



2015



WWF Baltic Sea Farmer of the Year Award 2015

WWF Baltic Ecoregion Programme

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WWF BALTIC SEA FARMER OF THE YEAR AWARD 2015

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AN AWARD FOR FARMERS WHO MAKE A DIFFERENCE

Many farmers are prepared to go the extra mile in order to help save the Baltic Sea. The winners of the WWF Baltic Sea Farmer of the Year Award 2015 have all taken measures on their own initiative to reduce nutrient runoff to the Baltic Sea. With this award, WWF aims to highlight how important their work is and showcase their good examples across the region.

The Baltic Sea is one of the most polluted seas in the world – with the single biggest problem being eutrophication, or over-fertilization. An excess of nutrients, such as phosphorus and nitrogen, leads to a severe disruption of the Baltic Sea ecosystem, with effects including extensive algal blooms in summertime. These can lead to an increase of bottom areas with little or no oxygen – so-called ‘dead-zones’. Farmers are often criticized for these problems, given that agricultural activities account for almost half of the nitrogen and phosphorous input to the sea. But, as demonstrated by the Baltic Sea Farmer of the Year Award, many farmers are taking active steps to reduce their nutrient runoff and thereby help save the Baltic Sea.

The competition was first introduced in 2009 as a way to inspire farmers and decision makers in the agricultural sector, by highlighting concrete examples of positive measures farmers were applying to reduce nutrient runoff around the Baltic Sea. The competition is now in its sixth year and has selected in total 50 winning farms in 9 countries around the Baltic Sea, all serving as inspiring examples to other farmers and the agricultural and environmental sectors at large.

On the following pages you will have the chance to meet the winners of the 2015 competition and learn more about how they are collectively making a difference for the Baltic Sea – please read on and be inspired!



Last year's winner: Juris Cīrulis and Vija Cīrule, Latvia

Juris Cīrulis and Vija Cīrule received the regional Baltic Sea Farmer of the Year Award 2014 for purposefully developing their dairy and crop farm Mežacīruļi to reduce nutrient runoff to the local and regional environment, including the Gulf of Riga and the Baltic Sea.



The production cycle at their farm is well-balanced and resources as well as by-products are thoughtfully used and reused, for example through a bio-gas station that recycles manure from the dairy cows. A growing chain of products are created and the negative impact on the environment is substantially reduced.

FINLAND Markus Eerola and Minna Sakki-Eerola

By implementing precise and innovative techniques, regional winners Markus Eerola and Minna Sakki-Eerola have created optimal soil structure and successful retention of nutrients at their organic crop farm Knehtilä.



Markus and Minna have been interested in environment friendly cultivation for a long time and have always paid great attention to soil structure and tilling methods, even before shifting to organic production in 2010. They grow a diverse selection of crops at their farm and also manage grasslands that are used for producing green manure. Together with large buffer zones, the grasslands provide erosion control and ensure nutrient retention in the soil.

Precision agriculture methods form the basis for all activities at Knehtilä farm, and include using advanced technology to analyze the soils and

adapting use of equipment to fit different conditions. These efforts have resulted not only in optimal soil structure and reduced nutrient runoff, but also in optimal yields and increased economic returns for their farm.

“Precision farming is central for everything we do in the field,” explains Markus. “Using advanced technology, we know better what kind of soil we have in the different parts of the fields, and how nutritious it is. That helps us to optimize the inputs.”

Markus and Minna are very proactive in collaborating with other farms, companies, researchers and organiza-

tions, and have been part of numerous national and international agri-environmental projects. In the most recent one, they are researching new ways for nutrient and energy self-sufficient production of local and organic food. The project is done within a large multi-enterprise network that is the first of its kind in Finland, and will serve as a model for similar future efforts.

“Collaboration between many stakeholders is needed if we really want to change things,” says Markus. “It’s the only way to develop sustainable farming measures and also to implement them,” he concludes.



“Winning the Finnish competition was already an honor for us – winning the regional one is just unbelievable. It gives us strength to keep up our work; sharing good practices and collaborating with different actors. After all, cooperation and positive attitude are central to be able to achieve a more sustainable agriculture.”

Markus Eerola and Minna Sakki-Eerola

Location: Hyvinkää in southern Finland

Type of farm: Organic crop farm (340 ha)

Main production: Crops including grains, faba bean, turnip rape, buckwheat and pea-oat mixtures

International jury motivation:

The jury is proud to present Markus Eerola and Minna Sakki-Eerola with the Baltic Sea Farmer of the Year Award 2015 for their leadership in implementing precise and innovative techniques at their organic crop farm Knehtilä, which has resulted in optimal soil structure and successful retention of nutrients. By always taking the environment into consideration, they have also generated strong agricultural and economic returns for the farm, thereby providing a worthy model for other farmers to learn from.

Furthermore, the jury was impressed with the couple's passion for spreading information on sustainable agriculture, and their exceptional engagement in many national and international agri-environmental projects. Markus Eerola and Minna Sakki-Eerola are already exemplary ambassadors for environmentally conscious farming – and the jury is certain that they will continue to provide knowledge and inspiration for farmers across the Baltic Sea region.

Key practices:

Tube composting method, precision farming, tilling measures, crop diversification, catch crops, grasslands, buffer zones, stream restorations, numerous innovative projects for more sustainable energy and nutrient use

DENMARK

Mogens Anholm

Mogens Anholm has managed to combine economically viable farming with creating room for nature, and is happy to see an increased interest in combining agricultural production with nature conservation.



When Mogens Anholm took over the care of the area at the tip of Røsnæs some 25 years ago, it was farmland cultivated using pesticides and fertilizers. Instead of continuing this type of farming, Mogens made the decision to develop the area into preserved natural land without the application of nutrients, in agreement with the Danish Nature Agency. By letting livestock graze year round, in combination with other nature conservation measures, the area has developed into a very unique natural scenery with rare species of animals and plants.

“Since I took over the land, there have been no mechanical activities at all,” says Mogens. “The maintenance and conservation of the area is done entirely by the cattle. They don’t receive supplementary feeding and the grazing pressure is adjusted to the level of resources provided by nature.”

Today Mogens practices agriculture and nature conservation with up to 150 cattle, by taking care of the daily surveillance of the animals and the general upkeep of the area. He believes that the concept of combining traditional farming with nature conservation measures can be spread



more widely, and he has been central in developing a “Nature and Agriculture” handbook, together with farmers’ advisory service Gefion.

“I’m very grateful for being acknowledged for my efforts to combine nature conservation with agricultural production,” Mogens concludes.

“Winning the Baltic Sea Farmer of the Year Award in Denmark gives me an opportunity to show other farmers and the general public that nature conservation measures add value for everyone.”

Mogens Anholm

Location: Kalundborg in northwestern coast of Zealand

Type of farm: Conventional crop farm with grazing agreements (210 ha)

Main production: Wheat, rape, spring- and winter barley

National jury motivation:

Mogens Anholm is a farmer by heart and has been working with nature and agriculture for a great number of years. As such he is a really good ambassador and can cooperate with everyone. In the Røsnæs area close to Kalundborg he works very close with the local municipality, the landowners in the area and the advisory service. He has a balanced view of nature and agriculture and knows how to combine both worlds in a constructive way for all stakeholders. Mogens Anholm is a first mover on stewardship of nature and has together with the advisory service Gefion made a handbook about nature conservation.

Key practices:

Fertilizer plans, catch crops, crop rotation, buffer zones and lakes, nature conservation measures including livestock grazing agreements

ESTONIA

Martin Repinski

Martin Repinski and his family operate the largest goat farm in Estonia – and take great pride in producing high quality organic milk and dairy products.



The Repinskis bought their first goat Sorka to help with their youngest daughter's severe allergies – as goat milk was said to be a natural cure. Today, her allergies are gone, and the family is operating the largest goat farm in Estonia – with 750 ha of land and 600 goats. They produce organic milk and dairy products and sell them at their own shop in Tallinn and at mobile sales points.

“We produce and market all our products ourselves, which gives us control over the entire chain from producer to consumer,” says Martin. “At the beginning of our farming, we knew that selling milk to intermediary parties is a risk and that we had to avoid it. Independence is only possible when you control all the processes yourself and you have your own strong brand.”

Konju farm takes many other measures to achieve sustainable farming, including restoration of grasslands for grazing and keeping their animals outdoors. This means that no extra animal feed is needed and thus nutrient input to the overall nutrient circulation is limited. The farm also cooperates with other farmers both in the fields of production and marketing, and works to promote small businesses and rural entrepreneurship.

“To encourage more farmers to farm in a sustainable way, more cooperation is needed – as well as widespread positive examples.”

“Our enterprise is an example of how it is possible, even in agriculture, to start from zero and eventually succeeding with nature-friendly high quality organic production,” says Martin.

The farm takes great pride in providing nature education to a wider audience and every year they welcome more than 25,000 visitors.



“We conduct tours, present the operation of our farm and provide an opportunity to interact with the animals and try our products,” Martin says. “Winning this award provides a good incentive to continue on the same track, but also means an additional responsibility as we will be more in the spotlight than before.”



Martin Repinski

Location: Rausvere küla in northeastern Estonia

Type of farm: Organic goat and cattle farm (750 ha)

Main production: Milk and dairy products

National jury motivation:

Martin Repinski was selected as the Estonian winner for taking many environmentally friendly and outstanding measures at his farm. As part of a new generation, he has chosen an alternative and uncommon kind of farming in Estonia – goat farming – and produces, processes and markets all the goods himself. He has been oriented towards large-scale organic production practices from the very beginning and his farm was voted the best Estonian organic producer of 2014. In addition to ecological production, he also engages in socially responsible tourism by showing children and young people around his farm.

Key practices:

Use of manure as natural fertilizer (minimal amount applied), restoration of grasslands, education on environmentally friendly organic farming, promotion of rural entrepreneurship

GERMANY

Hofgemeinschaft Klostersee

Hofgemeinschaft Klostersee consists of a community of five families that together operate a crop and livestock farm, using only organic and biodynamic methods.



Hof Klostersee's arable land lies in the former Baltic Sea lagoon Klostersee, where past measures of drainage have created a wide variety of soils – as well as extremely demanding terrain for farming purposes. Therefore, Hofgemeinschaft Klostersee's farm management focuses on sustainable soil management, through a well-managed and diverse crop rotation system that ensures optimal soil conditions and nutrient uptake.

“Due to the soil conditions of our location, sustainable management of available nutrients requires a high level of sensibility,” says Knut Ellenberg, one of the farmers in the community. “The extreme soils and the reactions by the crops are very efficient teachers – since any management error becomes very evident.”

Five farm manager families and their children live and work on Hof Klostersee. Together, they operate a diverse range of activities – including crop and dairy production, running a bakery and holiday rentals. The farm buildings and lands are owned by a non-profit associa-

“With growing experience we adapt our crop management methods every year, and also integrate scientific findings into our practices.”

tion, with the aim to support both biodynamic agriculture and rural culture and social engagement.

Hof Klostersee is one of the organic

demonstration farms designated by the German Federal Government, and as such offers a range of different guided farm walks, often targeting at a more technical audience. “Best practice must not only be praised, but also described in concrete detail,” says Knut. “Education in natural sciences is one way to forge a new identity of farmers – as key public advocates for the environment.”

Hofgemeinschaft Klostersee

Location: Grönwohldshorst in northern Germany

Type of farm: Biodynamic organic crop and livestock farm (160 ha)

Main production: Crop (including spelt, rye, wheat, rape, clover) and dairy products

National jury motivation:

The partnership of five farming families has succeeded with diverse activities – including crop and dairy production, running a bakery and holiday rentals – while still focusing on sustainable natural resource utilization. The jury was particularly impressed with the diversity of this farm community, the cooperation between generations, and the focused work based on the principles of sustainable soil management. The farm's operational model, i.e. the non-profit association, is an interesting strategy which demonstrates a new pathway towards a healthy development in the Baltic Sea region.

Key practices:

Biodynamic management, low livestock density, all animal feed produced at farm, use of farm waste as fertilizer, crop rotation, catch crops, grasslands and zoning system

LATVIA

Juris Sprukulis

“The moral satisfaction from winning this award is the biggest prize, as our nature is not something you can measure in monetary values,” says proud Latvian winner Juris Sprukulis.



Juris Sprukulis took over Vecsiljāņi farm in 2006 from his parents-in-law, and has since developed it into a large farm of 1049 hectares, producing a variety of crops along with dairy products. With a high level of production, it's especially important for Juris to operate the farm in an environmentally conscious way.

“We have always believed that the environment should be kept in mind while planning our farming methods, as humans are not the only ones living on this planet,” says Juris. “At the same time, all our decisions have been quite rational and based not only on our values, but also on economic reasoning.”

The farm uses a ‘non-waste’ circular approach where all the farm products and by-products are used, for example digestates as crop fertilizer and animal manure for biogas production. The farm also reduces nutrient runoff by using a rotation system for manure handling, and by applying fertilizer in a way that that doesn't compact the soil.

Juris heard about the WWF competition last year, when the Latvian farm Mežacīruļi won the regional award – proving to him that environmentally conscious and successful farming can and should be practiced in Latvia.



“I think there should be more support programs for farmers, that promote environmental issues,” explains Juris. “It would also be helpful to have more public discussions about the risks that inappropriate farming can have on the environment. I think that the reasons for bad practices are often just a lack of knowledge, and this is why this award is so important,” he concludes.

“We have always believed that the environment should be kept in mind while planning our farming methods, as humans are not the only ones living on this planet.”

Juris Sprukulis

Location: Bebru Parish in central Latvia

Type of farm: Conventional crop and dairy farm (1094 ha)

Main production: Integrated agricultural system with crop, dairy and energy production

National jury motivation:

Vecsiljāņi farm is an excellent example of a ‘non-waste’ farm where all resources are used with maximum efficiency. Great attention is paid to reducing the potential pollution of natural aquatic ecosystems and the risks of nutrient leakage are significantly reduced. For example, manure is used as fertilizer and to produce biogas. The owners of the farm are always interested in learning new practices and technologies that can help them develop their environmentally friendly farming. Also, they are keen to put the things they learn into practice, and to share knowledge with other farmers.

Key practices:

Non-waste approach with efficient use of resources, use of digestates as fertilizer, biogas production, fertilizing plans, sewage decontamination equipment



LITHUANIA

Vilma & Valdas Živatkauskai



Vilma and Valdas Živatkauskai have gone the extra mile to preserve valuable habitats and biodiversity in one of the most intensively farmed areas in Lithuania.

In the Kėdainiai district, where Vilma and Valdas live and operate their organic beef farm, natural grasslands were historically destroyed by intensive agriculture. The couple therefore acknowledges the responsibility that comes with farming in this area – and one of their main driving forces has been to re-establish and preserve valuable habitats and biodiversity.

“We are happy to see biodiversity returning to this area,” says Vilma. “I believe that the efforts of every single farm are important, both to reduce the threat of eutrophication and to preserve biodiversity, especially in regions of very intensive agriculture.”

The Živatkauskai family has worked hard to clean up meadows in the Valley of Nevėžis River from bushes and vegetation, and now the resulting grasslands are maintained by grazing of their cattle. Pastures divided into zones with different grazing intensity, low livestock density and permanent buffer zones along the river all work to optimize nutrient retention in the soils. In addition to implementing many agri-environmental measures, Vilma and Valdas are passionate about education as a tool to increase the level of sustainable farming in Lithuania, and their farm or-



ganizes educational events every year.

“Education of younger generations is very important for future trends, and we are really proud that the school we are cooperating with has environmental education as one of their priorities,”

explains Vilma. “Also, more and more young people are interested in farming and they look for new, attractive ideas. What could be more attractive than farming in harmony with the environment,” she concludes.



Vilma and Valdas Živatkauskai

Location: Ginetai village in central Lithuania

Type of farm: Organic cattle and pig farm (45 ha)

Main production: Beef and pork

National jury motivation:

The Lithuanian jury was particularly impressed with Vilma and Valda's efforts to improve water quality and biodiversity in the area around Nevėžis river, while at the same time respecting traditions. They are “ambassadors” for nature friendly farming, not only because of the way they run their own farm, but also because of their efforts to inspire other farmers to develop their farms in a sustainable way. This year Vilma was actively taking part in negotiations between the Ministry of Agriculture and ecological farmers, which resulted in avoiding the intensification of organic farming in Lithuania. The farm also organizes educational events and is part of several environmental projects.

Key practices:

Solid barn foundation, deep straw bedding, manure used as fertilizer, permanent grasslands and buffer zones, wetlands, low livestock density

POLAND

Elżbieta Reitzig

“Working close to nature, and with respect for the environment, gives me great satisfaction,” says Polish winner Elżbieta Reitzig.



All activities at Elżbieta Reitzig’s cattle farm are carried out in an organic, environmentally friendly manner. Nutrient runoff from pastures and meadows is limited using, for example, natural buffer zones, midfield ponds and a rotational grazing system. Pastures are divided into several paddocks, ensuring that nutrients from the animals can be immediately taken up by plants.

“We do our best to close the nutrient cycle at the farm. Our animals eat the grass, which is then evenly fertilized by them.

This reduces not only the nutrient runoff, but also the extra effort associated with collecting, storing and applying fertilizer by hand.”

Elżbieta is passionate about nature conservation and successfully combines farming with measures to protect endangered species and natural habitats. Almost all of the farm land is located within a Natura 2000 area, and the farm’s nature conservation measures have had positive results.

“When I started my business, there wasn’t a single hare or deer here, just a few birds. It was the result of long-term use of chemical fertilizers,” says Elżbieta.

“Now, the pastures are full of hares and the midfield ponds with frogs, aquatic birds and even turtles. Nature has returned.”

Elżbieta and her family are eager to share their knowledge on sustainable agriculture and welcome groups of farmers, tourists and nature enthusiasts to their farm. She hopes that the recognition from winning the Polish award can help her to further spread knowledge on sustainable farming, and that her work can be used as a good example for others to learn from.



Elżbieta Reitzig

Location: Stefanowo, Wielkopolskie Province in eastern Poland

Type of farm: Organic cattle farm (115 ha)

Main production: Meat products

National jury motivation:

Elżbieta Reitzig’s farm proves that beef cattle breeding can be managed with respect to nature, including the Baltic Sea. Nutrient runoff from pastures and meadows is limited using for example buffer strips, rotational grazing system and pastures divided into paddocks. The farm also uses all available technology solutions to reduce negative impact on water and air condition, including a biological sewage treatment plant and biomass-fuelled central heating system. In addition, Mrs. Reitzig successfully combines farming with measures to protect endangered species of birds, through the conservation of natural habitats within a Natura 2000 area.

Key practices:

Cattle kept in pastures and winter paddocks, rotational grazing system, grass buffer strips, extensive use of meadows, midfield ponds, biological sewage treatment plant

RUSSIA

Valentina Galtsova



Russian winner Valentina Galtsova is happy to see many environmental benefits from applying sustainable farming methods, for example increased wildlife in the farm fields.

One of the most traditional family farming activities in the eastern Baltic Sea region is hay production, which is the central activity at Valentina and her husband Vladimir's farm. They also keep cattle and sell dairy and meat products to families in the area, and their modern way of promoting their products through a popular blog has generated both increased economic revenue and a large interest in their ecological products.

"Our dairy and meat products are very popular," says Valentina. "In addition to milk, cream and cheese we also sell meat products that are rare in the local market, for example domestic duck meat. We have a very good business relationship with nearby farms and they usually buy our hay."

The farm controls nutrient runoff by fractioning and composting manure, which is then used as natural fertilizer. The farm has also started to install biogas equipment for heating. Biogas will be formed from the fermentation of manure, and when everything is ready, a full-cycle system to reuse manure will be in place at the farm.

"We know that if we don't use a lot of chemicals in our farming, we can support the survival of wildlife, including birds and insects like wild honeybees and bumblebees."

Valentina and her husband see many environmental benefits from applying sustainable farming methods, one example being increased wildlife in the farm fields.

"We live in a very old rural area, and I like that our farmland and other fields in the area are slowly being restored and used again for farming," says Valentina.



Valentina Galtsova

Location: Lamberg village, Sortavala region, Karelian republic

Type of farm: Hay, livestock and dairy farm (66 ha)

Main production: Hay, dairy and meat products (poultry, duck, beef, veal)

National jury motivation:

Valentina Galtsova and her husband support a combination of farming activities, the most important one being hay production, which is critically important for other dairy farms in the area. They also keep cattle and sell dairy products to families in the village and other settlements. The jury value and support the intention and first steps of environmental management at the farm, including household biogas production and usage, and other actions that follow the "Reduce, Reuse, Recycle" principle.

Key practices:

Fractioning and sorting of manure, use of composted manure as fertilizer, biogas production, educational activities including a petting zoo

SWEDEN

Hubert Gelin



“After 40 years as a farmer, it feels really good to be able to make a difference for the environment and take care of our land for the future,” says Swedish winner Hubert Gelin.

Phosphorus runoff from agricultural land creates problems not only in the Baltic Sea, but also in many Swedish lakes and water-courses. Together with seven neighboring farms and agricultural advisers, Hubert Gelin started a project in 2006 with the aim to minimize phosphorous leakage from the farms’ common catchment area. One of the main activities in the project has been to construct a two km long two-stage ditch, which is a relatively new and untested agri-environmental method in Sweden.

“The two-stage ditch means that the erosion of hillsides is avoided and that the water level on the fields at high flows is minimized,” explains Hubert. “It’s important to transport water away from our fields, since they have a very high clay content. Through the drainage work, the yields will increase and soils will be easier to manage.”

In addition to the two-stage ditch, the farms have constructed lime-filter ditches and a phosphorous dam – and they also use structural liming and nutrient balances to decrease nutrient leakage. The farms collaborate with researchers from the Swedish University of Agricultural Science and since sampling and measurement series are available for the area, it’s possible to follow up on the effects of the farms’



efforts. In the future, Hubert hopes that their methods will be used by more farmers, and that economic support will be given to those who want to undertake similar projects.

“I think it’s positive that we have voluntarily taken the path towards doing something good for the environment,” says Hubert.

“Our efforts have received a lot of interest, and neighboring farmers have been inspired to take their own agri-environmental measures, which I see as an additional positive result.”



Hubert Gelin

Location: Norsholm in southeastern Sweden

Type of farm: Conventional livestock and crop farm (54 ha)

Main production: Spring lamb and cereals

National jury motivation:

Together with seven other farms, Hubert Gelin has conducted a series of measures to mitigate the problem of phosphorous leakage to the Baltic Sea. Some of the measures are well known whereas others are new and innovative. The latter includes construction of two-stage ditches and lime filter ditches – which are still relatively untested in Sweden. Hubert has been the driving force behind implementing the measures, and also the driving force in the collaboration between the farms, researchers and authorities. Since there are sampling and measurement series available for the area it’s possible to follow up on the effects of the measures – making the knowledge base in many ways unique.

Key practices:

Construction of a two km long two-stage ditch to reduce phosphorous leakage, lime-filter ditches, structural liming, use of nutrient balances at farm level



THE IMPORTANT ROLE OF LAND-BASED SOLUTIONS TO FIGHT EUTROPHICATION

Land-based measures to reduce nutrient runoff, as highlighted in this brochure, represent an important part of the solution to the eutrophication of the Baltic Sea. This is important to keep in mind, particularly in light of recent discussions in the region regarding the role of sea-based measures to address the internal nutrient load in the Baltic Sea.

Eutrophication of the Baltic Sea has been going on for decades. Many of the worst point sources have been largely addressed and significant gains have been made by improving wastewater treatment facilities and addressing industry runoff. These sectors' share of the total nutrient load has through the years decreased substantially.

However, old sins are still present, especially for phosphorus that has become a problem today. In the sediments of the deeper parts of the Baltic Sea basin much of the phosphorus is stored as an environmental liability. Areas of anoxic or oxygen free zones enhance the release of phosphorus from the

sediment – so called 'internal loading' – making it available for enhanced algal blooms.

The problem with the internal load in the Baltic Sea has been known for many years, yet has recently become the subject of public debate. Several ideas have emerged regarding how best to address it, including artificial oxygenation of the seabed and chemical sedimentation. So far the suggested solutions have, however, only been undertaken in various research projects and thus the consequences, techniques and costs of these are not fully understood.

A broad consensus of scientists believe that while the discussion about

sea-based measures should continue, they urge that this should by no means detract from the continuing need to improve land-based solutions, nor as an excuse to stop taking proactive measures at the farm level. In order to reach long term effects in the work to decrease the overall nutrient load of the Baltic Sea, the input from land to sea must be decreased. This is why WWF is working together with farmers to decrease agriculture's share of nutrient runoff in an effective way, and to highlight good examples and best practices around the region. The leadership seen through this competition continues to be an inspiration towards this end.

SPREADING THE WORD – SAVING THE BALTIC SEA

WWF partner organization, the Estonian Fund for Nature (ELF), has worked in cooperation with international partners across the region for many years to spread the word about the poor state of the Baltic Sea. Instead of talking about the problems, however, ELF has found that it is far more important to share best practices and educate key players. By producing a handbook about water protection measures for farmers, and constructing a wetland, they have been able to unlock a key passage to success.

All farmers should be concerned about protecting their local water bodies, and take measures to make water protection an effective and sustainable part of everyday life. However, it's been difficult in Estonia for farmers to do so, as agri-environmental education has a tradition of being very theoretical – and examples of practical measures that work on a local level have been too few. Further complicating the situation is that regulations for water protection are often difficult to comprehend – and information related to them difficult to find, being located in different places online or across multiple departments and jurisdictions.

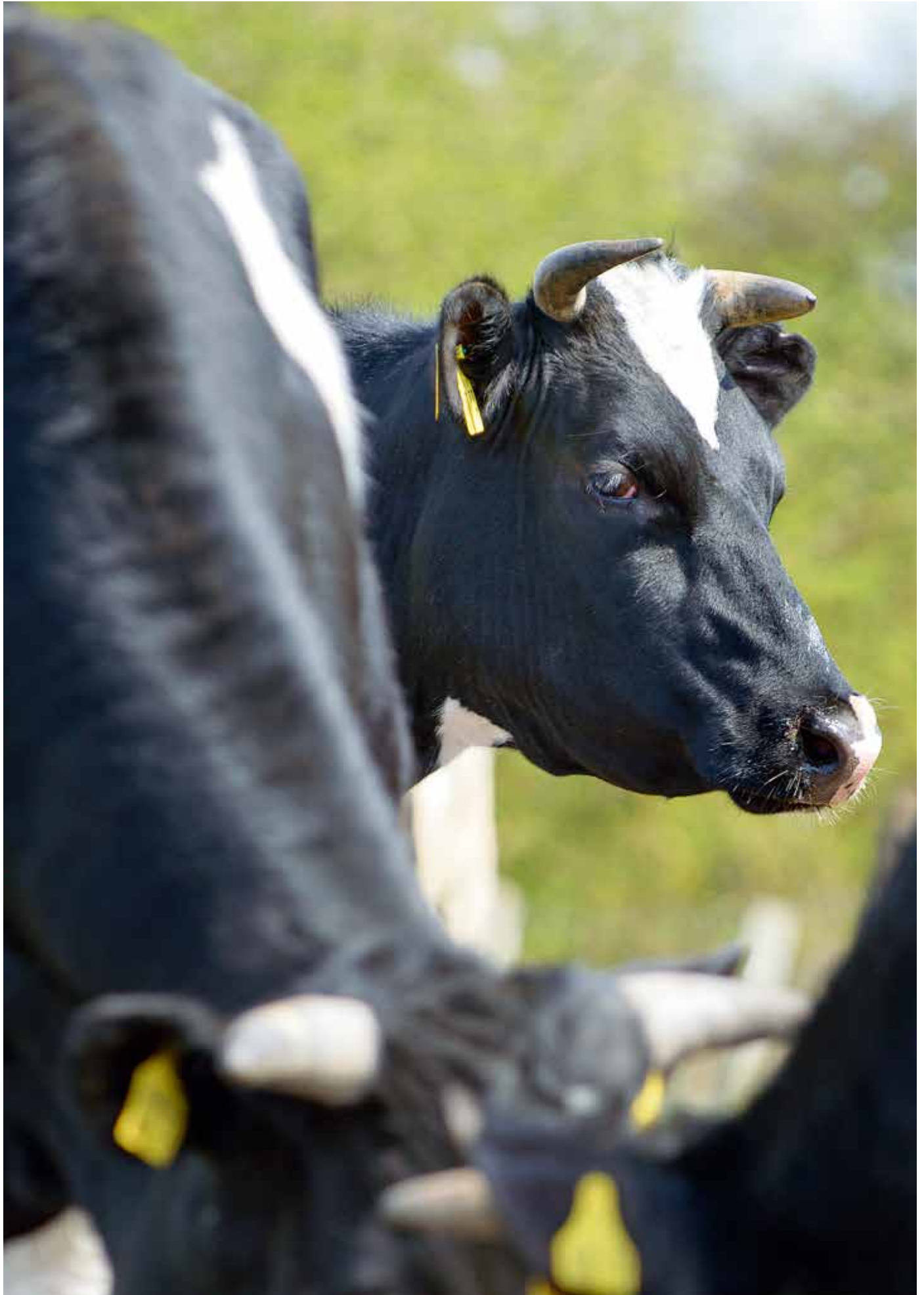
In order to address this situation, and provide clear and easily accessible information, ELF has produced “The Farmers’ Water Protection Handbook”. It provides an overview of the state of the Estonian water bodies, mandatory agri-environmental measures for water protection and different subsidies and support available for farmers.

The handbook also includes advice on environmentally friendly farming and suggestions of various measures to reduce nutrient runoff – including nutrient balance, liming peat soils, direct sowing, controlled drainage, buffer zones, phosphorus index, constructed

wetlands and denitrification wall, to name a few.

Today, the once only theoretical measures for water protection in Estonia have become a reality. ELF has constructed a wetland to treat agricultural diffuse pollution (pictured below) and farmers can now see for themselves how wetlands work. Seeing is believing and this belief has taken the agricultural sector in Estonia one step closer to solving the problem of too much nutrients ending up in the Baltic Sea.





MEASURES THAT CAN HELP SAVE THE BALTIC SEA

Here are the main sustainable agricultural and environmental measures practiced by current and previous winners of the WWF Baltic Sea Farmer of the Year Award:

ANIMAL PRODUCTION

- *A solid barn foundation of clay or concrete prevents manure and urine from penetrating into the groundwater.*
- *Storing manure in appropriate facilities, such as containers and tanks with an impermeable base, prevents leakage. Covering the facilities with lids or plastic, or letting a natural crust form, prevents gas emissions and rainfall runoff.*
- *Reducing ammonia emissions and thereby nitrogen losses, while improving local air quality, can be done by adding basalt dust to manure and installing air-filters in animal stalls. Also, using lower protein levels in the animals' feed and keeping the barn at a cooler temperature helps reduce ammonia levels.*
- *Reducing the number of animals per hectare helps to ensure that the soil can absorb all the manure.*
- *Cleaning stalls without using water prevents runoff to surrounding waters.*
- *Keeping permanent grasslands for grazing lowers nutrient runoff and helps store more carbon in the ground. They also act to preserve biodiversity.*

CROP PRODUCTION

- *Crop rotation, intercropping and using cover, catch and under-sown crops all help to optimize nutrient uptake by crops minimizing the need of added fertilizer. They also help maintain a good nutrient balance in the soil and can counteract establishment of weeds and pests.*
- *No-till farming and direct seeding saves resources as the soil is worked minimally.*
- *Covered soil year round means that there are always plants available to retain nutrients in the soil that would otherwise mineralize in the ground.*
- *Buffer zones along ditches, streams, ponds and lakes reduce nutrient runoff into surrounding waters.*
- *Sloped ditches where there is an increased risk of flooding can accommodate more water and thereby decrease nutrient runoff.*
- *Usage of precision agriculture equipment and techniques minimizes resource use and the risk of over-applying fertilizers.*
- *Computers and agricultural software can be used to plan and follow up farming activities, such as crop rotation and fertilization.*
- *Analyzing and mapping the soil and its nutrient balance on a regular basis help determine the precise amount of fertilizer needed.*
- *Monitoring of drainage systems allows the farmer to administer the right doses of fertilizer and avoid using them in places of high risk of leakage.*
- *Crop diversification improves plant protection and soil quality, and also increases biodiversity.*

- *Structural liming of soils and lime-based trap filters reduce surface water runoff of nutrients, particularly phosphorous. Better structure of the soil also facilitates tilling, thereby reducing fuel consumption.*
- *Spreading composted manure on fields is a natural way of fertilizing crops, and adding sulfur and micronutrients to the mix helps crops to use nutrients more efficiently. Manure should only be spread during the growing season and be ploughed into the soil right after distribution.*

GENERAL MEASURES

- *Recycling of water, waste and other resources helps close natural cycles. Recycling products and by-products from farming activities helps to maximize the use of nutrient and energy.*
- *Zoning of farm land and plot swaps, where different levels of farming intensity on different parts of the land, can optimize land-use to avoid nutrient leakage and preserve biodiversity.*
- *Wetlands, ponds and dams on the farm absorb nutrients and store them in growing biomass and in sediments, thereby reducing nutrient runoff. They also create habitats for wildlife and plants.*
- *Preserving trees, shrubs and other natural elements in and around fields helps reduce nutrient runoff and erosion and also increase biodiversity.*
- *Cooperation between farmers, organizations and other stakeholders is a great way to share knowledge on environmentally friendly farming methods and multiply the positive effects.*

FACTS ABOUT THE WWF BALTIC SEA FARMER OF THE YEAR AWARD

To show support for the agricultural sector and highlight good examples in the region, WWF – in cooperation with farmers' organizations around the Baltic Sea – created the WWF Baltic Sea Farmer of the Year Award in 2009.

The award is intended to inspire farmers from the entire Baltic region to take an active part in fighting eutrophication and contribute to a healthy Baltic Sea. Applications have been received from farmers practicing both organic and conventional farming,

as well as many different types of agriculture. The national winners, chosen by juries in each country, receive a prize of 1,000 Euros. From these national winners, an international jury selects a regional winner who receives a prize of 10,000 Euros.



Members of the national juries

DENMARK

Ella Maria Bisschop-Larsen, Danish Society for Nature Conservation
Torben Hansen, Danish Agriculture and Food Council
Morten Jørgensen, LMB Danmark A/S

ESTONIA

Alar Astover, Department of Soil Sciences and Agrochemistry, Institute of Agricultural and Environmental Sciences, Estonian University of Life Sciences
Kuno Kasak, Chair of Physical Geography and Landscape Ecology, University of Tartu
Aleksei Lotman, Estonian Fund for Nature
Heiki Raudla, Estonian rural life newspaper "Maaleht"

FINLAND

Liisa Pietola, Central Union of Agricultural Producers and Forest Owners of Finland (MTK)
Sampsa Vilhunen, WWF Finland
Johan Åberg, The Central Union of Swedish-speaking Agricultural Producers in Finland (SLC)

GERMANY

Herwart Böhm, Thünen Institute of Organic Farming
Frederike Böttger, Farmers Association of the Federal State Schleswig-Holstein
Reinhold Stauß, State Agency for Agriculture, Environment and Rural Areas of the Federal State Schleswig-Holstein
Birgit Wilhelm, WWF Germany

LATVIA

Jānis Rozītis, Pasaules Dabas Fonds
Ilze Skudra, Latvian Rural Advisory and Training Centre
Kaspars Žuriņš, Latvian Rural Advisory and Training Centre

LITHUANIA

Virmantas Povilaitis, Lithuanian Research Centre for Agriculture and Forestry, Institute of Agriculture
Paulius Svitojus, Baltic Charity Foundation
Nerijus Zableckis, Lithuanian Fund for Nature

POLAND

Justyna Fila, Agricultural Advisory Centre, Radom Branch Office
Marta Kalinowska, WWF Poland
Weronika Kosiń, Planning and Water Resources Department, National Water Management Authority
Monika Lesz, Department of Forestry and Nature Conservation, Ministry of the Environment
Katarzyna Lubczyńska-Saffell, WWF Poland
Karina Makarewicz, Department of Plant Breeding and Plant Protection, Ministry of Agriculture and Rural Development

POLAND, continued

Bogusław Rzeźnicki, Department of Plant Breeding and Plant Protection, Ministry of Agriculture and Rural Development
Anna Sosnowska, WWF Poland
Monika Zabrzeńska-Chaterera, Department of Plant Breeding and Protection, Ministry of Agriculture and Rural Development

RUSSIA

Yulia Danilova, Baltic Fund for Nature
Evgeny Genelt-Yanovskiy, Baltic Fund for Nature
Rustam Sagitov, Baltic Fund for Nature & IUCN Russian National Committee
Komov Viacheslav, Regional Farmers' Union

SWEDEN

Anders Alm, Ministry of the Environment
Nils Björld, Young LRF (The Federation of Swedish Farmers)
Lennart Gladh, WWF Sweden

Members of the international jury

Bo Gustavsson, Baltic Nest Institute
Irina Herzon, Department of Agricultural Sciences, Helsinki University
Lars Hvidtfeldt, Danish Agriculture & Food Council
Aldis Karkliņš, Institute of Soil and Plant Sciences, Latvia University of Agriculture
Enn Loigu, Institute of Environmental Engineering, Tallinn University of Technology
Dorota Metera, Bioekspert Ltd. & International Federation of Organic Agriculture Movement (IFOAM)
Kristina Narvendienė, Lithuanian Agricultural Advisory Service
Stina Nyström, WWF Sweden
Karin Stein-Bachinger, Institute of Land Use Systems, Leibniz Centre for Agricultural Landscape Research (ZALF)

PHOTO, COVER: Brainmade photo / Max Bagaev (p.1), Shutterstock (p.2 and p.19)

PHOTO – WINNERS: Joonas Fritze / WWF Finland (**Finland**); Torben Worsøe / Landbrugsavisen (**Denmark**); Brainmade photo / Max Bagaev (**Estonia**); Hofgemeinschaft Klostersee (**Germany**); Aija Krodere (**Latvia**); Vaidas Juška (**Lithuania**); Anna Sosnowska (**Poland**); Marina Bogdanova (**Russia**); Robert Svensson (**Sweden**). Last year's winner, Juris Cīrulis and Vija Cīrule: Aija Krodere.

ADDITIONAL PHOTOS: Brainmade photo / Max Bagaev (goat p. 3); Shutterstock (beans p.5); Shutterstock (wheat p.6); Shutterstock (cow p.14); Brainmade photo / Max Bagaev (wetland p.15); Gunther Willinger (cows p.16).

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WWF Baltic Ecoregion Programme

COOPERATION

We promote constructive interactions to create awareness, spread ideas and stimulate discussion among stakeholders and partners

DELIVERING RESULTS

We are an active and effective change agent for the conservation and sustainable management of the Baltic Sea

INFLUENCE REGIONAL POLICY

We are a diligent watchdog that monitors how governments manage our common resource, the Baltic Sea

REGIONAL NETWORK

We represent the largest membership network in the region and are present in every country surrounding the Baltic Sea



Why we are here

To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.

www.panda.org/baltic

Please contact us for more information!
WWF Baltic Ecoregion Programme
www.panda.org/balticcontacts