover?

Well, who knows, it's Russia! That's how it is for now!

…'the area of forests may exceed statistics by five times'… — this is the opinion of a responsible official, the most informed in the country on the matter!

Look at the situation with forests in our country!

The forest-covered area in Russia is roughly around 1 billion hectares.

But, attention!

There are no more than 250 million hectares of ancient, pristine forests, the so-called 'intact forest landscapes,' left in Russia!

And these are optimistic estimates — up to a quarter of the forests! That's really a lot, up to 25%! Such wealth of pristine ancient forests exists nowhere else in the world, only here!

But there's a huge problem — their area is rapidly decreasing every year! The reasons are logging, businesses rushing into undeveloped territories, fires, and many other factors contributing to a single trend of destroying the last ancient forests.

Therefore, it's crucial to resolve the issue with unused agricultural lands and the forests that have grown on them. This would solve the problem in a way that 'keeps both the wolves fed and the sheep intact'!

The country's forest industry could gain additional raw materials. At the same time, the issue of completely banning the logging of ancient forests could be more actively and broadly promoted.

And further progress could be made in growing forests for subsequent industrial use, while preserving ancient forests completely untouched!

# Chapter 21. The biotic pump and forest fires

We need to globally protect intact natural ecosystems as soon as possible! The ecological disasters we witness today are just the beginning of anomalies and cataclysms due to the destruction of ancient climate-protecting forests.

While I was working on this book, the media reported something like, "natural fires have covered over three million hectares in Siberia to date." Honestly, this phrase is quite ordinary and commonplace.

But how "natural" are these "natural fires" in terms of their origin? That raises big questions!

Two, three, or four years ago, they always mentioned so-called "dry thunderstorms." Lightning strikes from the sky, but there's no rain: what can you do! And as a result, the Russian Taiga burns by the millions of hectares.

Now, this "excuse" about dry thunderstorms is mentioned less. Yes, such a natural phenomenon exists. But it's extremely rare! Blaming all fires on this phenomenon has gradually become an obvious lie. Now the media rhetoric (prompted by the "responsible and competent," of course) has shifted. More and more, they mention "people's irresponsibility." In various regions, increasingly severe penalties for fires are being introduced. Punish, punish, and punish again! Meaning the arsonists.

Yes, there is such a thing as arson. Both intentional and accidental. Environmental organizations have long provided statistics showing that the initial localization of forest fires is linked to riverbeds and roads across the country. A cigarette butt thrown from a car window can cause a fire. Just like barbecues, which are often grilled not too far from roads in the forest.

And along rivers, there are usually forest roads and trails where mushroom pickers, hunters, or tourists enter the forest. What to do if, supposedly, "dumb people" are now blamed for all the fires, not "dry thunderstorms"? From any official's point of view, there's only one thing: punish and prohibit. So, draconian penalties are introduced for arsonists. And "special forest visitation regimes." Essentially, bans on

people entering the forest.

The media systematically reports on those convicted of arson. Sometimes, though, it frankly smacks of "village idiots," on whom the fires were simply blamed. But anything is possible: it doesn't take much brains to set a forest on fire! Quite the opposite, actually!

Now let's turn to natural ecosystems. To the living, breathing, real Russian Taiga, to the untouched virgin thickets. And the first thing we'll realize is that there are almost no such wild corners left. A few in the Russian North and a few in Siberia. Do such forests burn? Yes, they do. But the nature of the fires in them is FUNDAMENTALLY different.

First.

There are hundreds of times fewer fires in natural ecosystems. The ever-growing fires we see worldwide occur in human-disturbed areas and spread from people. From roads. From clearings. From settlements.

The natural Taiga is not homogeneous. It has richer biological diversity. More shrubs, grasses. Have you heard the expression "impenetrable thicket"? That's virgin Taiga! Well, a dry tree caught fire. Suppose a "dry thunderstorm" with lightning. Well, it went out. There's nothing else to burn—wet areas around. The only case of

extensive fires is a forest area affected by pests and dried out. And that's not harmful but beneficial! It stops the further spread of the pest. Clears the area. And new Taiga will grow over the "burnt area."

Second.

Let's set aside global climate changes. And look at local changes within specific areas. We'll see that summer has become slightly warmer. The cold season with snow has slightly decreased.

The water regime of rivers has changed. Powerful and frequent floods in spring. And low water levels by autumn, drying up. The reasons are clear, long known. Logging along riverbanks and in already narrow water protection zones. Large-scale logging in general, when vast areas of once virgin Russian Taiga dry up.

It's clear that all these factors add up and lead to decreased humidity in forests, decreased soil moisture. And, whether it's the Russian North or the vast expanses of Siberia—these are swamps. And here we come to "zombie fires." Peat bogs dry out. Elevated areas with dried peat retain smoldering spots all winter. Last year's fire calmly winters under the snow and flares up again after the spring flood. We've essentially got fires that don't go out for years. They just "wait out the winter"

and flare up again. And fighting them is either technically difficult or impossible. We need some new technologies and methods to combat them, which we currently don't have.

Third.

A slight increase in temperatures, a longer warm season, and lower water levels lead to the drying of the Russian Taiga. And that greatly improves conditions for the spread of fires. In a wet forest, fire simply doesn't spread. But the "zombie fires" preserved in the peat bogs from last year make these fires practically "immortal."

Here, we should pay attention to another factor. Most of our forests have long been planted. Trees planted in neat rows, like in a garden bed, of the same species. Often—densely planted. Many dead, stunted trunks overshadowed by neighbors. And the trees seem quite young. But half are already "deadwood," fuel for a campfire, essentially. And now the entire Russian Taiga is starting to blaze like one big bonfire!

Recent studies have shown that secondary planted forests do not fulfill another important function—the "biotic pump."

The theory of the "biotic pump" has received so much confirmation in recent years that it should already be put into practice. The essence is that only a wild, natural ecosystem can regulate atmospheric processes above itself. Trees evaporate moisture unevenly. And they create clouds above themselves, but differently at different times. They shade themselves from the sun and help retain moisture from evaporation—this is the main impact.

But the ability to influence atmospheric processes above themselves leads to significant changes over vast areas. Stable air flows are established from oceans and seas deep into continents. There are wild forests, untouched by humans—the transfer of air masses goes to mountain ranges, pouring rain on their slopes. But where virgin forest has been cut down, this effect is absent. All the moisture falls near the coasts. The theory of the biotic pump in natural ecosystems is confirmed today in many places on Earth. It works in the boreal forest belt of the Northern Hemisphere. It works just as well in the Amazon and Paraná rainforests in South America.

Considering all the factors SYSTEMATICALLY, we see that the changes needed are also SYSTEMATIC. It's not "natural" fires that are burning the Russian Taiga, but the most "technogenic" ones! Human intervention has

replaced natural ecosystems, which literally regulated the climate for themselves, with a semblance of natural ecosystems that do not perform these functions. And transporting millions of cubic KILOMETERS of water, as clouds do from coasts to mountains, is something humans are TECHNICALLY incapable of.

And one question arises—the necessity of GLOBAL protection for intact NATURAL ecosystems.

The Russian Taiga isn't sick—it's us infecting it with all sorts of filth.

And it doesn't burn—it regulates its own humidity levels, creating conditions unfavorable for fires.

# Chapter 22. Reforestation or fund exploitation?

It turns out that reforestation in Russia is a complete crime. In reality, up to 90% of all seedlings die! Yet on paper, they always write: “Reforestation completed in full!”

— Currently, the total area of forests in need of restoration in our country exceeds 35 million hectares.

— By 2024, not all lost forests will be restored as planned by the Federal Project “Forest Conservation,” only those lost or cut down in 2022.

— Data for 84% of Russia's forest fund has not been updated for over 10 years.

— It has been established that the funding from non-budgetary sources for the Federal Project “Forest Conservation” is not justified. Lessees of forest plots are not required to provide reports on the funds spent on forestry activities.

Officially!

Current data as of early 2022!

Not “ecologists’ nonsense” or “scientists’ gibberish”!

Simple. Clear. Specific. Based on precise indicators from 2019 to the end of 2021. Professional audit!

Report on the results of the control event “Audit of the effectiveness of measures for forest reproduction in the Russian Federation for the period 2019–2020 and the elapsed period of 2021.”

Approved by the Board of the Accounts Chamber of the Russian Federation on December 21, 2021.

The Accounts Chamber of the Russian Federation prepared and published a thematic bulletin dedicated to the restoration and cultivation of Russian forests.

Experts conducted an audit of the federal project “Forest Conservation,” part of the national project “Ecology.”

The Federal Project “Forest Conservation” is already in operation. It is supposed to create favorable conditions for the restoration of Russian forests. According to the document, by 2024, a 100% balance between the areas of deforested and restored forests is planned. Complete reforestation!

But…

These are still just numbers on paper!

In the real world, on the ground — it’s not so straightforward.

Where the paper says “restored forest,” there are often wastelands of dried seedlings. Money written off doesn’t mean trees actually grew!

Here’s what Elena Sharoikina, Chair of the Public Chamber of the Russian Federation’s Commission on Ecology and Environmental Protection, says:

> “When calculating the area of restored forests, only the planting of seedlings is considered. In fact, up to 90% of seedlings die afterward. To ensure most of the planted trees survive, agro-care is needed, which requires additional human and financial resources.”

Something like that… “Wrote it on paper, but forgot about the ravines”…

A separate topic that deserves special attention is the main direction in the restoration of deforested areas according to the Federal Project “Forest Conservation” — the creation of extensive nurseries of tree species and the cultivation of seedlings with a closed root system.

For those unfamiliar with the technology: “closed root system” means “seedling in a pot,” generally speaking. The root system is not damaged when transplanted from place to place. This is very good in gardening. With proper subsequent care, which is possible in a garden. The big downside is the cost. It’s an order of magnitude more expensive than an “open root system.”

And this raises very big doubts about the applicability of such agrotechnology over vast forest areas. Just a sharp increase in cost without increased efficiency!

The Accounts Chamber report directly states that without considering regional specifics and due to the lack of qualified personnel, necessary equipment, and sufficient funding, this solution is unlikely to lead to significant results.

And that’s putting it mildly. Based on statistics alone. But even in this “numbers on paper” format — auditors draw the same conclusions as practical experts!

Here’s what Alexey Yaroshenko, head of the forest department at Greenpeace Russia, says about this:

> “The use of seedlings with a closed root system can indeed lead to good results in many forest areas (not all) — but only with a high technological culture of

> the entire complex of forest reproduction activities. With all the aforementioned problems, the survival rate of seedlings with a closed root system may turn out to be even lower.”

Again, of course, a polite and “politically correct” statement, yes…

Let’s be frank: the interest in increasing the cost of seedlings without subsequent care is to increase the amounts that can be written off from budgets for this purpose.

The auditors’ report directly states: “Lessees of forest plots are not required to provide reports on the funds spent on forestry activities.” So, does that mean funds can be written off uncontrollably?!

Our country is vast. The deforestation is gigantic. Reforestation, accordingly, is necessary on territories of simply epic proportions.

And this involves huge sums of money.

A bit about the scale from the Accounts Chamber report for understanding.

Annually in Russia, clear-cutting is conducted over an area of more than 1.1 million hectares.

On average, 0.2 million hectares are lost due to fires, harmful organisms, soil-climatic, and other factors.

Over 5 years, the area of forest-covered land in the forest fund decreased by 0.5% and amounted to 765.9 million hectares as of January 1, 2021.

The total stock of timber from 2016–2020 decreased by 372.91 million cubic meters (0.5%), with coniferous species decreasing by 527.59 million cubic meters (0.9%).

Overall, as of January 1, 2021, the accumulated area of unrecovered forests in the Russian Federation (reforestation fund) was 3.1% of the forest fund area.

So, are we seeing real reforestation, or just attempts to increase the amount of budget funds written off for this?

A very big and pressing question for the future of the endangered Russian Taiga!

# Chapter 23. Germany: cutting down forests or preserving them?

In Europe and the United States, ancient forests have been practically wiped out. Yet many people still fall for the "wrapping of civilization" and believe that Western countries have an ideal relationship with wild nature!

The problem of destroying ancient forests is a global issue. While Russia still has something to protect, in Europe and the U.S., for instance, ancient forests have been nearly eradicated. I've even received aggressive and dissatisfied messages telling me not to "insult civilized Europe" by labeling it as a destroyer of ancient forests! They claim that the EU loves nature, cares for forests, and that there are no issues in the forestry sector there.

I won't write about the summer of 2022, when many EU countries, under the guise of an "impending energy crisis," lifted restrictions on cutting down the last protective forests. Let's take Germany — the most European country, by the way, which many cite when

talking about the great care of a great civilization for forests! Let's just examine the real situation in the country.

How many forests are there in the country? What's happening there right now? Are the Germans cutting down ancient forests?

In Germany, forests covered about 32% of the country's total area according to official departmental information from 2012! However, 10 long years have passed since then, and during this period, there has been active logging under the pretext of "sanitary" cuts, due to forest fires, diseases, and pest infestations.

The Federal Law of the country defines forests as "any area planted with forest plants. Forests also include cleared or shaded areas, forest roads, forest clearings and protective strips, forest meadows and glades, forest meadows, areas for grass clearing, wood storage sites, and other territories related to and serving the forest."

So, there are significant doubts that the country truly has 32% forest coverage. For two reasons:

First — the data is from 2012, and over the past ten years, especially in the last three, logging volumes in the country have increased.

Second — the definition of forests also includes non-forest areas.

FOREST OWNERS

Now let's talk about forest owners. The majority of forests in Germany are privately owned. In fact, they are specifically owned by individuals! 48% of all forests in Germany are private, another 19.4% are corporate forests, and only 3.5% are federal state forests. The remaining 29% are classified as "state forests of federal lands." In total, the government owns 32.5% of the forests, while the rest are in private and corporate hands.

When forests are privately owned, that's when the most logging occurs in the country! Every owner understands that a forest is an opportunity to make a profit, and accordingly, people will cut down forests under any pretext. This is exactly what's been happening in recent years in Germany.

DESTRUCTION OF FORESTS

The majority of forests in Germany were destroyed before the 19th century. Back then, people didn’t think about preserving ecosystems and simply cleared the forests completely! Changes began in the early 19th century, and gradually the forests started to recover,

with good water supply on very fertile soil. Therefore, the overwhelming majority of forests in Germany are restored forests.

But the age of forests shouldn’t be counted from the 19th century; on the contrary, forests are constantly being planted, cut down, and replanted. Naturally, ancient forests have been almost completely eradicated! And without ancient forests, there is no proper biotic regulation of the climate, the "biotic pump" functions poorly, and hydrological cycles are disrupted. As a result, forests struggle with wildfires, are unable to retain moisture, and don’t know how to combat pests and diseases.

This is exactly what's happening in Germany today. The German Minister of Agriculture, Julia Klöckner, stated that the country's forests are "sick," and by 2020, their condition had deteriorated to a record low. In 2020 alone, more trees died than in the entire history of observations since the early 19th century. Only 21% of the trees in the country were deemed healthy. All other forest ecosystems are affected by diseases, bark beetles, or have suffered from forest fires.

The main cause of the death of coniferous trees has been identified as the spread of bark beetles. Reports indicate that over the past 3 years, forests have also been severely affected by droughts, storms, and forest fires.

The government report from July 27, 2020, states that 31.7 million cubic meters of timber were cut down due to a bark beetle infestation in 2019 alone. Let me publish a chart of the logging. Blue indicates logging due to bark beetles, red for hurricane-related reasons, and "other" reasons are shown in black.

It got to the point where the Bundeswehr military started engaging in deforestation. This was announced by the German Ministry of Defense's press service in 2019. With the help of the army, Germany began daily logging, removing and burning tree bark.

Experts report that almost all of Germany's forests are under stress. Leaves are drooping, tree fruits and even branches are becoming almost transparent. Ecosystems are barely holding on artificially, unable to cope with environmental pressure and climate change! In 2019, up to 36% of all forests were marked as having trees with damaged bark. Another 42% of forests showed a mild degree of bark damage, indicating further rapid

degradation. Each year, the situation has continued to deteriorate rapidly.

And what do we see in 2022? Climate anomalies, ecological disasters, rivers drying up. Germany's main waterway, the Rhine River, has become shallow, and up to 80% of the country's transported goods move along this river. When the water level dropped just slightly in 2018, the government closed the river to cargo ships for 132 days. This nearly triggered a recession in Germany—a decline in economic growth and production. Now, environmental degradation is intensifying to the point where shipping on the river could be completely halted in the coming years.

People only talk about economic and social problems! The government does the same. Environmental issues are ignored. I believe that the large-scale logging supposedly due to bark beetles and hurricanes is just an excuse for timber harvesting, under which private individuals are simply making huge profits. Declare sanitary logging, and you earn big money.

The last three years have coincided with a period of intense confrontation with Russia, from which the country previously purchased timber. As a result of the confrontation, Russia restricted timber exports to

Europe, and in January 2022, completely halted any export of Russian wood. This means only one thing: deforestation will increase, and environmental degradation will overwhelm all European countries with irreversible consequences.

Logging of ancient forests

"Civilized Germany," which supposedly should understand the problems and consequences of ecological degradation due to deforestation, continues to "pressure" the wild nature. And it's the government itself doing this! It's no surprise that forest degradation has been observed particularly in recent years: the authorities have started cutting down the last mother forest plots, ancient trees that are centuries old!

Moreover, there has been an increase in protests by environmentalists and local residents. A real confrontation is underway, which the German authorities are successfully suppressing, pushing through ideas of total destruction of the genetic and physiological heritage of the forests.

I'll give just a few examples from 2022. For the sake of "energy security," the authorities decided to cut down the ancient "Brothers Grimm" forest. Under the guise of "caring for the environment," the government allowed

the felling of a thousand-year-old forest, one of the few remaining ancient forest areas, with many trees over 600 years old. The authorities claimed the necessity of building a massive "clean energy" cluster right on this spot. Cut down a living forest to build wind turbines! A large wind farm will be located on the land of Reinhardswald, where major highways and dozens of wind turbines up to 250 meters high will also be constructed.

"The damage is enormous. We're talking about groundwater, drinking water, various animal species. We live here, walk, bike, gather mushrooms. It means a lot to us. It was the last place where we could relax," says environmental activist Oliver Penner.

These ancient forests were admired and inspired the legendary Brothers Grimm. They were a source of pride and essentially a natural monument for the local residents.

"We are losing forests partly due to the climate crisis. Therefore, wind energy, nature protection, and sustainable development are two sides of the same coin. We can only protect forests through more active use of renewable energy sources," comments Priska Hinz, Minister of the Environment for the federal state of

Hesse.

Am I the only one who thinks this is outright stupidity and looks like a deliberate destruction of specifically ancient climate-protecting forests? Sabotage, and nothing else. Considering that wind turbines can be placed anywhere. In our country, in Russia, a huge number of wind stations have appeared in recent years. Both in the south and in the north. Traveling through regions, conducting ecological expeditions, I always notice "green energy." And nowhere have I seen ancient forests being cut down to build wind turbines! They are placed in open spaces.

After the German authorities "suppressed" public resistance and began cutting down old-growth forests, they announced the need to replicate the experience across the country: wind power plants should be placed in all regions, with each allocating two percent of its area for turbines. And naturally, they plan to place turbines first where ancient forests still exist.

Another scandalous deforestation occurred due to the American company TESLA, which is building a factory in Germany. Environmentalists began protesting the deforestation, filed a lawsuit, but the authorities and the judiciary unanimously sided with the company.

Environmentalists claimed that deforestation would kill populations of various wild animals, to which TESLA representatives responded that they had combed through all the forests and... relocated all the animals from there. Just like that.

A SAD OUTCOME

Considering Germany's rapid slide into ecological disasters, increasing droughts, and climate changes, in the coming years, the ecology will degrade more than in the past 200 years. Meanwhile, a "war for energy" is beginning, with many European countries allowing even rare protective forests to be cut down. Naturally, if Germany doesn't find a solution, it will continue to destroy forests under any pretext.

It's simple: declare that forest areas urgently need saving from bark beetles—cut down the forest—sell the wood domestically for firewood! Local residents will buy the "scarce energy" during a cold winter at ten or even a hundred times the price they would in calmer times. And if there's demand, there will be supply. Considering that the overwhelming majority of forests are privately owned, people will figure out how to monetize the logging.

# Chapter 24. Forest insect pests: resilience of living ecosystems

In my expeditions to the most remote parts of the wilderness, I have seen that true ancient forests handle both wildfires and bark beetle infestations remarkably well. But as soon as humans interfere with ecological systems, wildfires begin, millennia-old biogeocenoses are destroyed, diseases emerge, and further degradation follows.

Epidemics of insect pests that destroy hundreds of thousands, or even millions of hectares of the Russian Taiga are not uncommon.

It's a sad pattern, indeed!

Just like wildfires have become a sad pattern, with their area increasing year after year, despite countermeasures.

Clear-cutting is generally a planned and systematic activity. Unfortunately!

Just a bit beyond people's understanding is the fact that mass pest insect epidemics are largely provoked by humans themselves.

A living taiga doesn’t get sick!

And if it does get sick, it heals itself in the shortest time. This is called "self-regulation of a biological system."

And writing off billions on fighting some butterflies or “bugs” is often just a waste of money. Pointless and useless. Why is that?

If you ask a biologist, forest pathologist, or ecologist, they’ll shrug and say, “It’s hard to assess precisely, but it can be assumed that at least half, if not 80-90% of insect pest epidemics in the taiga are indeed triggered by humans.”

Just leave the Russian Taiga alone, and it will be healthy and strong?!

In reality, it's a bit more complicated, but overall, that's a correct statement! The "little complication" is that "staying out" is no longer an option! We've already intruded! And having destroyed the accessible sections of the taiga, industry is increasingly encroaching on remote and hard-to-reach areas. The only option left is to strive for fully protected status for key ecological territories and move towards systematic interaction with

already exploited taiga areas instead of crude technocratic destruction.

Let’s examine how the Russian Taiga deals with insect pests. What is the “natural immunity of the taiga”? What is the biocenotic self-regulation of the system?

The Natural Living Taiga is incredibly diverse. This is perhaps the most important thing to understand—the Living Taiga is a complex system. There is an enormous variety not only of trees of different ages but also of shrubs, grasses, animals, birds, fungi, and invertebrates. Even more so, there are all sorts of organisms invisible to the eye. These include mycelium, which forms the fruiting bodies of the mushrooms we know. There are also microscopic fungi or bacteria. And an absolutely countless number of various viruses, bacteriophages, and the like.

When it comes to the number of connections, any powerful modern computer would first “freeze” trying to calculate them. Then it might suddenly develop its own “Artificial Intelligence” and say: “Man is the master of nature! But can I just mine or count the stars in the universe instead?!”

No joke—science still doesn't know about many organisms living in the boreal forests! Sure, there are fewer of them than the unknown species in the Amazon rainforest, but even in our northern conditions, there are plenty! With the acceleration of permafrost melting processes, for example, there have been more reports of previously unknown species of organisms.

And speaking of the number of connections and the complexity of biocenoses as a whole, such research is just beginning. The complexity of biological systems simply astounds scientists. Data from recent decades increasingly confirm the concept of Intelligent Earth-Gaia.

In the complex system of the Living Taiga, there are simply no "insect pest epidemics." There are just insect species that feed, for example, on leaves or winter under the bark of a tree. If their numbers increase for some reason, the number of birds or hedgehogs that feed on them will instantly rise as well. That's it! No problem arises at all! No "invasion" or "epidemic" will simply occur at all!

Problems arise in simple systems that are simplified under human influence.

— Due to logging, the species composition of the forest changes. If you cut down spruce or cedar, you unknowingly break thousands and thousands of connections in the biological system. As a result, some insect species begin to multiply massively.

— Stumps in clear-cut areas and piles of dry branches become incubators where insect pests are bred on an industrial scale. Then “swarms of locusts” spread to neighboring areas of the taiga.

“Even active reforestation efforts in clear-cut areas bring new problems. Saplings of a single species are planted in neat rows, like a garden bed. This only makes it easier for insect pests to infest! Most often, an insect is tied to a specific tree. And here, it’s just a dream—people have created a plantation of one species! No more need to move significant distances from one tree to another!”

With homogeneous planting, people have simplified the system to resemble a monoculture in an agricultural field.

“Attempts to restore the system often only make things worse. For example, the importation of invasive fireworms to the Caucasus along with saplings.”

It’s probably clear even from these (far from complete!) examples that humans behave “like a bull in a china shop,” interfering with a biological system they barely understand! We’re still far from being “masters of nature”!

Just a small example.

Plants of one species affect plants of another species, among other things, through root secretions, which can inhibit the development of certain pathogenic organisms. For instance, the root secretions of bird cherry (Padus avium) have a toxic effect on the root rot fungus (Heterobasidion annosum) — a parasite of Scots pine.

Do loggers consider how much bird cherry they destroy in passing, just by plowing the soil with heavy machinery? Does anyone involved in logging even know about this?! Most likely — no one does! And this is just one example of one interaction!

And there are simply countless such interactions!

Experts are gradually coming to understand the complexity of biological systems. In forestry, they've almost completely abandoned chemical methods for controlling insects. It has become clear that these methods simply do not work. At all! Absolutely!

Pesticides, for example, might kill an insect. A butterfly or a beetle. But its larvae peacefully winter under the bark, and in spring, everything starts over again. The result is a complete zero!

And the harmful consequences can be simply horrifying! Here’s another small example, probably little known.

Since the mid-20th century, DDT was actively used in Soviet forestry. It was even sprayed over millions of hectares of the Russian Taiga from airplanes.

DDT is an insecticide derived from chlorobenzene. Many might remember it by the name "dust." Currently, DDT is banned in many countries because it can accumulate in the bodies of animals or humans and cause poisoning over the years. Environmentalists have shown in studies that it has a particularly harmful effect on bird reproduction. DDT accumulates in eggshells.

Government agencies are reluctant to acknowledge these studies because DDT was widely used in many countries. Admitting it would mean having to pay compensation later. In the USSR, DDT was extensively used in forests. There are suggestions that its use specifically undermined and partially destroyed the wild bird population in the Russian Taiga.

Apparently, the number of birds in our forests has not recovered to this day...

In other words, the use of DDT not only failed to help in the fight against insects but also destroyed the birds that regulated the number of those very insects!

# Chapter 25. Hörgr of the Russian Taiga

The understanding of the wild that we are now coming to was familiar and clear to our distant ancestors. At some point, we completely lost that connection, barricading ourselves from real life with concrete slabs, slowly going insane, unaware that behind our backs, the true Living Mother is being killed.

You won't find much about “hörgr” online.

Wikipedia says:

> “Hörgr (Old Norse) or hearg (Old English) was a type of altar or cult site, possibly consisting of a pile of stones, used in Norse religion, as opposed to a covered hall used as a hof (temple).”

“Possibly,” “maybe”…

“Presumably, a pile of mysterious stones”…

Or maybe not stones at all…

The problem is that our ancestors' original concepts of unity with the surrounding Living World have been so trampled and buried that even the basic meanings and senses are forgotten.

Let's start with that: with meanings.

In phrases like “Norse religion,” “Slavic religion,” or “pagan religion,” there is hardly any meaning at all. Just confusion in our minds! These are not “religions” (or, even more so, “churches”!) in the modern sense at all!

Each person (you, me—anyone!) is an embodiment of a certain Power. Truly—an incarnate Deity. And truly, at any moment of the day or night, in any place, you can meet Odin himself, incarnated in this world, and speak with him.

People considered their home not to be a tiny cell in a concrete "human hive," but a vast expanse of land cultivated by their kin and ancestors. It was never seen as property you could do whatever you wanted with. "It's not the land that belongs to people, but people who belong to the Earth."

The elders of the kin helped everyone establish connections with the Divine Forces. Being more experienced, they were the kings, leaders, or simply wise old men. The idea of a mediator between humans

and the Divine would have sounded, to put it mildly, wild and incomprehensible back then. Every person is connected to the Higher Power—how could it be otherwise? What need is there for intermediaries like "priests" or "clergymen" when the connection is direct and personal for everyone?!

I think I've clearly illustrated the fundamental difference between the Tradition and Traditionalism of our ancestors and what is now being passed off as "true and ancient traditions."

They're pushing these ideas without even grasping the approximate meaning!

And the meaning is simple, like all genuine meanings:

Hörg is the heart of the native land.

It's all as simple and clear as a mountain spring!

Not an "altar," not a "sacred site with a pile of stones," or any other dubious interpretation of the term!

Just the heart of the native land.

The Russian word "сердце" also means "center." It refers to what is in the middle, the core of something. The heart, as an organ of the body, is also a "motor," an "engine" that pumps blood throughout the body.

The word "heart" in contemporary English is interesting. "Heart" — "hearg": the similarity is no coincidence!

Hörg is the heart of the native land.

A sacred place. The center. The focal point of the very Power of the native land.

It seems strange and incomprehensible. Like "science" and "scientists" immediately dismiss it with cries, shrieks, and foot-stomping: no, this can never be, because it can never be!

But why, really, can't it be?!

It's nauseatingly simple: if we acknowledge the existence of true Sacred Places, then what? Would we also have to acknowledge crimes against Mother Earth herself? What would that make of the "recognized scientists" who invent justifications for the further destruction of the Russian Taiga? Or those wealthy businessmen who pay for the services of these so-called "scientists," destroying all living things for personal gain?

So they lie. So they keep quiet about what's already on the surface. And it's confirmed, by the way, by research in the true sense of the word! Confirmed by experiments!

Yes, we clearly know now: there are ancient trees that are the centers of ecosystems. Our ancestors were completely right—Sacred Trees, whose destruction would doom the entire ecosystem!

Yes, it's been experimentally confirmed that Ancient Sacred Groves are a reality!

And each local biogeocenosis of the Russian Taiga has its own heart, its own Sacred Grove—its own Hörg.

Every local ecosystem has its Hörg-heart. And this is not mysticism. Not fantasies. This is an experimentally verified fact! Groves of ancient trees that hold genetic memory. Forming the microbiome of the entire forest.

These could be five-hundred-year-old cedars. Or ancient giant firs. It doesn't matter! We now understand for sure that such Sacred Groves exist in every local forest, and destroying them will destroy the entire forest.

There is a concept of "sacred geography" and "places of power."

The fact is, it's time to move these concepts from the esoteric to the realm of practical and truly scientific.

We don't understand the details, but the existence of certain "centers of neural connections" in a living biological system is now obvious.

Just as it's obvious that a living forest is a system with many connections. The living organism of the forest.

The Hörg of the Russian Taiga.

The heart of the boreal northern forest.

The Sacred Grove of ancient cedars.

So-called "pagan" concepts that are millennia old. Concepts that are now largely forgotten. Yet once, hörgs were part of everyday life. They were centers of the clan's power, the life-giving power of the forest among which people lived.

And now it's experimentally proven that such centers of power in the Ancient forest exist.

In fact, more than 100 years ago, Vladimir Ivanovich Vernadsky laid out the concept of biogeocenoses and the Living Biosphere of the Living planet Earth.

Isn't it time to rethink these so-called "pagan" values on a new level, don't you think?!

# Chapter 26. The presumption of the right to life

THE PRESUMPTION OF THE RIGHT TO LIFE FOR THE ANCIENT FOREST IS OUR RIGHT TO LIFE ABOVE ALL!

In recent years, I've been actively opposing the slaughter of animals in the Russian Taiga. We've conducted numerous expeditions, using our own resources to help those animals truly in need of support. In the winter of 2022, we embarked on a series of routes through the remote corners of the Russian Taiga, feeding wild animals and wintering birds affected by forest fires. Humans have taken everything from them: their habitat, their food, killed their kin, and as a farewell, set the forests on fire. How can a creature survive? Reports came in that hunters on snowmobiles were finishing off the unfortunate animals en masse in the snowdrifts. They take clubs and organize safaris in the taiga! They just ride around and beat the animals to death with clubs.

The unfortunate animals in the degraded forests are literally dying from hunger and cold. We couldn't stand by. Tirelessly, all winter, we helped the last inhabitants of the Russian Taiga with our own efforts.

After that, throughout the spring and summer of 2022, we conducted expeditions to eliminate torture devices in the forests. These are traps and snares set by poachers! And every time, I thought of only one thing: why are we the only ones doing this? Imagine if a million people started doing the same thing at once! That's a million trees planted in a day, a million traps eliminated, and a million buckets of feed for animals in the Russian Taiga! With minimal effort—colossal results.

When we talk about preserving wild animals, some measures to save endangered species only begin when extinction becomes obvious.

Moreover! The extinction of the last rare organisms usually needs to be proven!

"Oh!" the wise Decision Makers might say (maybe!), "Indeed, everything's dead! Hmm... well, then, let's pass a little law to ban killing... since it almost doesn't exist anymore."

So, everything can be shamelessly destroyed until we push it to the brink of complete annihilation. And then (maybe!) we'll start preserving what we've almost entirely destroyed ourselves.

The Barguzin Nature Reserve in Siberia was created to save the last sables. Only a few dozen animals were left alive across the entire taiga. They were saved. Preserved. Through the desperate efforts of enthusiasts fighting for the life of this dying species!

The western black rhinoceros went extinct in 2006. We didn't manage to save it.

The Caucasian bison went extinct in 1927. Before that, around the mid-19th century, the Caucasian elk became extinct.

Back in the 18th and 19th centuries, the tarpan—a wild variety of horse—was widely distributed across the steppes of several European countries, the southern and southeastern European part of Russia, Western Siberia, and the territory of Western Kazakhstan. It was widespread and ubiquitous, with many subspecies that differed from one another.

The Steller's sea cow, the thylacine, the Falkland Islands wolf, and many other species across all continents. The list of those we couldn't save is endless.

Are these specific animal species really that important? Do we even need to fight for their preservation?

When we talk about preserving entire biological systems, entire biocenoses, we encounter the same problem! We still have a long and arduous task ahead of us to first prove:

A.) That the ecosystem is truly on the brink of complete destruction.

B.) That this dying biological system needs to be preserved.

NO RIGHT TO EXISTENCE FOR INDIVIDUAL SPECIES OR BIOLOGICAL SYSTEMS IS RECOGNIZED "BY DEFAULT"!

DO YOU UNDERSTAND THIS?!

THERE IS NO PRESUMPTION OF THE RIGHT TO LIFE!

Right now, my colleagues and I are fighting to save the last remaining ancient forests on planet Earth. These are the last complex biological systems formed without human intervention. The last patches of forest with a history spanning thousands of years.

We are trying to raise the issue of the importance of preserving ancient forests to the public.

We are reaching out to government authorities with the initiative to preserve ancient forests.

And we've managed to take the first step! When a public initiative becomes widespread, it gets noticed.

The first step to solving any problem is to recognize it. Acknowledge its existence. And we've ALREADY DONE THAT! The issue of preserving ancient forests has been brought to the attention of both the public and the authorities.

It's clear that this is only the first step. We need to keep moving forward!

And here, it's important to understand the LEVEL OF COMPLEXITY of the problem we're trying to move from a standstill.

QUOTE FROM THE RESPONSE OF ROSLESHOZ TO OUR APPEAL:

"The Federal Forestry Agency has reviewed the appeals from a group of applicants, received from the Administration of the President of the Russian Federation, regarding the ban on logging ancient or old-growth forests in the Russian Federation and reports the following.

THE CONCEPT OF 'ANCIENT' OR 'OLD-GROWTH' FORESTS DOES NOT EXIST IN RUSSIAN LEGISLATION. IN THE LEGISLATION OF FOREIGN COUNTRIES, THE ISSUES OF DESIGNATING AND MANAGING OLD-GROWTH FORESTS ARE ALSO NOT REGULATED.

International experience in forest conservation shows that when there is scientific justification for preserving certain valuable forest areas, they are given an appropriate protective status, conservation regime, and usage restrictions as provided by national legislation. In the Russian Federation, there are protective forests and forests located on lands of specially protected natural areas (hereinafter referred to as SPNA)."

A fundamentally important point!

> "THE CONCEPT OF 'ANCIENT' OR 'OLD-GROWTH' FORESTS DOES NOT EXIST IN RUSSIAN LEGISLATION. IN THE LEGISLATION OF FOREIGN COUNTRIES, THE ISSUES OF DESIGNATING AND MANAGING OLD-GROWTH FORESTS ARE ALSO NOT REGULATED."

The preservation of ancient forests is only just being recognized as a pressing necessity for people.

The preservation of ancient forests does not yet exist as a legal concept, not only in our country but worldwide!

And most importantly, the "presumption of the right to life" for ancient forests isn't even considered!

The issue is not simple. It involves legislation and legal matters. The essence is that any ecosystem can be taken and used as desired. That's how it works now. Logging forests or extracting minerals, for example. The concept of "environmental assessment" has only recently emerged. Cases of interstate conflicts have only recently started to appear, where one state's exploitation of an ecosystem harms another state. All these issues have only begun to be raised a few decades ago. In the 21st century.

And now the understanding that the state of ecosystems affects all people, all countries, is just beginning to be regulated by some agreements and rules. It's only starting to enter the legal realm.

And now we are raising the issue of the right of ancient forests to exist. Essentially, we're advocating for the presumption of the right to life for ancient forests! That is, not to panic when everything is already destroyed, and not to have to prove to bureaucrats and businessmen that ancient forests are indeed being

destroyed and that they truly need to be placed under the legal protection of the state.

We need a completely opposite legal practice!

The businessman should have to prove long and hard:

A.) That intervention in the ecosystem in this specific case has no alternative.

B.) That this intervention does not cause harm. And if harm is done to the ecosystem, it must be compensated double before any economic activity begins.

The presumption of the right to life.

The presumption of the right to life for the ancient forest.

Not... "in the presence of scientific grounds for preserving certain valuable forest areas, they are given the appropriate protective status..." but if you want to use any natural resources, you must first compensate for the damage from such exploitation!

In reality, this is the INEVITABLE development of relationships in human communities. By defending the ancient forest's right to life, we are merely the first to stand up for the future.

We, along with our cities and civilization, are only part of Earth's Biosphere. We are embedded within the living ecological systems. And the ancient forest's right to life is fundamental!

Especially now, as there is confirmed scientific data that ancient forest ecosystems shape the climate. If we allow certain particularly greedy members of our species to devour the ancient forest for their psychopathic thirst for power and profit, we all perish, all of humanity, from the lack of fresh water, hunger, and the destruction of our own habitat.

# Chapter 27. Why are expeditions against poachers necessary?

What one person can do, millions can do too. The question is, do they want to? Do they want to see the problems and protect nature? Why spend precious time on this at all?

I’m often asked: why do you conduct expeditions against poaching? Can a few people really make a difference?

How many animals can we realistically save? Dozens, maybe not even hundreds?

Yes, that's true. Our resources are limited. Our capabilities are small.

But even saving dozens of wild animals is worth it!

It's worth the effort and the time spent!

Right now, we can save lives. And that, you know, is a noble goal in itself! Even if they are the lives of animals, our “lesser brothers.” People have lingered too long on the path of exploiting and destroying all living things around them. This is no longer necessary; it’s long been

pointless. And it’s gradually becoming a path to self-destruction, where senseless cruelty towards our animal brothers turns against us.

It's high time to stop this!

The goal of the anti-poaching expedition is not only to save dozens or even hundreds of living beings. Although that’s important too! The real goal is to show others the way.

To overcome people's indifference.

To overcome ignorance.

To show what poaching is. To show what poaching tools are.

In reality, objectively: no one truly knows about traps or steel snares, about poaching!

99% of people have never even seen a trap!

Do we even need to know about this? Is there a need for widespread education in this area if most people are city dwellers?

I believe it’s necessary! It’s precisely the ignorance and indifference of people that commercial hunting lobbyists exploit. Legislation is pushed to make money from the paid killing of living creatures. The true meaning of actions is hidden behind deceitful phrases from

“sportsman hunter” to “conservation hunting.” Even like this: the phrase “conservation hunting” is promoted by advertising specialists! Concepts are shamelessly substituted! Just say it as it is: “PAID KILLINGS,” — naturally, no one wants to say that! It sounds, ugh, disgusting! But the essence of the action remains the same, no matter how you try to dress it up: it’s paid killings.

The same goes for various “humane traps.” A pretty name for the same old “animal cruelty.”

Another issue is that traps are partially banned by law. Most people, unfamiliar with the real situation, imagine that there’s some serious fight against poachers. But that’s not the case! There aren’t enough rangers. There aren’t enough resources to fight poachers.

But even more importantly, various traps are hard to detect. A poacher setting snares just needs a coil of wire. These aren't even steel-jaw traps! So, in reality, hunting with blatantly poaching tools continues in the Russian Taiga! Despite it being illegal! Despite the tools and devices being long recognized as blatantly poaching!

Our anti-poaching expedition aims to solve two main tasks.

FIRST.

To show people what a trap is. What a steel snare is. What other poaching tools are.

To show them simply so that people far removed from hunting and the taiga can understand what this is!

SECOND.

There’s an idea that it would be good to create something like a “Guide to Traps and Snares for the Guardian of the Russian Taiga.”

I don’t yet know in what form this can be realized. But the idea is clearly needed! There are tons of articles and videos online for hunters. How to use traps, how to set traps better. Including blatantly poaching, illegal devices. But there’s nothing for opponents of “poaching!”

I think that’s wrong!

There’s relevant information on the topic that can be summarized and used in practice to fight poaching!

— which traps and snares are banned;

— how not to get caught in a trap and what to do if it happens;

— how and where to report poaching tools.

This is a short list. The first questions that come to mind.

Very relevant and important! There isn’t enough accessible information for nature defenders. Including on the topic of poaching and poaching tools.

In general, I often write about this: we are at a disadvantage compared to those who are destroying the Russian Taiga. They have money, force, and authority on their side. It’s no surprise, of course. Logging is a powerful industry in the forestry complex. Hunting is an industry in the hunting economy, also bringing significant profits. And it’s the same with everything!

But the Guardians of the Russian Taiga can only rely on each other! We don’t have millions in profits or governmental or authoritative interests backing us! But the world is changing. More and more people want change, understand its necessity. They want a more humane attitude towards animals.

And the demand for such changes in society is growing.

And no one can stop these changes, no matter the cost!

The world is changing and will continue to change. And it’s within our power to say: Yes, we will lead these changes!

Yes, we are the Guardians of the Russian Taiga.

# Chapter 28. Instruments of torturous hunting

While people turn a blind eye to environmental issues, there is a real extermination of wild animals happening in the Russian Taiga! Often through methods of torture, cruel and perverse techniques. And everyone is to blame: both those who kill and those who show indifference. Indifference is complicity in the crime.

A "TRAP" is a technical device for killing or capturing someone, usually referred to as "game."

Did you know that a human can be the "game" (victim) just as easily as an animal?!

Yes, indeed! The basis of ANY type of trap is the INDISCRIMINATE nature of its action!

Whoever gets caught in the steel noose, it tightens on them.

Whoever steps on it, the trap snaps shut: on a "leg" or a "paw." Believe me, the steel trap doesn't care!

This is just a preface. A simple illustration of the basic property of a trap (or snare) — whoever touches or steps on it gets caught.

INDISCRIMINATE ACTION.

And if an adult might be able to escape from a trap, albeit with an injured limb, an animal or a child cannot. Although, with a serious injury from a "wolf" or "bear" TOOTHED trap, biting into a limb with STEEL SPIKES, even an adult is unlikely to escape…

A technical device for KILLING or capturing. Accordingly, capturing followed by killing — most often. Capturing animals for study or relocation is a rare exception. Meat, to eat. Or fur, to make clothing. These motives for capturing animals are more common. Traditional, you might say.

And "humaneness" or "non-traumatic" — were not only NEVER INTENDED but are also TECHNICALLY IMPOSSIBLE!

The purpose of the overwhelming majority of mechanical hunting tools is precisely MAXIMUM INJURY TO THE VICTIM! UP TO THE DEATH OF THE VICTIM!

This is a fact.

This is the real practical purpose of a trap or any other snare.

And talk of "humane traps" or "non-injurious traps" is essentially blatant lies! Once again: the very purpose of a trap is to injure the victim and subsequently kill it! These mechanical devices are designed precisely for this!

A trap or snare is a device, a technical tool, that "hunts on a person’s behalf." A means of automating and scaling hunting. The human hunter does not track the prey themselves; instead, some "steel jaw" left by a person watches over the prey day and night.

The ethnographer Julius Lips believes that the appearance of the first trap had more significance for human culture than the invention of the wheel. He is probably right! For the human hunter thousands of years ago, it was simply a breakthrough — a device that procures food on its own.

To catch game, people have used—and still use—traditional devices known in Russian as bashmaki, venterya, vorota, davushki, kapkany, kladi, kletushki, klyaptsy, kobylki, kovshi, kolody, kolpaki, koshi, kryuchki, kuzova, kulemy, mouse and rat traps, obmyoty, padiny, pasti, perevesy, pesty, petli, plashki,

ponozhi, pruzhki or podpruzhki, saki, samolovy, samostrely, szhimy, silki, sloptsy, stulchiki, stupy, teneta, tynki, cherkany, shatry, pits, and many, many more. There is simply no end to the names of various devices invented by people for catching game! And there are also devices for catching birds, fish, or crayfish.

Since the 16th century in Europe, steel traps have appeared and gradually replaced all other types of traps. Except for snares, probably. The rope snare is replaced by a wire snare. And later, by a steel cable snare.

The steel snare and steel trap are the most "lethal" and effective tools of "passive remote hunting" in the modern world. If a trap is quite expensive, a snare is practically free. Teenagers or not-so-wealthy provincial residents can easily set snares for various animals. The design of a slipknot is simple, and wire is accessible.

And here we come to an important question: hunting, including with various types of traps, is now often interpreted as "sport," as "sport hunting."

And a huge ethical question arises:

What kind of "sport" is this that involves inflicting injuries on living beings?!

Can we consider "sport" to be outright cruelty?!

And increasingly, both society and state authorities are coming to the conclusion that such cruel entertainments are no longer acceptable in the modern world. It should be noted that traps are already partially banned in our country. And completely banned in many other countries around the world.

The time for change has come!

Yes, once various traps were part of the development of human civilization. That was thousands of years ago, and now that time is finally ending! People no longer need to hunt for food or to skin animals for clothing. All of that is in the past!

And cruelty as "entertainment" or "sport" is something we definitely don't need to drag into the future! The only traps that should remain are live traps used by zoologists for capturing, studying, or relocating animals. Just like "tranquilizer darts." But traps, snares, and other instruments of torturous hunting need to be left in the past!

# Chapter 29. Hunting then and now

Sport hunting should be banned. Killing can never be a sport! It's one thing to hunt for food, another to kill for pleasure.

Because of my activism against the extermination of wild animals, I often receive aggressive letters from hunters. They say, don't touch the 'sacred.' 'The sacred traditions of our landowning ancestors' (princes, boyars, and so on—insert your own here).

Yeah, right, sure...

So let's break it down, what are we really talking about here?

In the minds of people not involved in modern hunting, what is 'hunting'?

A gentleman from Turgenev's works, wandering the fields around his estate in search of game. That's from a long-gone past and romantic movies! Yeah, right—try finding those 'Turgenev ladies' now.

Or the wise hunter Dersu Uzala, who feels the living Taiga of the Far East with his skin.

Or the brave trappers from James Fenimore Cooper's works.

That's all in movies and books, nothing more!

Yes, I won't even argue that such hunters exist today. But they are FEW. Below the margin of error!

When I talk about the current state of 'hunting and game management,' I'm talking about a mass phenomenon. About what I actually see 99% of the time in the modern world. And yes: THIS kind of modern hunting is 'butchery' and senseless killing.

The rare 'gentleman hunter' hunts for unique trophies. Often in reserves. He's wealthy and 'can afford it.' If the shooting isn't done from a helicopter, he's flown to the location. And then the huge horns of a mountain goat are 'acquired,' essentially, from the most advanced sniper rifle from a great distance, depriving the rarest snow leopard of food.

'A rank lower' are numerous businessmen or even representatives of 'power and administrations' who 'hunt' bears hibernating in dens. They crush wolves with powerful snowmobiles, giving the predator no chance to escape. They track animals with drones. They kill with

modern sniper rifles with the most advanced scopes, including night vision.

Isn't that how it happens?! Yes, exactly like that!

And then we see in various hunting publications and magazines, on social media—photos of 'brave hunters with their trophies.'

Over a pile of dead hares or wild geese.

Over the body of a mother bear, a symbol of Russia itself, if you will.

Over the bodies of senselessly killed living creatures.

For what? Why? Just to stroke their own 'ego.' Like, look how cool I am, and I have the 'right to kill.' And I 'killed' the 'trembling creatures,' ran them over with a snowmobile, dismembered them. Seriously?! Don't you think these 'amateur hunters' need therapy and a therapist? I think so—this state is abnormal. An obsession with killing and taking photos with corpses is not normal.

And now let's move on to mass and democratic hunting. To the broadest phenomenon, so to speak.

So, this is an IMITATION of hunting. There's animal killing—but no 'hunting' in the full sense of the word.

Hunters don't track game for hours and days. Hunters don't 'follow tracks.' Hunters don't know the Taiga or the habits of wild animals, as the lobbyists of paid commercial killings like to tell.

None of this EXISTS!

In today's world, it's a commercial industry of paid killings of semi-wild animals for entertainment.

People are busy these days. They don't have time to 'wander through the Taiga.' Serious and 'authoritative' people (from the local store manager to the police inspector) come 'just to relax.' 'To shoot a little deer.' Barbecue, women, sauna, vodka usually included.

That's the reality I see 'from the ground'!

Hunting grounds have long been commercial enterprises. Animals are bred in semi-wild conditions. Like in maral farms, where marals are bred. Several hectares of forest are fenced with chain-link. Animals are fed with imported feed. They're not quite domestic, but they're not afraid of people. And then the semi-domestic animal is driven out by gamekeepers to be shot. The hunter, sitting in a specially equipped shooting spot, just has to shoot the 'live target' in the setting of the Russian Taiga. Just a shooting. No 'tracking game.' All the 'epic' and 'action' comes later. In the sauna, with

'fresh meat,' under vodka.

It's just making money off fans of this kind of entertainment.

'Just business, nothing personal.'

Just a modern industry of paid animal killings. An industry that's completely legal and lawful. And legislation expanding the possibilities of such an industry is systematically promoted.

This is my personal opinion. These are essentially my personal initiatives. But more and more people are joining me in my initiatives.

More and more people realize that we need to harmonize and humanize the world around us. And commercial animal killings don't fit into that picture of the world at all!

We say 'NO' to the industry of paid killings!

'NO' to the senseless destruction of the Russian Taiga!

'NO' to the senseless destruction of animals!

And if someone continues to lie about 'sacred hunting traditions of ancestors,' replacing the REAL state of affairs with some fictional image, then let them hunt like their ancestors!

Honestly! Without drones, without long-range rifles with powerful optics, without night vision devices, without snowmobiles and ATVs. Not from a helicopter, but on foot through the mountains after a mountain goat!

With a spear—and after a mature bear!

Let me remind you: a 'spear' is not a very long pole with a sharpened iron tip. In 'close combat,' so to speak. Purely leveling the playing field between man and predator. The bear has claws and fangs, and the human has a spear. Like that, not from a rifle a kilometer away!

And the industry of paid killings is a bad form of recreation. It's vile, cruel, and pointless. Plus, there's the constant lying about 'hunter-naturalists,' 'hunters-conquerors of the Taiga,' and so on.

In fact, 'amateur hunting' existed not long ago, during the Soviet Union. But now everything has changed. Now it's business, commerce.

Business in blood...

# Chapter 30. Invasive species: regulation or killing?

An invasive species (from the Latin invasio, meaning "invasion, attack, raid; violence; forcible seizure") is a biological species whose spread threatens biodiversity. The typical initial cause of the spread of invasive species is the intentional or unintentional introduction of organisms beyond their natural habitats. (Wikipedia)

Humans have long interfered with ecosystems. The issue of invasive species—those introduced from outside and harmful to the ecosystem—is well-known. In recent years, only the SCALE of this problem has changed:

1. There are almost no areas left untouched by human intervention. Even nature reserves are subject to anthropogenic pressure! Some species infiltrate from neighboring, non-protected areas. Increasingly, humans introduce others. It's no secret that even in our country, reserves conduct various tour programs. The number of tours increases every year. Meanwhile, the areas of the reserves are directly or indirectly shrinking. If the size

of a reserve can't be reduced, its level of protection is lowered, for example, by reclassifying it as a national park.

2. The destruction of natural habitats forces many species to seek new places to live. Migrations are intensifying.

3. The overall degradation of ecosystems makes them unstable. Just a few years ago, an ecosystem might have adapted to a new species, integrating it. But due to, say, chemical pollution of rivers, this is no longer possible. The balance is disrupted! An invasive species affects the ecosystem along with other factors.

The situation is such that people are FORCED to learn how to work with ecosystems!

We make changes anyway. Spontaneously. Without considering the surrounding world. Monitoring ecosystems is necessary. Developing regulation methods. And that's very difficult! Because biocenoses are COMPLEX systems! With many connections, many organisms that make them up.

The option of "just shooting them all" is increasingly not an option! Due to the fragility and instability of Australia's biocenoses, there are many examples from this continent. Shoot feral cats, and you get a mouse

invasion. Poison the mice, and new problems arise. It's simple: you can't fix a computer with a crowbar! Biocenoses are COMPLEX systems, much of which we still don't understand. But the understanding that straightforward methods like "shoot these," "shoot those" DON'T WORK is gradually accumulating.

But developing new methods is difficult! Let me illustrate this with a specific small example.

In the late 19th century, gray squirrels from North America were introduced to the British Isles. Gradually, gray squirrels began to displace the native red squirrels. A century later, you might ask why the problem arose now? It was discovered during a forest restoration program. The local red squirrels and the invasive North American gray squirrels have slightly different diets. The gray squirrel strips bark from young deciduous trees, while the red squirrel does not. This difference was uncovered when investigating why oak plantings were dying. It turned out that the bark of young oaks is a delicacy for gray squirrels. Everything people plant is being destroyed.

As of today, the population of gray squirrels in Scotland is over 3 million. And it continues to grow rapidly. Gray squirrels have taken over most of the southern

territories and keep pushing the red squirrels further and further north. The issue is that they carry squirrel pox, which poses virtually no threat to their own species but is deadly to red squirrels.

What can be done?

The first suggestion was to cull the gray squirrels. But it was rejected. Public opinion in the UK has long disapproved of such methods. Officials cited this as the reason for rejecting the cull. But in reality, that's not the case: culling is simply physically impossible. A huge number of these small animals live within urban areas, in parks and squares. You could shoot squirrels in the forest, but the population would instantly recover. Young squirrels from the parks would take their place. And in parks, it's impossible to shoot these small, agile creatures. It would quickly turn into shooting at park-goers: firing in such crowded places is dangerous and therefore prohibited.

They searched for a long time for methods to control the population of gray squirrels. The issue of squirrels was addressed by a coalition of conservation and forest protection movements known as the "UK Squirrel Accord." In 2017, they proposed administering contraceptives to the animals and have since

experimented with various ways to feed them.

In 2019, they developed and tested a special feeder model in East Yorkshire that no animal other than the gray squirrel could access. The feeder was coated with a marker paint that, when it got on the squirrel's fur, made it glow under ultraviolet light. Ecologists found that about 90% of the squirrels in this forest visited the feeders repeatedly. No other species accessed the feeder. According to the project developers, this could achieve the desired effect.

The Government Agency for Animal and Plant Health reviewed the project. It agreed with the developers' arguments that within a few years, the gray squirrel population would decrease tenfold if contraceptives were used. The British government approved the project to control the gray squirrel population using oral contraceptives. In 2021, the project was launched. Feeders were installed en masse. Delicious nut paste, spiced with the appropriate agents, was distributed. A year of work. Budget funding.

And in 2022, population assessments revealed that gray squirrels continue to multiply "like squirrels"! Or "breed like rabbits," if that expression makes more sense. Hello, Australia!

Oral contraception didn't work!

So in 2022, the Scottish state company "Forestry and Land Scotland" plans to set up 35 experimental homes for pine martens to stop the migration of gray squirrels to the northern part of the country. They are now planning an experiment with biological regulation of the gray squirrel population by increasing the number of predators—martens.

They plan to install nest boxes filled with wood shavings on trees. "Safe and cozy homes for martens," as the authors of the new project write. Company representatives expect this will increase the predator population and, as a result, stop the migration of gray squirrels to the north of the country. For now, it's an experiment to curb population growth. For now, it's 35 homes with an evaluation of the effectiveness of such measures.

The experts behind the project to increase the marten population argue that martens rarely hunt red squirrels. Or don't hunt them at all. Because they "have evolved together over millennia."

But! Other zoologists argue that the range of martens will never expand into urban areas where large populations of gray squirrels live. Therefore, this won't

work, just like the proposal to cull the gray squirrels.

Well, and the "friendship" between martens and native red squirrels is also in question! Not all experts are convinced that a marten will ask a squirrel whether it's red or gray before catching it.

Overall, in the attempts by authorities to control the gray squirrel population in the UK, the score is currently 2-0 in favor of the squirrels. The authorities are still helpless—public funds are being wasted. Shooting them is useless, and contraceptives aren't very effective on their fertility. Whether martens will help is also uncertain. This is a clear illustration of how poorly humans are still able to regulate ecosystems!

And, yes: "shoot them all" is definitely not an option! It's been tested worldwide many times! It doesn't work!

# Chapter 31. The extermination of animals in the USA today

Every year in the USA, authorities mindlessly exterminate animals! Just like that, considering it an urgent necessity. So, it seems that humans are so important that without their intervention, nature can't survive on its own?

In the United States, a public federal program is being implemented under which authorities sanction the mass extermination of wild animals. In 2021 alone, specialists from the Wildlife Service of the Department of Agriculture killed more than 1.75 million animals and birds. The government claims these actions are necessary to protect crops and human health. Authorities have crossed all permissible boundaries, even affecting the rarest animal species. All those deemed "unnecessary" in ecological systems were bluntly killed. For instance, nearly 64,000 coyotes were killed in just one year.

Just so you understand, the number of animals at 1.75 million is only the official figure. In reality, you can easily double that number! But even according to official statistics, it turns out that the authorities were killing 200 creatures per hour in the name of "saving people from vicious animals."

In 2021, as part of the implementation of a federal program in the United States, under direct orders from the government, authorities carried out a mass extermination of an entire "Noah's Ark" of species, including alligators, armadillos, pigeons, owls, otters, porcupines, snakes, and turtles. No fewer than 1 million unfortunate starlings were killed. I previously published material on how sparrows were exterminated in China and what that led to. Now the same is happening in the U.S., right now. The thirst for killing has led Wildlife Service employees to simply kill everything that moves.

Let me now provide some numerical information on certain animals being exterminated in America under the federal government program.

In 2021 alone, the authorities destroyed:

9,583 double-crested cormorants

9,003 white-tailed deer

9,961 zebra doves

10,775 black-tailed prairie dogs

16,792 black vultures

143,903 wild boars

75,351 northern pikeminnows

63,965 coyotes

26,969 Canada geese

24,683 beavers

21,706 chestnut munias

And now the most important thing: this happens annually, for the past several years. The extermination of animals—as a continuation of the "great colonization" of America. First, they wiped out the entire native population, committing genocide against the Indigenous peoples, and now they diligently continue to exterminate wild animals. And all of this is done deliberately!

A year earlier, in 2020, this same government agency killed 404,538 local animals, including 324 gray wolves, 64,131 coyotes, 433 black bears, 200 mountain lions, 605 lynxes, 3,014 foxes, and 24,687 beavers.

Activists, experts, and scientists are now unanimously speaking out against the extermination of wild animals. But so far, after many years of demanding that the U.S.

government stop destroying ecosystems, there have been no significant results. On the contrary, the number of killings increases every year, and new federal programs are aimed only at the complete destruction of all living things on the continent.

"My stomach turns when I see this barbaric federal program destroying hundreds of thousands of native animals," says Collette Adkins, director of carnivore conservation at the Center for Biological Diversity. "Killing carnivores like wolves and coyotes, supposedly for the benefit of livestock, just leads to new conflicts and new killings. It's truly a vicious cycle, and we will continue to demand change from the Wildlife Services."

Many wild animals were killed "accidentally" by government employees. For instance, in 2020, there were 2,746 known cases of "unintentional" animal killings, including bears, foxes, and dogs. Just so you know, the Wildlife Service uses not only firearms but also torturous trapping tools. Traps that break animals' legs, snares, and various poisons.

In 2021, U.S. authorities began using other "sophisticated" methods of killing. They started capturing animals and gassing them, while coyotes were shot from helicopters and airplanes.

Activists also report that Wildlife Service employees, whose official mission is "to resolve wildlife conflicts to allow people and wildlife to coexist," have in recent years been moonlighting by exterminating animals at the behest of ranch owners, government agencies, and airports. Anyone willing to pay for the extermination of animals can use the "services" of the government agency.

I receive messages from conservationists in the U.S. As you know, we keep in touch with activists worldwide! This is very important in our fight for nature, for ecosystems. So, activists say that in 2021, authorities successfully implemented the mass use of M-44 cyanide "bombs" to destroy certain animals. These devices are even specifically described by the Wildlife Service, which advertises them as an "effective and environmentally sound wildlife damage management tool." Let me try to explain what this "salvation weapon" is.

M-44 bombs are canisters placed in the wild. Animals tug at these canisters trying to get the bait, and at that moment, the canister releases a cloud of sodium cyanide. Foxes, bears, coyotes, and other "target species" usually die in horrific agony. Five minutes of a fascist chamber of horrors for a wild animal! Five

minutes to inevitable death, in agony and fear.

I specifically studied U.S. government platforms and found a document confirming the use of M-44 bombs for animal extermination. Yes, this is a real working government project!

Environmental disasters, the deliberate destruction of nature, while officials play politics, talking about equality and democracy. While "children of American colonizers" kneel before the "black children" of slaves once brought to the continent. While they kiss their boots and beg for forgiveness! With cries of "Black Lives Matter," famous actors, musicians, and politicians appear on TV. They talk about how they blame themselves, how they hate their fathers and mothers for millions of lost lives.

And at this moment, a federal program for the total extermination of wild animals is successfully operating. When will we hear phrases from famous people saying "Animal lives matter"? And can we even hear it amidst the blatant hypocrisy, lies, and hatred for all living things?

I don't understand how anyone can live on Earth, knowing that they are part of ecological systems, part of nature, and yet continue to destroy all living things

around them. Total destruction of biological rhythms, colonization and plundering of the last living areas of the wild, extermination of animals in attempts to "own the world."

# Chapter 32. Chronicle of the ecocide of our lesser brethren

The systematic extermination of wild animals is happening all over the world! Maybe this is our natural role, and we can't escape it? Are we a disease, only capable of parasitizing on the living flesh of Mother Earth?

How many wild animals do people actually destroy? There are legalized killings, where money is paid for the right to kill. There's poaching. Both are simply the killing of animals for pleasure, for sport, for the thrill and excitement. During our expedition, I spoke with a gamekeeper in the Altai region who said that nine out of ten hunters come solely for entertainment. They wander through the taiga, kill an animal, butcher it, cut off a small piece for a delicacy with vodka, and head home. The rest is often left to rot or taken home to brag about, if there are no inspectors around. Or if they have a badge from a law enforcement official.

Not long ago, a few poachers came, killed some moose, and cut off their lips. They cooked them on the spot, ate, and left. Moose lips are considered a refined 'medicinal delicacy.' And this happens all the time! There are vast forest areas with no inspectors, sometimes not even enough gas to patrol the sections. Meanwhile, poachers have snowmobiles, expensive equipment, thermal imagers. I asked the gamekeeper how poachers get around the law. Well, if they're caught with weapons, they can at least be fined.

The gamekeeper says that lately, people have been coming to reserves and sanctuaries without any weapons at all! They check the car—nothing but a club. They come, say, in winter, chase an animal through the snow, stun it with the club. Then they take pictures and release the wounded animal. Or they cut off a piece, cook it, and leave the rest. They enter the reserve without weapons and leave without weapons and without dead animals. Tourists!

After talking with the gamekeeper, I decided to check the statistics in the Altai region. How many wild animals are killed legally each year, and how many are considered 'illegal' by officials? A chronicle of the genocide of our 'lesser brethren,' so to speak. I started digging, and the officials' data didn't match the stories

from the foresters at all. Not even close!

How do people wage a daily and hourly war against their neighbors and closest relatives on the planet—let's take a look!

Let's take an honest look in the mirror, into our own eyes.

Proud? Admiring yourself—Homo sapiens? A super-predator, a super-killer, leaving nothing alive in your path, right?

Just a small, private example.

One of the regions of our country. The Altai region, where our expedition to protect the boreal forests began in 2022!

ATTENTION! Do not confuse with the Altai Republic! The Altai region and the Altai Republic are two DIFFERENT entities of the Federation. Statistics ONLY for the Altai region!

So, in April 2022, the Deputy Minister of Natural Resources and Ecology of the Altai region, the head of the hunting management department, Maxim Katernyuk, shared statistics with regional media on the killings of wild animals in the territory under his department's control.

The statistics weren't complete, lacking specific details. But still! In many regions, there's not even this level of openness from the departments. Society, people, and the media often see no information at all. So, a big plus for the Altai region for wanting to speak openly with society and the press!

In the past year, 2021, the environmental department of the Altai region recorded 547 violations. Thirty-two people faced CRIMINAL charges.

Officials estimated the damage to the state hunting fund at nearly 28 million rubles.

Let's not talk about money—how many living creatures, our 'lesser brethren,' does that amount to?

In the Altai region, ILLEGALLY KILLED in a year:

124 hoofed animals;

49 game birds;

25 fur-bearing animals;

3 bears.

More than 200 of our 'lesser brethren' weren't just ILLEGALLY KILLED, but ILLEGAL KILLINGS WERE IDENTIFIED.

Let's remember this point—only some poachers are caught, not all of them!

Now, regarding LEGALIZED KILLINGS.

In 2021, it was permitted to LEGALLY KILL: 1,922 roe deer;

526 moose;

235 red deer;

200 brown bears.

That's just for "big game." About 3,000 were LEGALLY PERMITTED TO BE KILLED.

However, the official pointed out that, in reality, hunters had "exploited" less. The demand, so to speak, for licenses to kill "our lesser brothers" turned out to be quite low.

A brief overview of the hunting industry in the Altai Krai.

Hunting management in the Altai Krai is permitted on 15.178 million hectares.

In the hunting sector of the Altai Krai, there are 70 small and medium-sized companies employing over 300 people.

As of January 1, 2022, there are 73,000 registered hunters in the Altai Krai.

Now let's return to the topic of poaching in general.

We just looked at the statistics for ONE region and for ONE year in numbers.

The statistics are far from complete. Let's say, without including "fish poaching." Last year, again, in just the Altai Krai, law enforcement seized over 1,800 illegally caught fish. This included "Red Book" species, which are specially protected. Officials estimated the damage at approximately 1.5 million rubles. These figures, this time, are from the Ministry of Internal Affairs, which its head, Sergey Okorokov, recently presented at a session of the regional parliament.

As you can see, different agencies deal with poachers.

As you can imagine, not all poachers get caught.

A common practice is what's known as "hidden poaching." This is when a hunter buys a license from the state to kill an animal but doesn't close it either by the end of the hunting season or until they meet with a game inspector. Such a meeting might never happen—there are too few inspectors, and they simply can't oversee everything.

So how many poachers are there in reality? Is it possible to estimate this, even approximately?

Based on practical experience: in private conversations, game inspectors say they catch at most 10 percent of poachers, if that, compared to the actual number. They estimate that the number of animals killed by poachers is at least equal to those killed with licenses and permits.

If we accept these rough estimates, then:

In the Altai Krai alone, around 3,000 animals were LEGALLY KILLED in 2021; 200 identified animal killings by poachers roughly make up 10% of the legal killings, which aligns with the unofficial opinion of hunting inspectors. This means we can reasonably assume that around 6,000 "lesser brothers" were killed in the Altai Krai over the year.

Game wardens often say pretty much the same thing across all regions: Yes, there are indeed far more poachers than we manage to catch and detain. They just ask not to be quoted on it. And, especially, not to have their names published. To avoid, you know...

So, we'll only present a few opinions from specialists who have openly commented to the media.

Chairman of the Military Hunting Society for the Volga District, Roman Pichugin: "Half of the wild animals in our region are killed illegally. That's if we're talking

about hoofed animals. For certain types of small game, this figure might be even higher. Poaching involves well-coordinated teams; they have a purely commercial flow."

> "We have a small part of the territory—15 km—that runs along the road. A group of poachers with thermal imagers regularly shot moose from the highway under the cover of night. Then another vehicle would arrive, guys would get out, butcher the carcass, load it up, and drive off."

> "If the culprits aren't caught red-handed, reports to the police are rarely filed. The detection rate for such violations is extremely low due to the lack of material and technical resources and personnel."

Anton Kiryanov, the chief game manager of the central branch of the Military Hunting Society, says, "If about a thousand moose are officially hunted in the Moscow region during the season, poachers kill another 300. No cases are opened against them—if the hunting grounds staff find the hides, the police just shrug and say they won't open a case because it's a 'cold case.' The estates often accommodate them and don't file reports."

Dmitry Drobato, Deputy Chairman of the Board of the Hunters and Fishermen Society of the Komi Republic: "We have hunting grounds covering 1.5 million hectares, yet the population on this territory doesn't even reach 100,000. [...] It's quite possible that many animals are being killed, but no one will provide you with statistical data."

That's the situation with the killing of our "lesser brothers" in the country...

The "sporting" interests of Homo sapiens haven't really changed much since the days of mammoth hunting...

# Chapter 33. The Snow Leopard

Many species of wild animals have already vanished from the face of the Earth due to human actions. Others are on the brink of extinction.

Since I talk a lot about hunting in the modern world in my book about ancient forests, I can't help but mention the amazing creature from my homeland, the snow leopard! In fact, 2022 was declared the Year of the Leopard in the Altai Republic. I last saw this mighty and very rare predator in the wild when I was a child. But while writing this book, during one of our expeditions, I managed to see the tracks of a snow leopard.

If only you could have seen my excitement, friends! You would have felt the shiver that ran through me. Upon returning to camp, the first thing I decided to do was prepare a note about this amazing guardian of the ancient taiga, the snow leopard, whose population humans have nearly wiped out.

Let's delve deeper.

Another of Russia's rarest predators, alongside the Amur tiger and leopard, is the snow leopard. This high-altitude cat is often called the "irbis." Perhaps many are more familiar with this name.

The year 2022 was declared the "Year of the Snow Leopard" in the Altai Republic. The Head of the Republic signed the decree in December 2021.

At the end of last year, the Altai Republic and Tatarstan signed an agreement to work together on preserving this rare predator. There were plans to create a Center for the Conservation, Breeding, and Rehabilitation of Rare Mammals in the Mountainous Altai region. The center, presumably in the Mayminsky District, was planned to be comprehensive: not only for housing and breeding but also for a laboratory to study genetics and biology. And not just for the snow leopard, but for other wild cats of Russia as well.

This is part of a targeted program by the Russian Ministry of Natural Resources. A preliminary meeting was held in Moscow last fall with expert biologists from across the country. At that time, Khakassia was also considered as a possible location for such a center. However, there are fewer than ten snow leopards there. Meanwhile, half of the country's snow leopards reside in

Altai.

Besides the location, the second most important issue was how to obtain the breeding stock for the future Breeding Center. It should be noted that snow leopards have long and successfully bred in captivity, in zoos.

There are three options for acquiring snow leopards for subsequent breeding.

The first involves importing animals from Mongolia. The challenge is negotiating with the government of another country.

The second is obtaining leopards from Russian zoos.

The third is capturing animals in the wild within Russia. However, this option is the most dangerous. Currently, the snow leopard population in the country is extremely small. Experts estimate there may be up to 90 individuals. There was a proposal to capture leopards in the Saylyugemsky National Park, right in the Altai Republic. But scientists immediately opposed this suggestion as completely unacceptable.

The "Program for the Restoration of the Snow Leopard in the Russian Federation" is being carried out as part of the federal project "Conservation of Biological Diversity and Development of Ecotourism" by the Russian Ministry of Natural Resources.

It's clear that this involves funding. It's money. And regions are interested in implementing the program on their territory. But the Altai Republic has more prospects than anyone else—about half of all snow leopards in our country live here. And real practical conservation programs for the leopard have been established and have existed for over a decade. Therefore, the authorities of the Altai Republic decided to dedicate the entire year of 2022 to the snow leopard and its protection.

"May 26 marks Snow Leopard Day in the Altai Republic. In 2022, this holiday will be 12 years old. We will dedicate the Year of the Snow Leopard to preserving this species. A calendar of events will be developed by February 1," said the Head of the Republic.

Since the beginning of spring this year, extensive surveys of the snow leopard have been conducted across the country. Not only in the Republic of Altai, but also in Tuva and Buryatia.

In Altai, the snow leopard survey is carried out by the staff of the Directorate of Specially Protected Natural Areas of the Republic of Altai. The survey is conducted in the natural parks of Ak-Cholushpa, Uch-Enmek, Belukha, and the Sailugem National Park.

During the work, scientists search for and record signs of the leopard's activity. Paw prints, fur, scratches on the ground, and marks on trees. They collect fur and droppings for subsequent DNA analysis in the lab. They also check automatic cameras.

At the same time, experts are studying the population of the Siberian ibex. Mountain goats are the main prey for leopards. The number of leopards that can live in a specific area directly depends on the ibex population. Leopards are facing food shortages. In recent years, the number of these cats approaching human dwellings has increased. The authorities in the republics of Tuva and Altai are even creating a special reserve herd to compensate shepherds for sheep taken by snow leopards.

In general, the snow leopard is one of the rarest predators in the world. Not just in our country.

It's a high-altitude predator. Due to the inaccessibility of its habitat and the low density of the species, many aspects of the leopard's biology remain poorly studied even today.

The global population of snow leopards is catastrophically low:

— in 2003, it ranged from 4,000 to 7,000 individuals;

— in 2020, from 2,700 to 3,400.

As you can see, snow leopards are rapidly going extinct!

In the 20th century, the snow leopard was listed in the IUCN Red List and the Red Book of Russia.

Hunting the snow leopard is prohibited in all the countries where it lives. It is also subject to an international ban on the trade of endangered species and their parts.

Since 2013, 12 countries where the snow leopard resides have adopted the "Global Snow Leopard and Ecosystem Protection Program," which includes specific measures for its conservation. This involves not only combating poaching but also creating specially protected natural areas specifically to safeguard this high-altitude cat. Subsidies are provided to farmers in cases of livestock loss due to snow leopards. There are also programs for studying the species' genetics, as well as potential breeding and reintroduction into the wild.

Here's what leading snow leopard experts in our country have to say about conserving this cat.

Alexander Karnaukhov, Senior Project Coordinator at the World Wildlife Fund's Altai-Sayan Ecoregion Office:

"The snow leopard's range is not unified; it consists of separate groups that are often poorly connected to each other. The isolation of a limited number of leopards can lead to inbreeding. Specifically, the snow leopard group in the Sayano-Shushensky Reserve is genetically noticeably different from the groups in Altai and Tuva due to prolonged isolation and the lack of offspring from individuals from other areas. If the human factor could be excluded, their snow leopards would roam more widely and reach neighboring groups. However, in the adjacent part of the Republic of Tuva, there are many livestock camps, and the elusive predator, which avoids people, won't go there. It could simply be shot."

Fortunately, after the tightening of legislation, snow leopards are being killed for their pelts less and less frequently. Now, hunting, buying, or selling a snow leopard pelt can lead to severe punishment, and hunters prefer not to take the risk. However, this doesn't save the snow leopard from another danger—musk deer snare traps. Often, the unintended victim is the snow leopard itself.

Denis Malikov, Director of the Saylyugemsky National Park:

"Besides snare poaching, which currently poses the main threat to the snow leopard, the species is also threatened by the hunting of ibex. The population of these hoofed animals is noticeably decreasing. While ibex can still be found in protected areas—like the Argut River basin, where our national park is located, or in the Shavlinsky Reserve—in other places, the snow leopard has little prey left. Increasingly, we see small herds of just ten to twelve animals, without large males—they've been hunted out. If the ibex disappear, so will the snow leopard. It's difficult for them to hunt argali, as they rarely venture into the mountains and mostly live in open spaces where snow leopards don't go. This is a serious problem, and it's time to consider reducing the hunting limit for ibex in the Altai Republic, or even suspending it temporarily."

That's the situation with the snow leopard.

It's not unique to this magnificent cat!

All scientists and experts agree on one thing—we must preserve the entire ecosystem if we want to save anything at all!

For now, at least in our country, we've managed to make some progress. According to expert data, the decline in numbers has been halted.

Let's hope that the implementation of the specialized scientific center's program will allow us to preserve this rare high-altitude cat for future generations!

And not just the cat, but all unique mountain ecosystems!

# Chapter 34. The extinction of forest birds

On expeditions, I always recognize the forest by the songs of birds and the scents. Over many years of working to protect the Russian Taiga, I've learned to determine the condition of forests, the degree of their degradation, by their smells and sounds. A dying forest smells different…

The destruction of ancient forests is not just about cutting down old-growth trees, but also the annihilation of all terrestrial ecosystems. I've said it repeatedly and I'll say it again: if we destroy all the ancient forests, then all terrestrial ecosystems will ultimately perish as well. Consequently, we will collectively commit suicide!

There is a massive extermination of wild animals happening worldwide. The extinction of living species is so colossal that scientists give only a few decades before the consequences become completely irreversible, when stopping ecological degradation and restoring ecosystems will no longer be possible. In other words,

we are currently devouring the LIVING world, leaving our children with nothing but survival, chaos, and disaster.

Let me tell you how the destruction of ancient forests affects the decline in the number of forest birds. I want all my readers to understand and know that birds in biogeocenoses are biological indicators of the state of the environment. Their extinction signals global ecological problems. The extinction of birds means the extinction of all life on the planet!

The catastrophic decline in bird populations is happening worldwide. Scientists identify the loss and degradation of natural habitats and the direct overexploitation of many species as key threats to bird biodiversity. Today, humans have also triggered climate change, which has become a new reason for the decline in bird numbers, worsening an already grim situation.

Research by scientists proves that approximately 48% of all birds in the world are currently on the brink of extinction. Only 39% of species maintain stable populations, and just 6% of birds show trends of increasing numbers. The status of another 7% of birds is still unknown. These conclusions were drawn by scientists after a thorough analysis of 11,000 bird

species worldwide. Nearly 50% are on the verge of extinction! Half of all birds on planet Earth.

Bird species that inhabit ancient forests are currently experiencing severe stress due to anthropogenic changes in forest composition. This is what we keep talking about! And it's one of the reasons for the URGENT need to ban the logging of ancient forests. The consequences of changes in the composition and age of forests due to the destruction of the ancient taiga have always been ignored, and even today, despite all of humanity's scientific achievements, such important issues continue to be overlooked.

In Russia, I hardly hear anyone mention that the decline in many bird species is linked to habitat loss caused by our forestry activities. We ignore the basics: we arrive in the forest, drive machinery into ancient woods to harvest 'commercial timber,' strip the taiga of its most valuable resources, and leave the rest to rot. This results in either swamps forming or areas being filled with fast-growing trees. As a consequence, biogeocenoses are destroyed, and many species of animals, birds, and insects go extinct.

Let's turn to the research conducted by our colleagues at Oregon State University. The specialists carried out an extensive study on bird extinction in eastern Canada. They examined the extent to which forest degradation, the reduction or loss of biological complexity—through clear-cutting, followed by thinning or replanting of individual tree species—affected bird habitats and long-term trends in bird populations.

The study area was the Acadian forest in the maritime provinces of Canada. Let's get straight to the results to understand the scale of ecological degradation.

Habitat loss for breeding occurred for 66% of the 54 most common bird species in the forest from 1985 to 2020. The main reason was the loss of ancient old-growth forests, which we are now trying to protect.

According to scientists' estimates, about 104 million birds have died in the study region alone over 45 years due to forest degradation! Think about that number. Birds not only lost the ability to breed and their habitats but are also steadily going extinct, disappearing from the face of the Earth. Forests are cut down today, and animals and birds die slowly and painfully over the following decades.

Experts also point out that many bird species in the study area have declined at a rate exceeding 30% over the past 10 years. This means it would take about 30 to 40 years for a bird species to become completely extinct on Earth.

The Acadian forest, where the study was conducted, is being deliberately destroyed. Since 1985, over 3 million hectares have been cut down, and most of the area today is dominated by single young forests or a mix of early successional species. For people, especially those in power, this is a reason to say, "See, the forests are growing back on their own!" But in reality, for ecosystems, it's a painful death in progressive degradation.

"Old-growth forest decreased by 39% during the period we observed. During the same period, forest cover actually increased by a net 6.5%. This model of intensive old-growth harvesting followed by rapid young forest regeneration, and then subsequent harvesting before maturity, seems to be widespread in many forest regions of North America and Northern Europe," the scientists say.

The term "managed forests" is actively used to describe those forest covers that appear after large-scale logging. Typically, "managed forests" are dominated by one or

two commercial tree species, and naturally, these are young forests with degraded ecosystems. Wild animals, birds, and insects need mature or old-growth forests. Otherwise, they simply cannot survive.

# Chapter 35. Trees unknown to science

We are destroying nature without even understanding what it truly is.

This issue is directly related to the Russian Taiga and clearly demonstrates the need for its preservation. Untouched areas of the "pristine taiga," where humans have yet to intrude with their "economic interests," are of utmost importance! Unfortunately, very few of these areas remain. Logging companies are aggressively trying to break into these territories. They've already cut down the rest! Areas undergoing second or third rounds of logging aren't as appealing.

There aren't any massive, ancient giant trees left. That means less profit. So, industrialists are eyeing the "pristine" Russian Taiga hungrily! They want to carve out pieces from the reserves and devour them. Examples of this can be found wherever the Russian Taiga has been preserved in its original state! Whether in the Russian North, in places like the Arkhangelsk region or

Karelia, or in Siberia, from the Altai to the Sikhote-Alin in the Far East.

And the news I want to share is this: an international team of scientists conducted extensive research. The scientists assessed the biodiversity of trees on the planet. According to their findings, more than 9,000 species remain unknown and unstudied. At all! Nobody knows anything about these SPECIES of trees! There are about 9,000 species unknown to science! The research results were published in the February issue of the journal "Proceedings of the National Academy of Sciences."

UNKNOWN TO SCIENCE TREE SPECIES — ABOUT 9,000!

Let me explain right away how it's possible to estimate the volume of what we DON'T know. Data is taken from areas where botanical expeditions have been conducted. The average result of these expeditions is calculated. For example, when studying 100 square kilometers of tropical forests, 1000 new species might be discovered, while in savannas, only 10. Then, the "blank spots" on the map of modern botany are considered, and that's it. The error, given the scale of the assessment across the entire planet Earth, can be insignificant. A few percent,

but not dozens of percent. The only complexity is the scale of such work. Until recently, without modern powerful computers, this was completely impossible.

But even now, a tremendous amount of work has been done. About 150 specialists from around the world have spent a long time compiling data. And now there's a result. A scientific article has been published and is available to the public.

Perhaps it's necessary to immediately explain why we should preserve what we don't even know about—tree species unknown to science. Look at this: coffee trees, rubber trees, cinchona trees, cocoa, coconut palms. These are all trees whose benefits are clear and understandable. Knowing their useful properties now, it would be a shame to go without morning coffee or a cup of cocoa with chocolate! That's the simple and clear answer to the question: why should we preserve and study them?

And as for the multinational corporations that are cutting down the Amazon rainforest or the Russian Taiga, they couldn't care less about the interests of people or the future of humanity. They simply don't think about it: they want money here and now. And future coffee-cocoa, future medicines from currently

unknown tree species are being mindlessly turned into lumber, enriching a bunch of people who, in my opinion, are crazy with greed.

That's why such research is so important!

By the way, Tomsk State University in our country also participated in the research. One of the leading authors of the work was Roberto Cazzolla Gatti, a scientist from Purdue University, USA, and the Biological Institute of TSU.

Let me provide direct quotes from the scientists discussing their work.

> "One of the most fundamental questions in ecology is how many species inhabit the Earth. However, due to enormous logistical and financial challenges, as well as taxonomic difficulties related to defining the concept of species, the global number of species of life forms like trees remains largely unknown. In 1994, Robert May optimistically observed that by 2044 we would roughly know the current number of species on Earth. Half of that period has already passed, and we are still far from that goal."

> "Our results indicate that there are about 73,000 species of trees in the world, with around 9,000 species yet to be discovered. Approximately 40 percent of the unexplored tree species are in the tropics. Moreover, nearly a third of all discovered tree species may be rare, with very low populations and limited spatial distribution (likely in remote tropical lowlands and mountains)."
>
> "Firstly, this can help us draw conclusions about the evolutionary mechanisms that have generated diversity, so we can predict how these same mechanisms might manifest in the future. Secondly, it can aid in assessing which systems might be most resilient to global changes. Thirdly, if undiscovered species are primarily rare, and rare species are more vulnerable to extinction, a clearer understanding of these numbers is necessary for biodiversity conservation."

As you can see, there are serious reasons to protect ecosystems from corporate greed!

On a continental scale, what we stand to lose is distributed as follows:

— approximately 43% of all tree species on Earth are found in South America;

— Eurasia 22%;

— Africa 16%;

— North America 15%;

— Oceania 11%.

Yes, it's likely that more undiscovered species are found in South America than on any other continent! We immediately think of the coffee and cocoa of the future that we might lose without ever knowing their magical taste! Alongside the species already known to science, which number over 27,000 on this continent, there may be about 3,900 tree species that are still unknown to science.

But even in our country, in the mountainous regions, the Russian North, and Siberia in particular, there are surely many COMPLETELY UNKNOWN TREE SPECIES!

# Chapter 36. Is our planet alive and intelligent?

Yes!

I stayed up all night. I couldn't sleep until I thoroughly examined the scientific article that came my way. Numbers, formulas, mathematical calculations justifying the conclusions. It all takes time to understand.

Utterly exhausted by morning.

This is possibly the most important achievement of recent times! Yet it will likely go unnoticed. I don't expect media hype or big headlines about this scientific work. What a shame!

In a nutshell:

— Until recently, there was a hypothesis (a scientific assumption) that perhaps our planet Earth might possess the properties of intelligence, capable of self-awareness. The so-called "Gaia hypothesis."

— The newly published study elevates the hypothesis (assumption) to the status of a theory (a hypothesis with evidence).

If recently we could say, "Perhaps Earth might be intelligent," now we can confidently say, "Earth is most likely intelligent!"

Do you see the difference?!

Not "possibly intelligent," but "MOST LIKELY INTELLIGENT!"

What am I trying to say? Right now, once again, people are killing people. All the top news is about this. It's understandable that this concerns everyone. It's understandable that it affects everyone. And the news from the scientific world about evidence of our planet's intelligence will go unnoticed. So, I want to draw at least my readers' attention to this research. Let's say: amidst the sad news, there are also good news, offering hope for the future. Let's acknowledge these positive developments!

Let's briefly go through it in order.

The Gaia hypothesis — a proposition formally introduced in 1970 by climatologist James Lovelock and microbiologist Lynn Margulis. According to this hypothesis, Earth is a "dynamic physiological system

that includes the biosphere and has maintained our planet in harmony with life for over three billion years."

All living beings on Earth form a massive superorganism. "Gaia" is the name of the goddess in ancient Greek mythology representing Earth. In our terms — Mother Earth. Lovelock's argument for his hypothesis is the composition of the atmosphere, which has been regulated over time to support the development and maintenance of life. "Is this a random process?" — the scientist posed this question in 1970.

The Gaia hypothesis presents Earth as a superorganism capable of maintaining the main environmental parameters at a constant level through self-regulation. For example, despite varying levels of energy from the Sun, the planet's surface temperature remains approximately constant.

The idea isn't new; James Lovelock merely articulated it scientifically. The concept of Mother Earth is inherent in virtually all cultures! In the 18th century, the idea of Earth as a living organism was already expressed scientifically by James Hutton. He proposed considering Earth a living organism, a subject of physiological study. He said Earth is a living organism with its own metabolic and respiratory systems. These systems, in

our view, operate slowly — on a geological epoch scale.

The Gaia hypothesis is directly linked to V. I. Vernadsky's ideas about the role of living matter (living organisms, biota) in shaping Earth's geology, as well as the chemical and physical characteristics of the atmosphere and hydrosphere.

Vernadsky considered the transition of the biosphere to the noosphere stage an inevitable step in evolution. Well, that's if the "bald apes" finally wise up and stop killing each other indiscriminately. To start with! And then, perhaps, they'll stop the genocide of all living things around them. Vernadsky had quite an optimistic view of the future!

Since I've started writing about this, let me outline the main premises of the inevitability of the noosphere's emergence, according to him:

— The spread of Homo sapiens across the planet and its victory in competition with other biological species.

Fully realized. Though without complete certainty that "Homo" is "sapiens."

— The development of global communication systems, creating a unified information system for humanity.

Realized: the internet.

— The discovery of new energy sources like atomic energy, making human activity a significant geological force.

This too has been realized. The main thing is that this "significant geological force" doesn't destroy itself along with the planet.

— The triumph of democracies and access to governance by the masses.

Here's where the question lies — something academician Vernadsky overlooked!

— Increasing involvement of people in science, which also makes humanity a geological force.

Another question here...

As you can see, it's not all straightforward! There are a number of questions, so to speak...

The concept of the "noosphere" was proposed by Sorbonne mathematics professor Édouard Le Roy along with philosopher Pierre Teilhard de Chardin. This is just for completeness. Partly a scientific hypothesis. Partly a philosophical (or even religious-philosophical) idea.

And now we can say specifically: it's a scientific theory with evidence!

On February 7, 2022, the scientific publisher Cambridge University Press published the article "Intelligence as a Planetary Scale Process."

Authors Adam Frank, David Grinspoon, and Sara Walker.

The scientists are astrophysicists, not biologists, which is worth noting. Adam Frank is a professor of physics and astronomy at the University of Rochester.

Research shows that Earth is not just a self-regulating system, but it "self-regulates" in a certain specific direction. This implies intelligent intent, intellect, purpose—call it what you will. Whatever makes the most sense to you personally.

This is demonstrated through mathematics and calculations.

The calculations themselves became possible thanks to the accumulation of scientific data and the emergence of powerful computers that allowed all this data to be processed. This is the third study I've come across recently that became possible due to the combination of these two factors.

The nature of the task set and solved is extremely simple. Let me explain with an example.

Suppose you have a die. According to probability theory, the distribution of numbers when rolling it should be roughly equal. The more rolls, the more accurate. The scientists had a lot of "die rolls" — data on billions of years of our planet's life. This data was obtained from the planet's geological deposits. The accumulated results of scientists' work from various fields have been summarized.

The distribution of numbers from 1 to 6 on the die's faces was correct (i.e., random) in Earth's early history. But everything changed 2.5 billion years ago. Earth started "cheating"! No matter how you roll the die, regardless of external conditions — it always started landing on "six"! The random distribution disappeared, and a directed distribution of results appeared.

When playing dice, if a player always rolls a winning combination, questions arise. There's a reasonable suspicion that one side of the die is weighted, perhaps with lead. Similarly, Earth has been blatantly "favoring life" and the development of the biosphere for 2.5 billion years! No matter the external conditions, the planet itself transforms these conditions in a life-friendly direction.

Researchers have even identified specific stages in the development of planetary intelligence based on their findings.

Stage 1 — Immature biosphere.

The early stages of Earth's development. Billions of years ago. The beginning of bacterial existence. Plants had not yet appeared or evolved. No global feedback loops were noted. Life did not influence the atmosphere, hydrosphere, or other systems. Statistical distributions within probability theory were random.

Stage 2 — Emerging biosphere.

Earth's characteristics changed dramatically 2.5 billion years ago. This is when stable continents formed, flora and photosynthesis developed, oxygen accumulated in the atmosphere, and the ozone layer appeared. The biosphere began to significantly influence Earth, potentially enhancing its habitability. Statistical distributions ceased to be random.

Stage 3 — Immature technosphere.

This is characteristic of today's Earth, with its network communications, transportation, technology, energy, and computer systems. However, the technosphere is clearly immature because it is not connected to other Earth systems, such as the atmosphere, etc. Instead,

humans extract matter and energy from Earth's processes to bring the entire system into a new state, which will most likely exclude the technosphere itself and humanity. At the moment, our technosphere is working against itself. The directed evolution that existed for 2.5 billion years has disappeared. Statistical distribution has once again become random within the framework of probability theory.

We humans have introduced chaos into the planet's finely tuned superorganism system. Our actions have broken processes that were refined over 2.5 billion years.

Stage 4 — Mature technosphere. A desirable and possible stage, but...

Analogous to the formation of the noosphere according to Vernadsky.

This is the kind of SCIENTIFIC work that shows the described processes IN NUMBERS.

For the first time!

The Gaia hypothesis and Vernadsky's ideas were once just intuitive guesses: could these processes be non-random?!

And now there's confirmation: yes, from the perspective of probability theory, these processes are not random.

Judge for yourself how important such data is.

# Chapter 37. Let's remember future victories

We will achieve a ban on the logging of Russia's ancient forests!

The topic came up: is it really the time to focus on forests? We live in challenging times, and everyone understands that!

But maybe this is exactly the reason to double our efforts in protecting TRUE values, rather than giving up and going with the flow?!

So, when answering one of the “eternal Russian questions”: “Are you for the ‘reds’ or the ‘whites’?” — it’s the perfect time to say: “I’m for the ‘greens’!” And fill that answer with renewed, modern meaning.

We're being brainwashed on an industrial scale to the point where we lose our bearings in the world around us. What's “fake,” what's a lie — you can't tell!

We're being pitted against each other, provoking conflicts in society.

It's chaos, basically!

And not only do we want, but we need to rely on some solid foundation. To find firm ground instead of a spreading social swamp. To find what unites us, not divides us. And such a foundation exists!

IT'S THE RUSSIAN TAIGA.

Think about it!

The Russian Empire. You can be or not be an “imperialist” or monarchist by conviction, but this is our history. There is much that deserves unconditional respect.

The Soviet Union. You can still be “Soviet to the core.” Or not. But the Soviet Union offered people some meanings. And there was much there to be rightfully proud of, like the history of our grandfathers!

History textbooks always highlight who fought whom. There's much less about who built what. But there's not a word about WHERE all this happened, and AT WHAT COST.

It's one country. The names of the states changed. And this country always stood and stands on the expanses of the Russian Taiga.

If there's anything that connects not only us together but also extends a thread to the memory of the past, it's the Russian Taiga.

And we can do something now to extend this connection into the future! Isn't that wonderful? Truly wonderful!

To build cities or factories, you need the collective labor of many people. To then destroy it all takes much less time. What was created over centuries crumbles in days. With the help of, excuse me, downright vile devices for industrial destruction.

And we're told: The history of humanity is the history of wars.

And we study this very history of wars in textbooks.

But we never studied the history of this world as the history of Mother Earth. As the history of the development of complex biological systems. There are hints, which not everyone remembers, in biology courses. And that's it!

Like a flashlight beam in the night, we're shown a small piece of a vast and beautiful world. And we notice nothing around. 99% of the true history of this world is hidden from us under a veil of darkness. The Russian Taiga existed long before people began tearing territories apart. The Russian Taiga still provides

resources not only for building our cities but also for their destruction by us. It's not just about wood. To build and to burn with napalm what was lovingly built, you need water and air. That is what the Russian Taiga gives us.

We need to broaden our horizons a bit to understand anything at all!

The Russian Taiga is the physical foundation of the world we live in. The air we breathe. The water we drink. The atmospheric processes above us. We may not know this, but all of this is provided and regulated by the green sea of boreal forests. From the Northern Russian Taiga of the European part of the country to Siberia and the Far East.

The Russian Taiga is also the spiritual backbone that unites us all. This is considered less often.

Orthodox orthodoxy and atheism. Imperial monarchism and communism. Feminism and its opposite. There's everything in this VAST country! We can be different. But everyone needs water and air.

Period.

We can destroy each other. Tear our cities to pieces. But we cannot allow the destruction of the very foundation of our existence — the Russian Taiga! Some understood

this earlier. Some are only now coming to this realization. But there are more and more such people.

The first allies united in the Russian Taiga project many years ago. And now there's an opportunity to remember the victories and successes over these years. And imagine what victories and successes we can celebrate in the future.

When the Russian Taiga project was first formed, we were simply laughed at. Yes, yes! Allies who have been with us from day one can remember this. Open mockery, open ridicule — it was all there! Facts about uncontrolled logging were ignored. Facts about the plundering, essentially, of the forest were not taken into account. It took two or three years of continuous effort just to bring these facts first to the media and then to high-ranking government officials.

And now we can say: yes, our efforts were not in vain. The turnover of timber is restricted. Customs operations are established. At least blatant smuggling has stopped. It's clear that the federal authorities were alarmed when they learned about the money the budget was losing from the blatant plundering of natural resources. But the job is done — we can confidently say that there is now federal control in the forestry sector!

The main thing we've achieved is that we've become a feedback system in a defective social system. Moscow is far away. Officials sit high up there. And local officials report that everything is fine. And quietly cut down the forest. Export it through “transparent” borders to China. And report “upwards” again how wonderful everything is. And this defective societal structure was cracked by spreading information on the internet and media about the problems. We, ordinary people, united our efforts for this goal!

With the catastrophic fires that intensified in the Russian Taiga a few years ago, it happened almost the same way. Only the path was a bit shorter. The smoke from the burning Siberian expanses reached Moscow much faster. And not least thanks to us, friends! Thanks to our already established joint activity in spreading information.

This year (a fresh and reliable fact!) the President of Russia personally talks about fires in the SPRING, when the fires JUST STARTED. This is a significant event — feedback with society is established. Federal authorities learn about problems quickly enough. When there's still time to do something. And something is even being done!

Yes, we understand that the bureaucratic system is far from ideal. We read in the media how many billions the next corrupt official stole and how much they got for it. Yes, we remember how many and what level of officials were investigated and imprisoned. An imperfect, to say the least, state-administrative system. We fully understand this. But much can be achieved even under such conditions!

Let's now remember FUTURE victories. What WE WILL DEFINITELY ACHIEVE, no matter how much time and effort it takes!

— We have experience in real successful actions.

— We have already established collective connections. We have experience in collective interaction.

And we have a task that we will solve.

The natural "wild" forests of the boreal belt of the Russian Taiga continue to be cut down.

Their existential value is not understood by officials who are used to counting "raccoon pelts" and volumes of lumber in cubic meters.

But!

The remaining areas of the wild Russian Taiga are a genetic database of millions of generations of different species, a balance of atmospheric processes, oxygen in the air, and clean water in the underground soil horizons. All of this is priceless. The flip side is that "priceless" isn't expressed in money. And something not expressed in money is simply invisible to an official. Completely invisible!

THE TASK IS SIMPLE — A COMPLETE BAN ON LOGGING IN ANCIENT BOREAL FORESTS.

And in a few years, friends, we will celebrate another victory — the implementation of a complete ban on logging in ancient forests in our country.

# Chapter 38. Preserving ancient forests: A matter of national security

We must achieve a ban on the logging of ancient climate-protecting forests in Russia! And we need to share our experience in fighting for the Russian Taiga with allies from all corners of the Earth.

I sincerely hope that laws to protect ancient forests will be enacted.

And enacted in a timely manner! That is, as soon as possible. The point is, we need such laws in effect right now!

It took me 10 years to understand the importance of preserving untouched ancient natural forests. Ten years of traveling across the expanses of the Russian Taiga. Ten years of research and a constantly growing curiosity about the life happening around me in the taiga. The mystery of Life, to be more precise!

I gradually immersed myself in the topic of protecting the Russian Taiga, witnessing the predatory destruction, logging, and the dismissive, consumerist attitude toward the forest in general. “Oh, it’ll grow back on its own! It’s just wood!”

And now, with an increased understanding of the complexity of natural ecosystems, such an attitude primarily causes me cognitive dissonance. An internal psychological conflict, to put it simply, that arises when I compare these contradictory things: the insane complexity of taiga ecosystems and their importance to people on one hand, and the complete lack of understanding of this by people. Including those making decisions for society as a whole.

Honestly, sometimes I just get “blown away”: how can anyone be so incompetent as to destroy the very foundation of their own existence?!

What helps me hold back is knowing that it took me a long ten years to understand this. And it was a living experience of direct interaction with the taiga! So once again, I quell the storm of emotions overwhelming me. I drink a fragrant brew of taiga herbs. And I continue my work. I write books, articles, and methodological guides. I continue my expedition through the Russian Taiga. An

expedition that has not ended for many years and has become a permanent way of life.

The topic of ancient forests, untouched by human intervention, gradually became key for me. As understanding grew. As my PRACTICAL experience of interacting with living, breathing ecological systems deepened. And the expansion of knowledge only confirmed and continues to confirm practical experience.

The question for me now is formulated very briefly and simply:

IF WE ARE UNABLE TO PROTECT THE ENTIRE FOREST FROM PREDATORY DESTRUCTION RIGHT NOW, THEN WE ARE QUITE CAPABLE OF PROTECTING KEY AREAS OF ANCIENT FOREST!

WE CAN AND MUST PRESERVE UNTOUCHED FORESTS — UNTOUCHED!

What is the immense significance of pristine forests?

Why do I insist that ancient forests must be preserved at all costs?

Natural ecological systems have been forming for millennia. These are systems that surpass in complexity everything created by humans. We are only now

beginning to understand their complexity. Thanks to accumulated information from observations and powerful computers capable of processing this information. The conclusions are that areas of ancient forests are deeply connected with the planet itself.

Over millennia of development, they have reached a state of stability in their interactions with the external environment. Ancient forests regulate the climate across the entire planet Earth. They influence the presence and water regime of great rivers. Thanks to the participation of ancient forests, invisible flows of water move from the oceans deep into the continents, later falling as rain. And they give rise to river runoff.

A completely separate point for understanding the significance of preserving areas of ancient forest is the objective scientific data on past catastrophes of our planet. Each time, the planet's biosphere was restored thanks to certain areas of ecosystems that were preserved in some refuge territories (refugia).

There is now precise statistics showing that a mass extinction of species on planet Earth has begun. Precise, clear numbers that cannot be disputed! And there is a suggestion that we have organized a planetary catastrophe of geological scale for ourselves. It's high

time to think about refugia of ancient forests! It's high time to preserve the “points of self-restoration” of the planet's biological system!

And for our country, preserving the belt of boreal northern forests is simply a matter of national security!

I'm surprised why no one at the state level is thinking about this? Why hasn't the Russian Taiga become a priority in strategic state policy yet?

The reason is probably just societal inertia. New scientific data doesn't immediately lead to changes in life. It takes time for society to comprehend them. To integrate them into technology and everyday life. And to form, accordingly, new laws and new priorities in state policy.

Our country has always been a “forest power,” if I may say so. The Russian Taiga has had enormous significance in the country's economy in the past and still does now.

One can highlight the significance of furs over several centuries, when first the Taiga of the Russian North, and then the Siberian Taiga, were sources of fur. And sources of the state's wealth as well. “Soft gold” directly determined even the content of international policy back then!

Fur-bearing animals were exterminated at such a pace that when, for example, the Barguzin sable reserve was created in the early 20th century, the sable population was restored with great difficulty. It's hard to imagine, but at the time of the reserve's creation, there were only 20-30 sable individuals!

In the times of Peter I, it turned out that there was a shortage of high-quality “ship” timber for building a wooden fleet. And the country's authorities were forced to protect “ship groves.” This is another example of the strategic importance of the Russian Taiga, when its significance was recognized by the state authorities.

In the last century, there has been an increasing mass logging of the taiga. Industrialization occurred not only in the USSR but worldwide. The forestry sector became an industrial industry, requiring more and more raw materials. This process continues right before our eyes. The pulp and paper industry. The timber industry complex. Wood for the needs of the construction industry.

All of them need more and more wood every day. All accessible areas of the taiga have already been logged. And the boreal northern taiga grows slowly. Trees can't keep up with the pace of demand for wood. So

transnational corporations are rushing to the most remote areas of the Russian Taiga, where pristine ancient forests still remain. They are rushing to the last refugia of the Russian Taiga.

And now there is an understanding that wood is worth less than clean water or climate stability, which are provided by ancient forests. The industrial agenda that dominated the last century is already morally outdated. Just like fur extraction once was. And the mindless iron monster of the forestry industry continues to gnaw into the taiga simply out of inertia.

Therefore — education and popularization of current knowledge about complex biological systems!

This is what I personally can do and am doing! It's what any of you can do. It's what brings about change. It's what brings the future closer. I mean positive scenarios for future development, of course! Not turning the Living Ancient Forest into a lifeless desert. And this is only possible if the preservation of ancient forests becomes a priority for our country's national security.

# Chapter 39. Deforestation. The history of human development is the history of the gradual deforestation of the planet

According to the International Institute for World Resources and the World Conservation Monitoring Center, half of the forests that once existed have been destroyed over the last 8000 years.

These figures are approximate, of course. Modeling is based on soil analysis, pollen content, and other indirect methods.

But the data indicates that the destruction is linked to humans. It is anthropogenic in nature. The sharp decline in forest area began about 500 years ago.

And 75% of the forest area destroyed by humans occurred in the 20th century. In other words, people destroyed in a century what took 8 millennia to grow and form.

And, pay attention!

Of the forests that still exist, only 22% consist of natural ecosystems! The rest have been heavily altered by humans and are now plantations, parks, and the like.

HALF OF THE MILLENNIA-OLD FORESTS HAVE BEEN LOST.

AND ONLY ABOUT ONE-FIFTH OF THE REMAINING FORESTS ARE NATURAL (“ANCIENT”) FORESTS.

THIS IS THE QUANTITATIVE RESULT OF HUMAN IMPACT ON THE PLANET AS OF TODAY.

Moreover, the reasons for deforestation are very interesting!

Since ancient times, humanity has been cutting down forests to clear land for agriculture and simply to obtain firewood. Much later, there arose a need to create large-scale infrastructure for cities and roads. The mass extraction of minerals began.

The astonishing thing is that even NOW, most forests are simply being BURNED.

The slash-and-burn farming method, used for short-term exploitation of nutrient-rich ash soil, is STILL employed by 200 million people worldwide in the 21st century.

According to estimates by British conservationist Norman Myers: — 5% of deforestation in the tropics is due to cattle grazing;

— 19% is due to logging;

— 22% occurs for the expansion of palm oil plantations in industrial agriculture;

— and 54% is simply burned due to slash-and-burn farming in small-scale operations.

A comprehensive scientific analysis of data from 46 countries in tropical and subtropical zones (78% of the forest areas in these zones) showed that deforestation is caused by:

— large-scale commercial agriculture — 40%;

— local subsistence agriculture — 33%;

— urban growth — 10%;

— infrastructure expansion — 10%;

— extraction of mineral resources — 7%.

For the people of our country, this is incomprehensible. We don't have a rapidly growing population. But in a huge number of countries, forests are still mindlessly burned for vegetable gardens!

In general, determining the REAL rate of deforestation is difficult.

The Food and Agriculture Organization of the UN (FAO), which tracks this data, relies on official country reports. But even according to this organization's estimates, the total global loss in the first 5 years of the 21st century was 6 million hectares of forest annually.

The margin of error in official statistics can be illustrated by this: according to World Bank estimates, 80% of logging in Peru and Bolivia is illegal, and in Colombia, it's 42%. In our country, too, official statistics are not something I would trust unconditionally!

Currently, the majority (75%) of the world's remaining forests are located in just 3 countries. These are Russia, Canada, and Brazil.

If we look at the problem closer to home, the deforestation of Europe has been successfully completed through the collective efforts of humanity. Significant forests remain only in the north — in the Scandinavian countries and in Russia.

And yet two thousand years ago, forests covered 80% of the area of modern Europe.

Today it's 34%, including the forests of Russia.

In Western Europe, deforestation peaked back in the Middle Ages. Mostly, forests were cleared for agricultural needs. By 1700, Europe already had about 100 million hectares of arable land. During the 20th century, the area of arable land increased by another 80 million hectares. There was also rapid growth in urban areas and transportation networks. And in some places, forests almost completely disappeared.

I turn once more to the theory of the biotic pump of atmospheric moisture by Russian scientists Viktor Gorshkov and Anastasia Makarieva, about how significant the role of ancient forests is in regulating planetary processes. Europe didn't turn into a desert only because it's small and surrounded by seas on all sides.

Quoting: “…The modern record-breaking speed of forest destruction originated in Western Europe, where all regions are less than 600 km from the ocean coastline and inland seas—the distance over which geophysical moisture flows from the ocean to the land dissipate. Therefore, the complete destruction of natural forests in Western Europe did not lead to total desertification, but catastrophic floods, droughts, and fires have become more frequent” (Gorshkov, Makarieva, 2006).

Australia and the Sahara Desert region in Africa weren't so 'lucky' due to human activities. Most likely, the deserts of Australia and the Sahara formed as a result of deforestation along the coasts.

As you can see, we still have much to preserve.

There are tasks that need to be addressed to preserve ancient forests. This is unlikely to be achieved without a broad public movement for Life, for a Living Planet, for the preservation of our Russian Taiga.

It is now critically necessary to:

1) recognize at the state level the uniqueness of natural (minimally disturbed) forests, which possess special properties: complexity of biological system organization, high species diversity, and long-term resilience to environmental changes;

2) assess the existing forest resources in terms of the integrity and complexity of ecological systems—not only identifying natural forests but also those where logging occurred long ago and natural ecosystem recovery has taken place;

3) unconditionally exclude natural and fully recovered forests from economic activities.

There are many challenges on this path!

This includes the lack of reliable and current information about the age structure of modern forests. No scientific research is being conducted in this area.

There is also a lack of precise quantitative data on the functions of forests at different stages of their development and at different ages. The theory of the biotic pump provides only a general understanding of the nature of these processes. The few studies that confirm the theory are entirely insufficient for implementing practical measures.

And most importantly, there's a complete lack of any legislative framework to protect ancient natural forests.

The situation is such that for administrators, the concept of ancient forests doesn't even exist!

The current global situation is that no one is fully engaged in the preservation and restoration of forests. There are actual programs only in India and China, which cover less than 10% of forests. There's also a newer intergovernmental program for Africa's Green Belt.

The concept of the biotic pump remains largely unknown. There are only isolated studies by Scandinavian scientists and some analysis of the Amazon rainforest.

Meanwhile, enormous resources worldwide are being invested in geoengineering projects to alter the climate. China is actively working in this area. Arab sheikhs are inducing rain in their regions. But all of this is an expansion of the technocratic approach, with sharp and unpredictable effects as a result.

So, it's a global problem, not just one for our country. There is knowledge and understanding, albeit at an initial stage, of biospheric processes and the impact of forests on the climate. But the social system is inert. The industrial technocratic approach prevails. It's an extremely simplified and mechanistic approach that completely ignores the complexity and diversity of the Living World around us.

# Chapter 40. Preserving biodiversity: the importance of natural forests

Let's start by clarifying some terms. What exactly is “biodiversity”?

Here's what Wikipedia says:

“Biodiversity (biological diversity) is the variety of life in all its forms, as well as an indicator of the complexity of a biological system and the diversity of its components. Biodiversity is understood at three levels of organization:

— genetic diversity (the variety of genes and their variants — alleles);

— species diversity (the variety of species within ecosystems);

— ecosystem diversity, meaning the diversity of the ecosystems themselves.”

The main scientific concepts of biodiversity were only formulated by the mid-20th century. This is due to the development of quantitative methods in biology — before that, it was simply impossible to quantify it!

The issue is that the concept of “biodiversity” is hardly present in any bureaucratic documents!

And there's even less understanding at the level of law enforcement!

That's why I focus on the definition of biodiversity as a concept right from the start and in great detail!

In practice, the situation is such that planted trees on clear-cut areas and natural forests that have grown for centuries are often considered equal. Both are forests — so what's the problem?! This stance by government officials and agencies shows a COMPLETE LACK OF UNDERSTANDING of the issue!

Everything is wrong!

The concept of “biodiversity” does exist in laws.

And it's in international agreements too. But the concept of “biodiversity” is introduced into the administrative practices of states at the initiative of the scientific community, by scientists. It's a recent introduction. Words and letters have appeared in the texts of laws,

but so far, there's no real impact! There's no understanding of the importance of biodiversity. There's not even an understanding of what this mysterious “biodiversity” is to a mid-level bureaucrat!

And, consequently, there's no understanding of what we're losing, unfortunately...

The significance of biological diversity at all levels of biological systems is simply colossal!

Today, the level of biodiversity is recognized in biology as one of the main indicators of the viability (survivability) of a species or ecosystem as a whole. This is the so-called “Principle of Biological Diversity.” The essence is this: with uniform characteristics among individuals within a species (this applies to humans, plants, microorganisms — everyone!), any significant change in external conditions (weather, epidemic, change in food supply — anything!) will lead to the extinction of that species. The species with more diverse genotypes will survive. This fully applies to the richness of species in the Biosphere as a whole or in any isolated ecological system individually.

Biodiversity is a STRATEGIC ADVANTAGE for any species, any ecosystem! With the loss of biodiversity, any system's ability to adapt to changes in the

environment is also lost!

There are already numerous examples of the disastrous consequences of attempts to “designate” certain biological species, families, and even ecosystems as unequivocally beneficial or harmful through administrative means.

Draining swamps not only reduced the number of malaria mosquitoes but also led to more severe spring floods and the drying out of nearby fields in summer.

The culling of wolves (“evil pests”) led to an uncontrolled increase in the numbers of species regulated by wolves and almost complete destruction of their food sources. This was followed by the mass death of these species as well.

Or the example of China's leadership waging war on sparrows, which led to crop failure due to insect invasions. And famine with millions of human casualties in China.

Or the constant examples of human interference in Australia's fragile ecosystems. Where they “genocide” rabbits, cats, or someone else.

There are many such examples!

Now, biodiversity has become a key concept in global conservation discourse. Biodiversity has become an official definition from a legal standpoint. It has been included in the UN Convention on Biological Diversity, adopted by almost all countries on Earth, with few exceptions.

But the path from adopting international declarations or even pacts to actually implementing such documents is not a short one!

The enormous challenge is that determining the necessity of preserving and maintaining biodiversity in some objective way is quite difficult. It depends on the perspective of the evaluator. And Russian Taiga is still assessed by officials in cubic meters of commercial timber, unfortunately...

Ancient Forests, natural ecosystems that humans have not yet intruded upon, are systems with the highest degree of biological diversity.

Therefore, preserving Ancient Forests is a matter of STRATEGIC SECURITY. And not just for a country or state. It's a matter of strategic security for all people, regardless of the administrative territory of the states they live in!

Historically, Russia has retained the largest areas of untouched boreal forests. And not only those that have never been logged but also those where logging occurred long ago and partially. These areas of Russian Taiga have also managed to recover and need protection.

Let me give an example of interesting scientific research I encountered while preparing for the last expedition to the north of the European part of our country.

Finnish, Swedish, and Russian researchers published the results of a study on the ecological consequences of industrial forestry in Fennoscandia in the journal “Ecological Processes.” The summarized data shows that the amount of dead trees in commercial forests is insufficient to maintain biodiversity.

We need windfall, we need deadwood, to put it simply, to keep the forest truly alive! To improve the situation, researchers suggest preserving significantly more dead and old trees during logging. Increase the number of trees left even during clear-cutting. And not extinguish all fires, or even conduct controlled burns of forest areas in some cases!

Do you know what they propose?!

It sounds somewhat unexpected, but scientists suggest that Finland adopt Russia's forestry practices! And they say that Sweden is already doing this: leaving more wood in the forests after logging, as Russia did in the past, to ensure a sufficient amount of decaying wood in the future. The authors of the study propose both short-term and long-term measures to stop the loss of biodiversity in forests.

“All dead trees, except those infected by the European spruce bark beetle, should be preserved during logging. More of them should be left in the forest, for example, by creating artificial windfall, as Sweden has done. Artificially created windfall benefits endangered species, although their species composition slightly differs from those in naturally dead trees,” says research professor Matti Koivula.

It's fascinating, isn't it, how our approach to forestry changes as we learn more about the complexity of natural ecosystems?!

Another intriguing question worth considering is why researchers suggest that Finland and Sweden adopt Russian practices.

In Russia, clear-cutting began back in the 1910s. Compared to the Finnish practice of clear-cutting, the Russian method differed in that, on average, 10% to 40% of the standing trees were left uncut. Typically, this was in the wettest and most inaccessible forests.

"In practice, Russia implemented exactly the measures that scientists are now proposing to preserve biodiversity in Finland and Sweden," says Ekaterina Shorokhova, a senior specialist at the Finnish Natural Resources Institute.

These Russian forests currently have a significantly more diverse structure than those in Finland. They contain more decaying wood and are more varied in species. However, they have been subjected to fewer experimental studies than anywhere else in the Fennoscandian region. As usual, we don't even realize the riches we possess! And "incomplete" clear-cutting continued in Russia until the 1960s.

The areas that were cut back then now offer a great opportunity to study the long-term effects of logging with retention. So, in addition to the pristine areas of the Russian Taiga, there are areas that have managed to restore their natural properties! Yet, these boreal forest ecosystems have not been studied by scientists.

Consequently, their unique properties and level of biodiversity are not considered by officials at all!

"The last of these forests are becoming old enough for restoration logging, and the big question in Russia is how they should be managed in the future. If they followed the Fennoscandian model, the results could be seen in the current state of reduced biodiversity in the forests of Finland and Sweden," says Ekaterina Shorokhova.

These are some interesting conclusions.

So, it turns out that the forestry methods developed by forest engineers back in the Russian Empire were more advanced than those today?!

# Song of the Russian Taiga

Russian Taiga, why do you grieve,
What do you whisper to me, what do you sing?
You are eternal, you are primordial,
There are no limits to you, no shores!

What do I hear in your noise,
And why is there sadness in your song?
You are the mistress, you are great,
You stretch into the boundless distance!

In the fiery glow, in the haze of fires,
With a heart scorched by the heat of misfortune,
My mother-taiga, generous, glorious,
Just survive, so we may live.

Endless sea, taiga sea,
Northern land, my native land,
Shared memory, our shared life,
Our life is tied to the Russian Taiga.

In the secret refuges of the ancient forest,
In the mysterious temple of ancient cedars,
I am wedded to the northern taiga in my heart,

I need no foreign southern winds.

The north wind swirls over the taiga,
The northern wind, my brother forever.
With a snowy blizzard or fierce frost,
A man walks with a warm heart.
With the northern wind, northern taiga,
On the secret paths of ancient forests,
Warriors-guardians of the ancient forest,
In our veins flows ancient blood.

Blood brothers are the wolves of the north,
With brother-bear we guard the taiga,
We will survive with you, we will stand with you,
And our Mother-Taiga will live!

Pavel Pashkov

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