

# Organic aquaculture

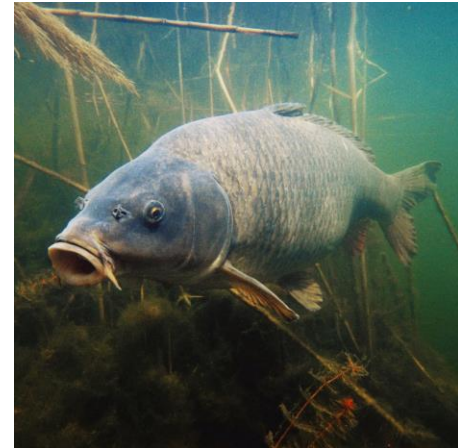
## Added value, requirements & conversion

Carp (August 2025)

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# Overview

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Association for organic agriculture
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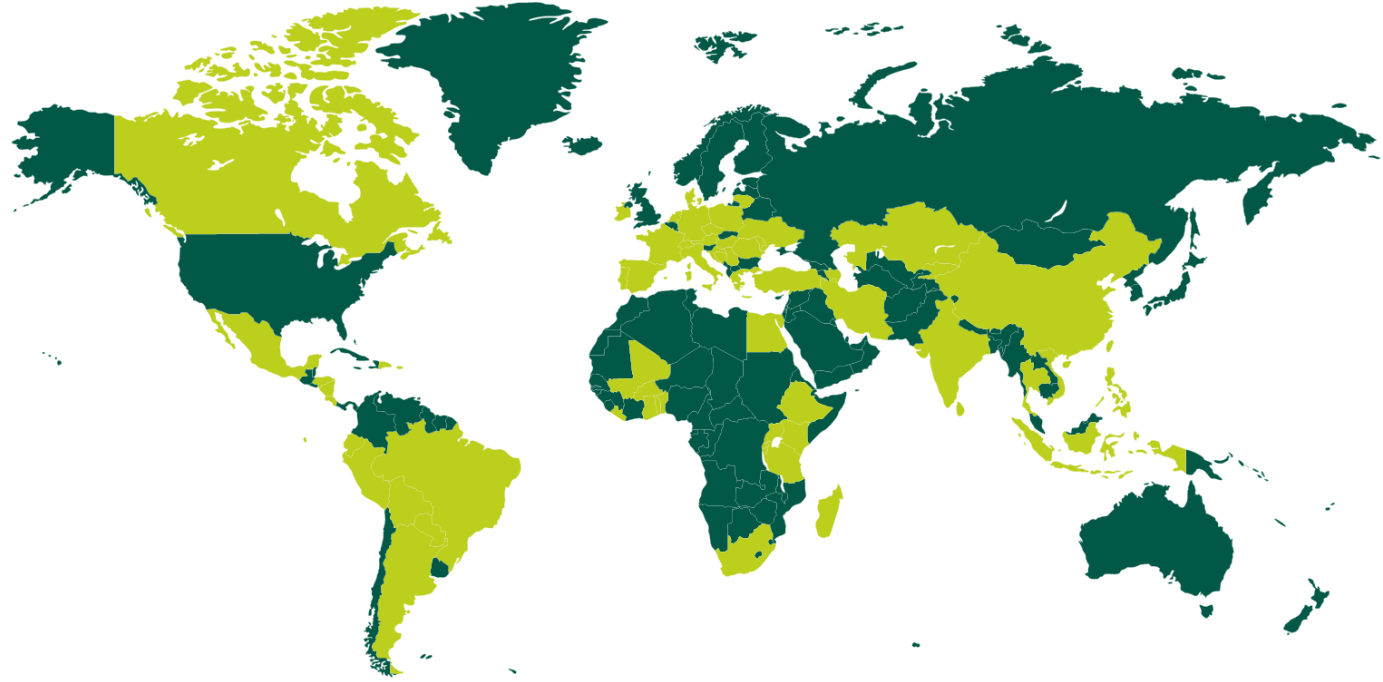
# About Naturland

Association for organic agriculture

# About Naturland

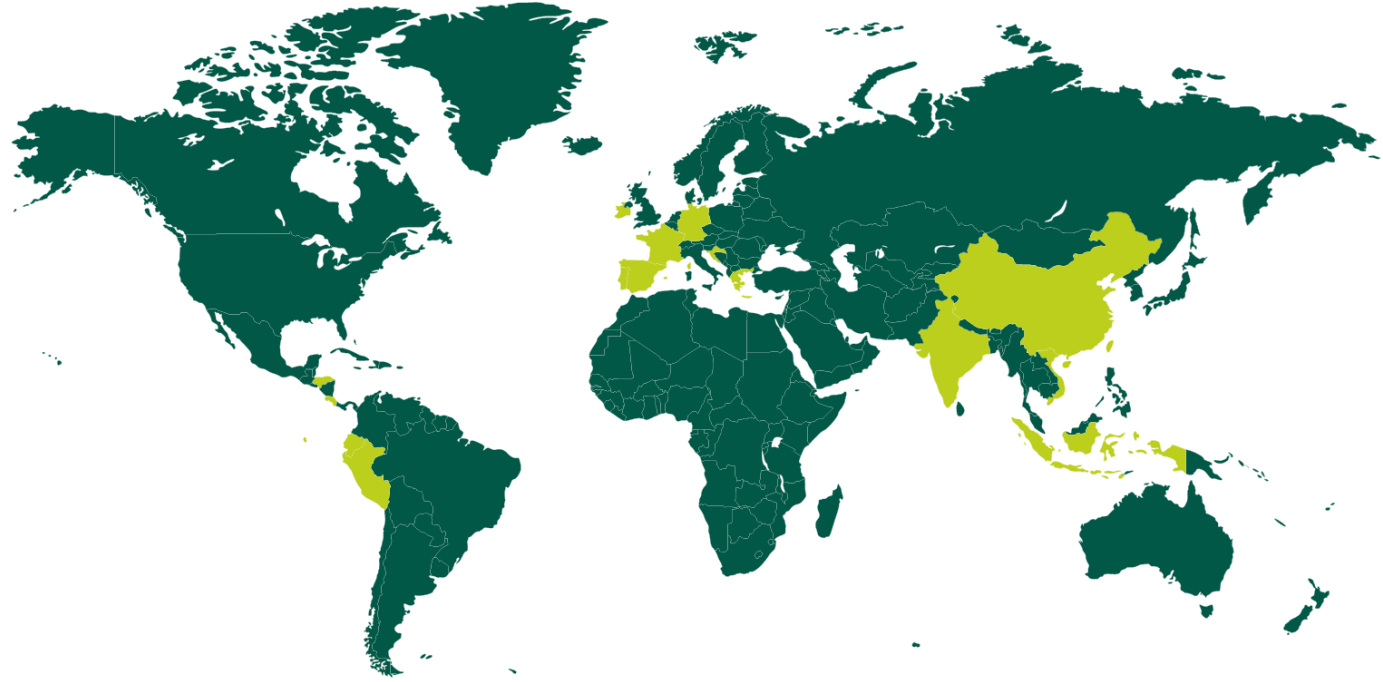
- Largest international association for organic agriculture
  - 120.000+ certified producers worldwide
  - 1.700+ partners process and trade Naturland products
  - Processors in 60+ countries
- 40+ years of experience
  - Standards for organic aquaculture for 30+ years

# About Naturland



■ Countries with Naturland-certified operations (all branches)  
■ Countries without Naturland-certified operations

# About Naturland

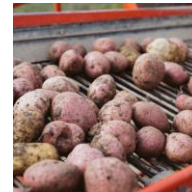
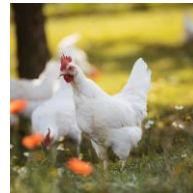
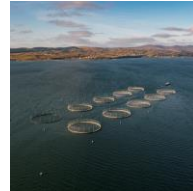


- Countries with Naturland-certified operations (aquaculture & fisheries)
- Countries without Naturland-certified operations

# About Naturland

## Standards for the whole supply chain

- Production
  - Social responsibility
  - Aquaculture
  - Plant production
  - Wild grown products
  - ... & many more
- Processing
  - Aquaculture products and products from sustainable capture fishery
  - Feed
  - Transport & slaughter
  - ... & many more



# Organic aquaculture

Overview & added value

# Organic aquaculture

## Current status (EU)

- Organic production
  - 74,032 tons in 2020
  - 6.4% of the total aquaculture production
- Organic carp production
  - 3,562 tons in 2020
  - 4<sup>th</sup> most important organic aquaculture species

# Organic aquaculture

## Added value

- Simple conversion for traditional carp operations
  - Natural product
- Positive image effect
  - Consumer awareness of sustainability and environmental protection
  - Consumer willingness to pay
- High quality standards
  - Consumers confidence

# Organic aquaculture

“I’m a hobby beekeeper. That’s where I learned how important it is to treat nature with care and respect. I wanted to apply that to fish as well”

“More and more people are rethinking their choices and paying attention to species-appropriate husbandry, regional origin, and organic quality when buying fish.”

# EU Organic Regulation

Basis of organic aquaculture

# EU Organic Regulation

- Legal framework
  - Regulation on production & labeling
  - Current regulation: Regulation (EU) 2018/848 & legal acts

# EU Organic Regulation

## Principles – Organic aquaculture

- Minimizing the use of non-renewable resources and external inputs
- Ensuring the health of the aquatic environment and the quality of the surrounding aquatic ecosystems
- Using feed from sustainable fisheries or feed made from organic ingredients and natural non-agricultural substances
- Avoiding the endangerment of species that are protected by conservation measures

# EU Organic Regulation



# EU Organic Regulation



# Naturland standards

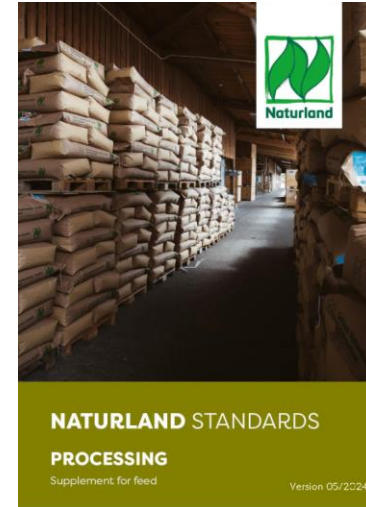
Requirements for organic aquaculture

# Standards

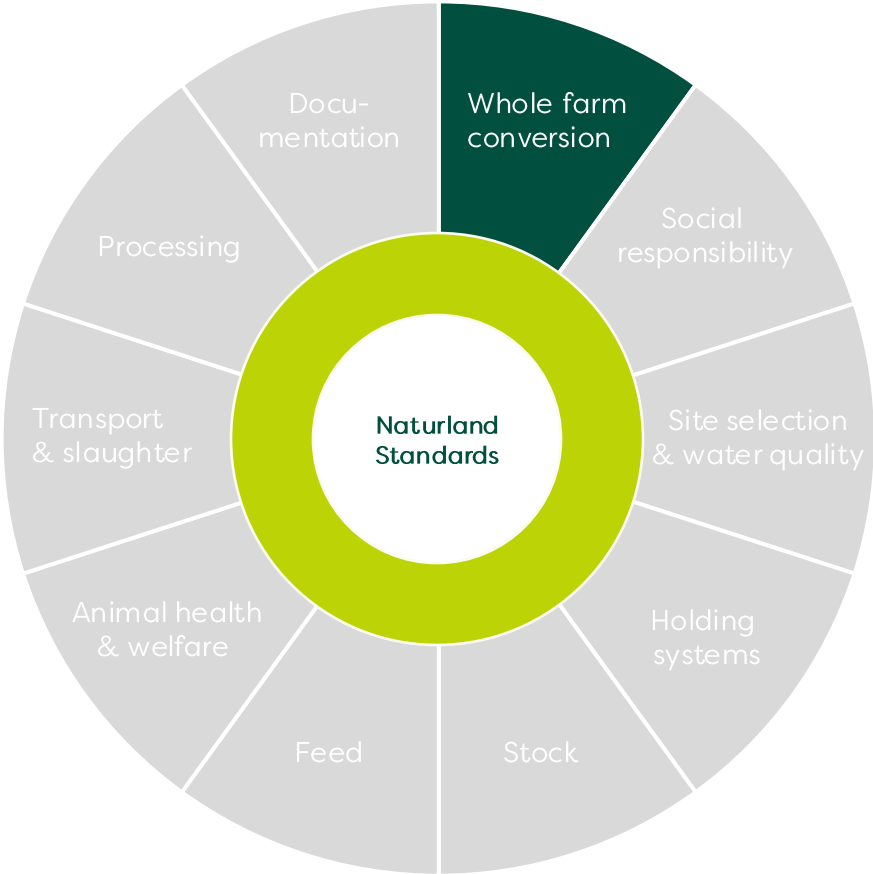
## Standards for organic aquaculture



## Standards for processing



# Standards



# Standards – Whole farm conversion

- Conversion of all areas of the operation to organic farming
  - Gradual transition possible
  - Maximum transition time of 5 years

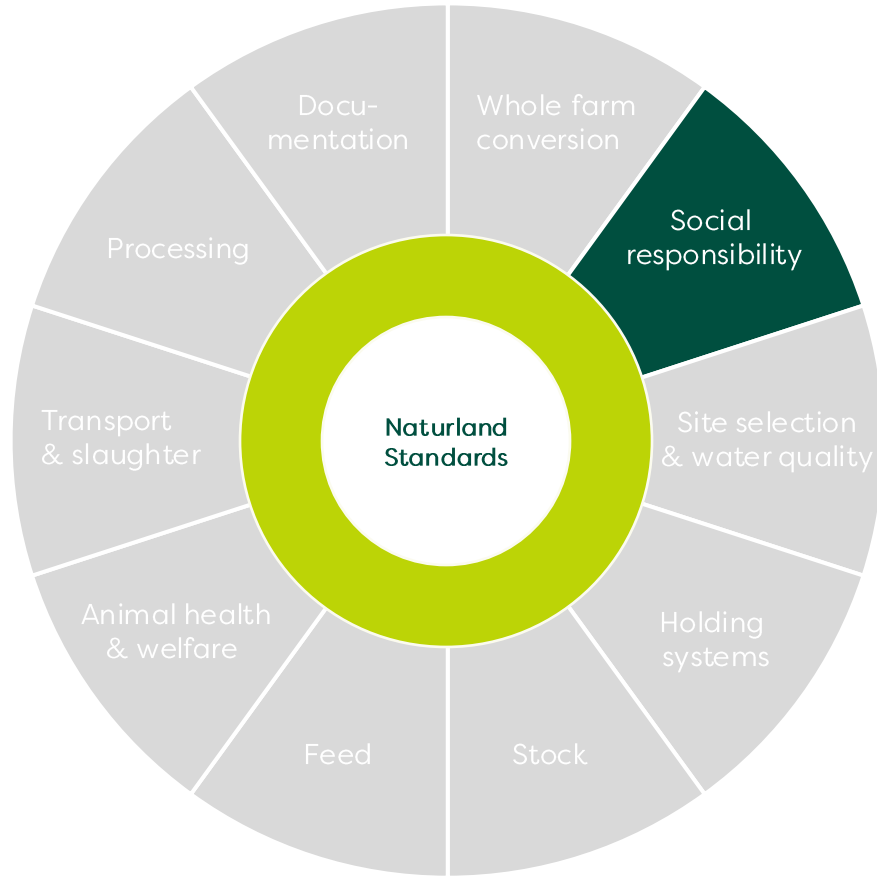
# Standards – Whole farm conversion

## Example

- Conversion of 20 ponds
  - 12 ponds in year 1, 2 & 3
  - 8 ponds in year 4 & 5



# Standards



# Standards – Social responsibility

- Human rights
- Freedom to accept or reject employment
- Freedom of association
- Equal treatment and opportunities
- Children rights
- Health and safety
- Employment conditions



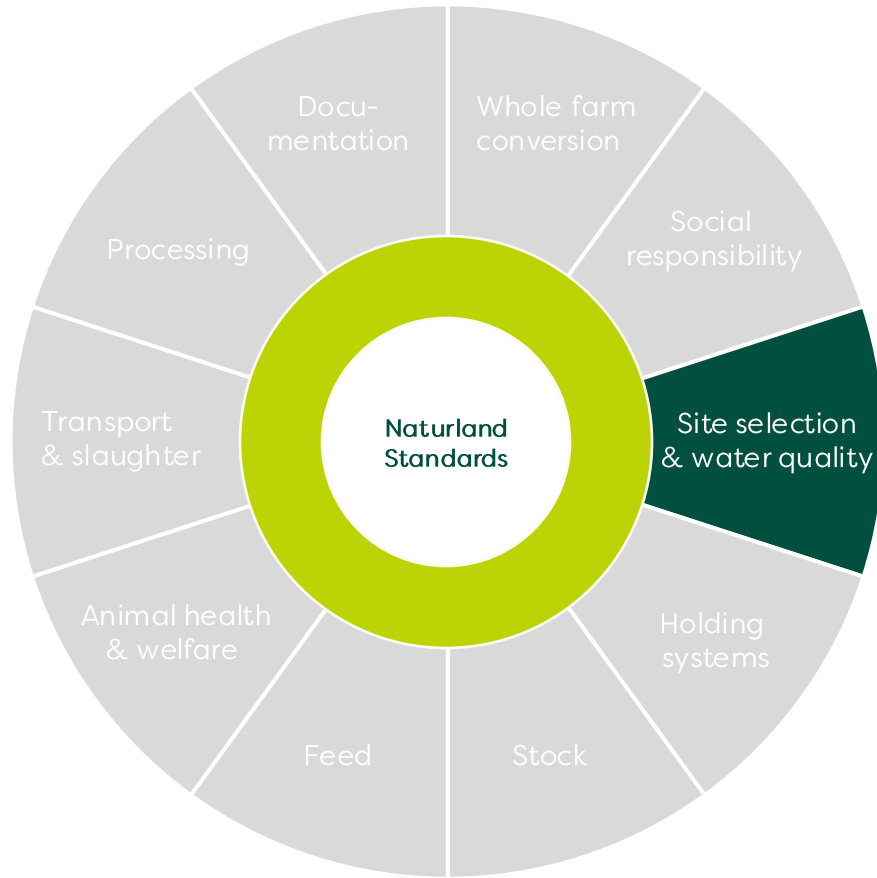
- Contracts
- Equal treatment
- Wages
- In kind payment
- Working hours
- Social benefits
- Education

# Standards – Social responsibility

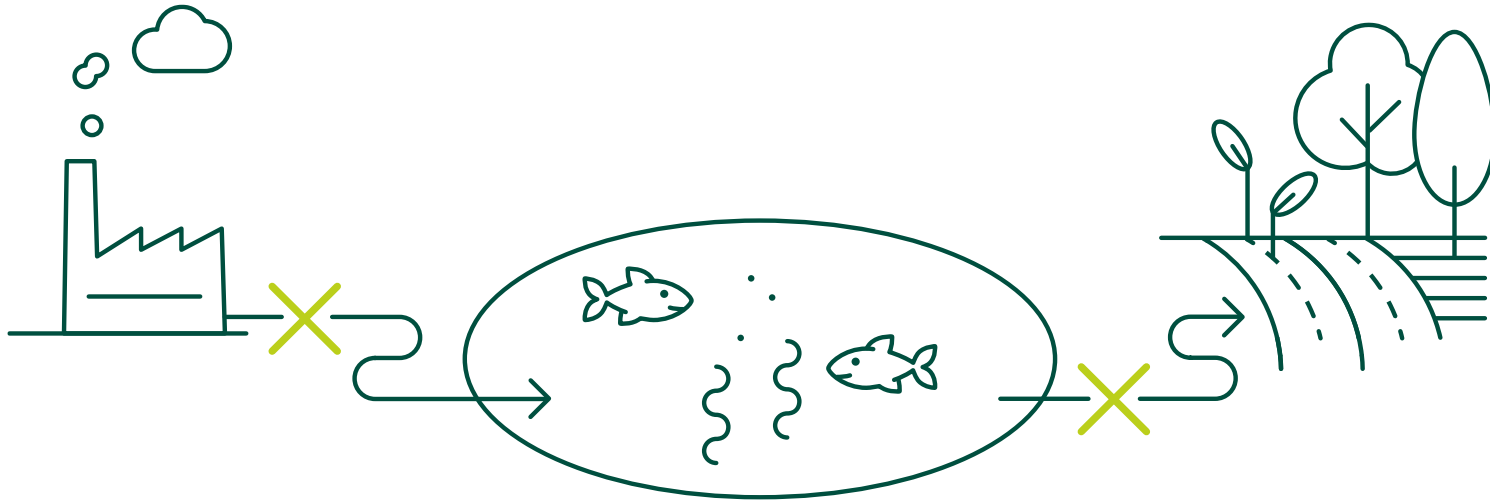
## Examples for employment conditions (Georgia)

- Working hours
  - 8 hours/day, 40 hours/week
- Rest period
  - 12 hours between working days
- Vacation entitlement
  - 24 days of paid annual leave

# Standards



# Standards – Site selection & water quality



**No** harmful influence on the operation from adjacent areas

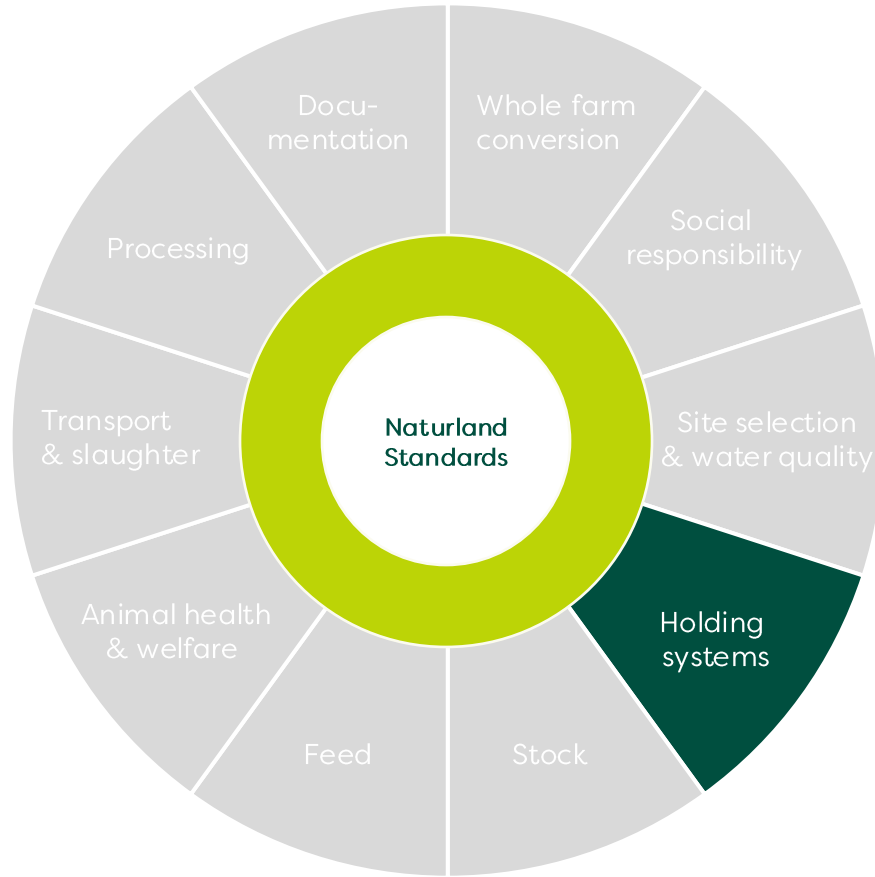
**No** significant impact on the surrounding ecosystem because of the operation

# Standards – Site selection & water quality

## Water quality

- Inflowing water: no contamination of anthropogenic origin
- pH-value: 6.0-9.0

# Standards



# Standards – Holding systems

## Design

- Close-to-nature design
  - Min. 30% of embankment line represents the natural biotope structure
- Measures to prevent fish from escaping

Closed recirculation aquaculture facility



# Standards – Holding systems

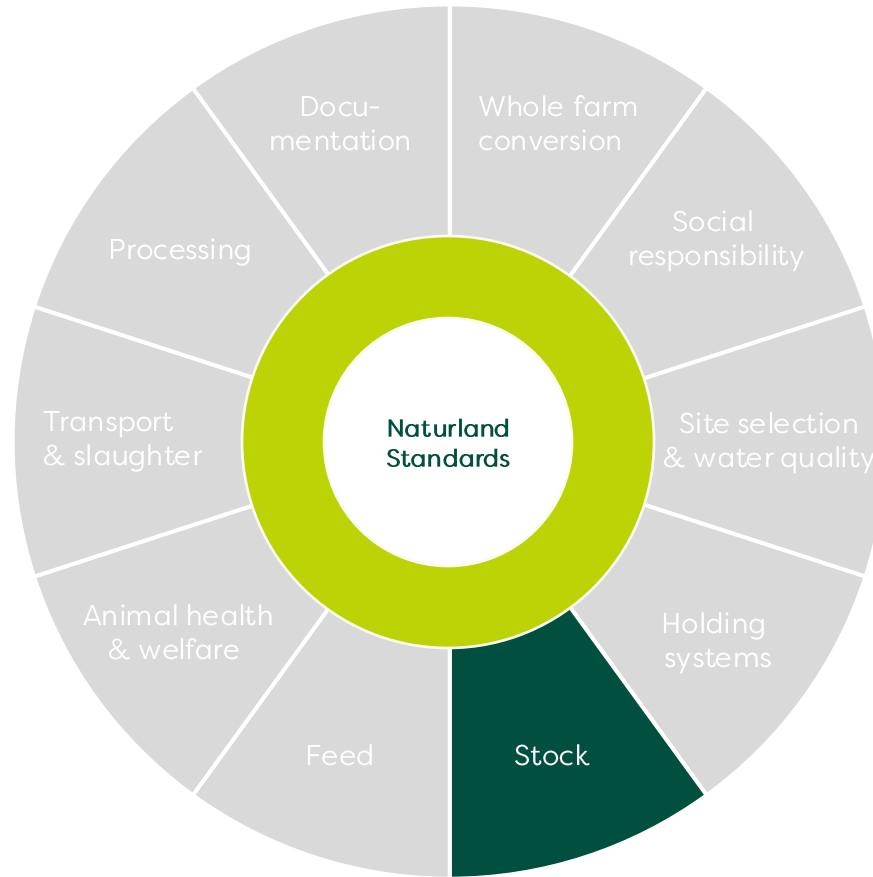
## Artificial illumination

- Max. 14 hours per day
- Proof of necessity required

## Fertilizer

- From certified organic farming operations
- Max. 0.25 DE/ha (20 kg N/ha)

# Standards



# Standards - Stock

## Species

- Species naturally occurring in the region

## Origin

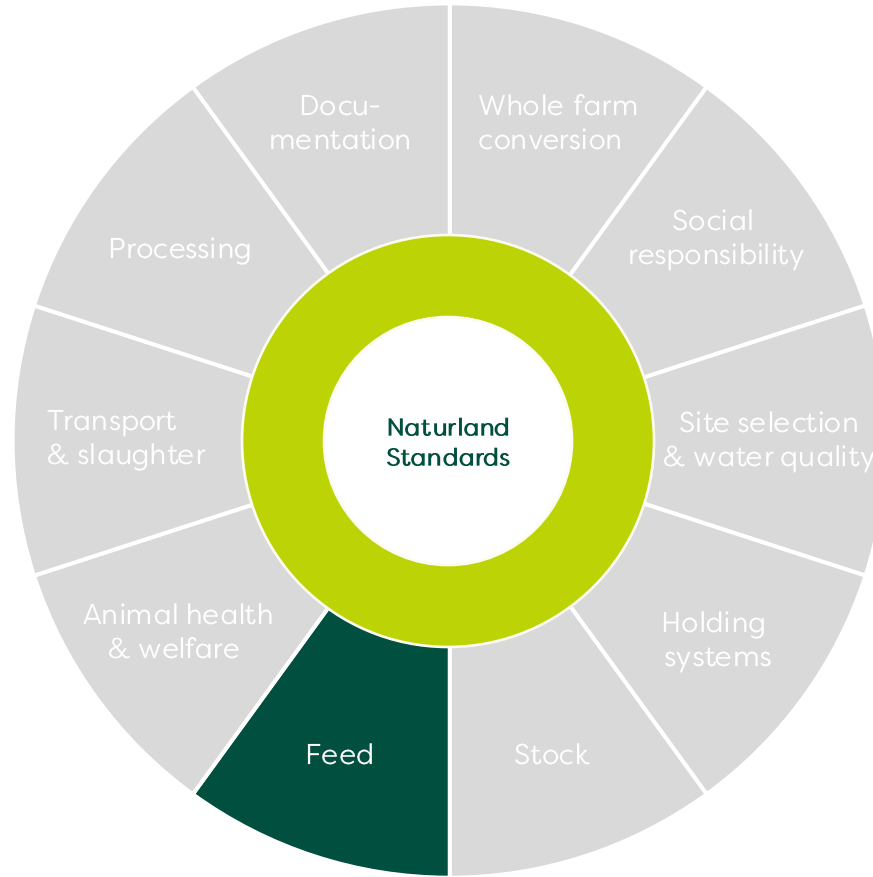
- Self-reared
- Naturland operation

# Standards - Stock

## Stocking density

- Min. 50% of fish yield from natural feed supply
- Protein-rich feed: 1,200 kg /hectare of pond/year
- Polyculture: 1,500 kg/hectare of pond/year

# Standards



# Standards – Feed

## Purchased feed

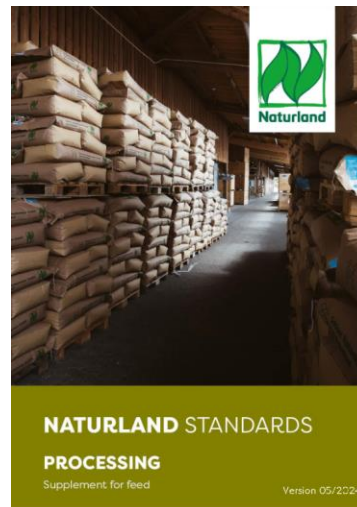
- Naturland certified

## Produced feed

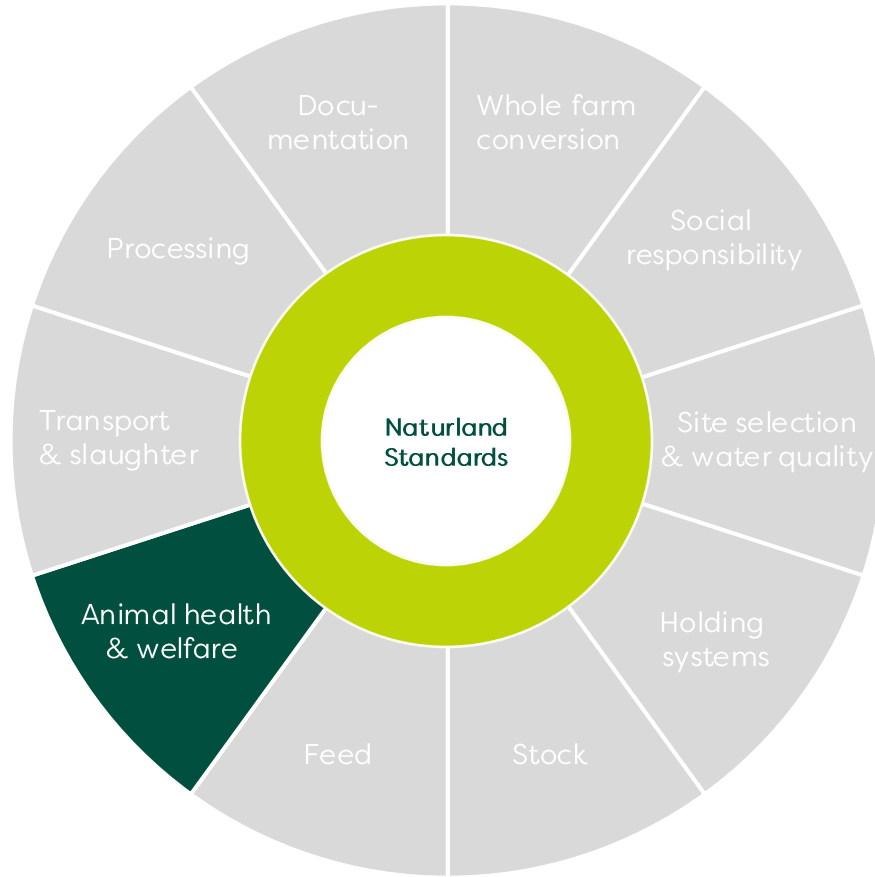
- Produced in accordance to Naturland standards

Use and storage of conventional feed

Fishmeal/-oil in feed



# Standards

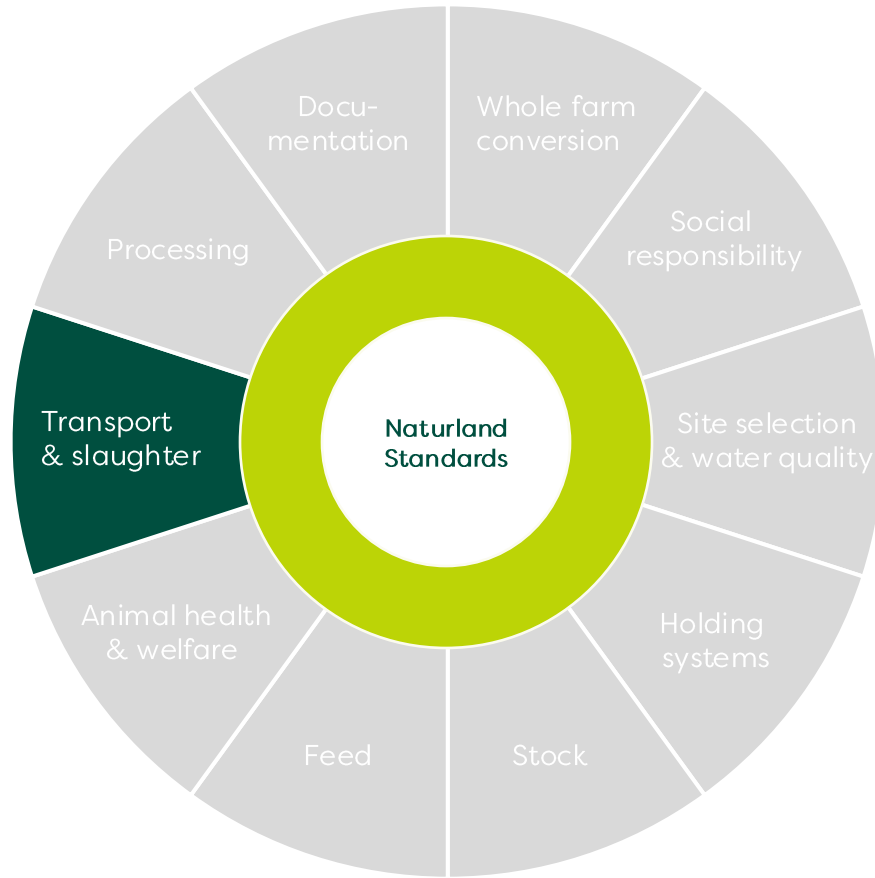


# Standards – Animal health & welfare

## Hygiene measures

- Quick lime (CaO)
- Hydrated lime (Ca(OH)<sub>2</sub>)
  - max. 200 kg/ha/year on humid pond bottom (as hygiene measure)
  - max. 150 kg/ha/year into the pond (in critical weather situations)

# Standards



# Standards – Transport & slaughter

## Transport requirements

- Max. transport density:
  - C3: 1 kg/2l
  - C2: 1 kg/3l
  - C1: 1 kg/4l



# Standards – Transport & slaughter

## Stunning

- Electronarcosis followed by head blow

CO<sub>2</sub> is not permitted

## Slaughter

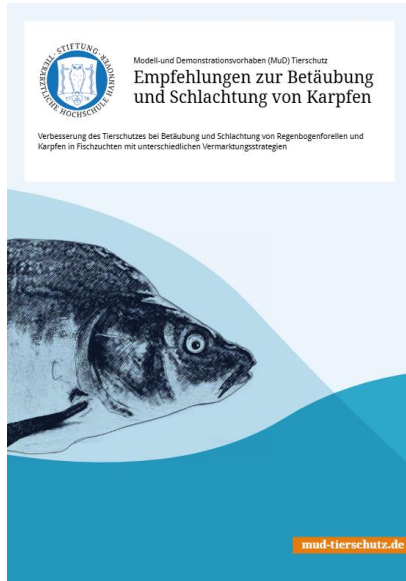
- Gill cut
- Immediate evisceration (incl. heart)

# Standards – Transport & slaughter



# Standards – Transport & slaughter

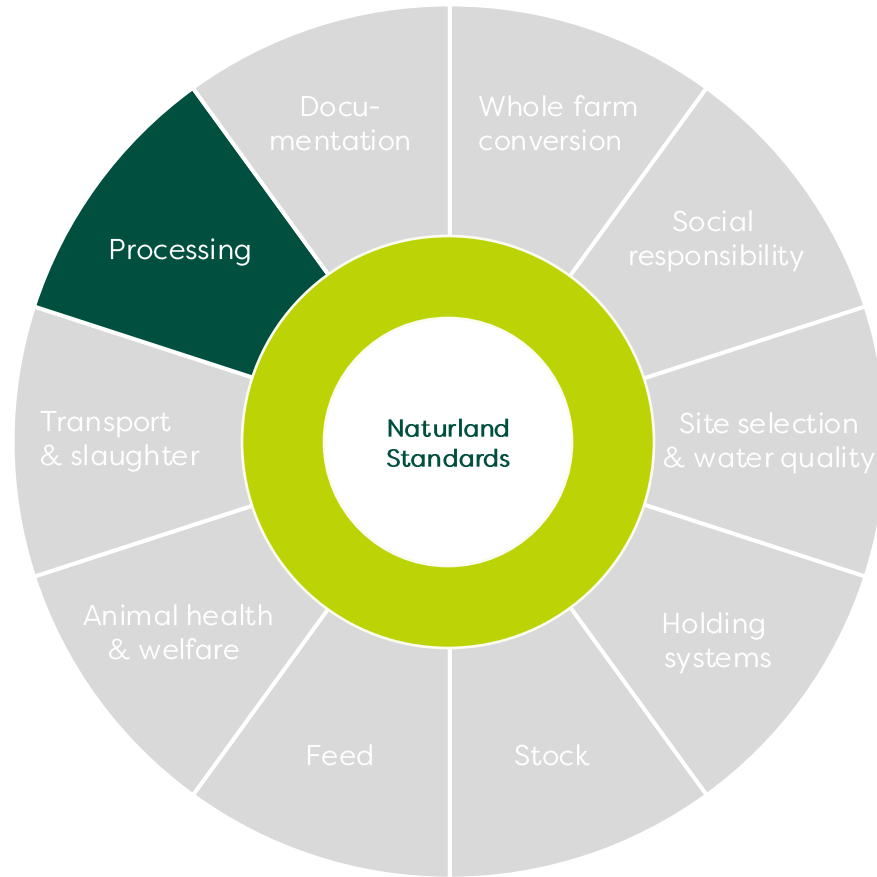
## Brochure



## Video



# Standards

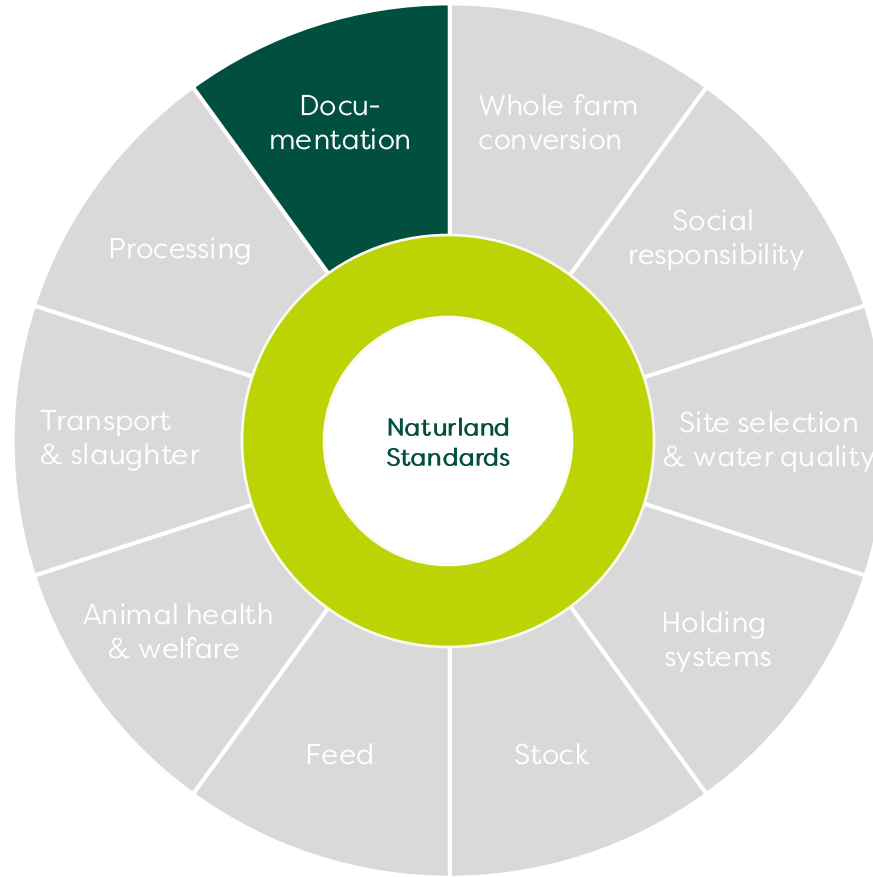


# Standards – Processing

## Smoking

- Customary smoking techniques
  - Untreated, native wood & branches
  - Average glowing temperature: 500 °C
- ☒ Black smoking, the use of so-called “Katenrauch”, chemically treated types, resin-rich or toxic wood, liquid smoke preparations & salting by injection

# Standards



# Standards – Documentation

- Operator profile  
Documentation of the principles of organic management
- Analysis protocol  
Documentation of effects on the surrounding ecosystem
- Sustainability plan  
Measures and requirements for environmental protection and nature conservation
- Reporting protocol  
Regulations on harvesting, sorting, caging, stunning and slaughter
- Farm diary  
Documentation from the stocking stage to harvesting

# Comparison of standards

Naturland & EU Organic Regulations

# Standard Comparison

Naturland Standards	EU Organic Regulation
Whole farm conversion	Partial farm conversion possible
Implementation of requirements for social responsibility towards workers	No regulation
Regular analyses of water, sediment, feed and finished product on Naturland farms	Analyses aren't mandatory
Exclusion of salting by injection for fish smoking	Approval of salting by injection for fish smoking
Restricted positive list for permitted food additives	Broad positive list for permitted food additives
Comprehensive guidelines on transport and slaughter	No detailed requirements
Exclusion of nanomaterials in production and processing	Exclusion of nanomaterials only in food

# Conversion

Steps towards organic aquaculture

# Conversion

## Steps

1. Conversion in accordance with EU Organic Regulations
2. Conversion in accordance with Naturland Standards



Possible within the same  
time period due to the  
same conversion time

# Conversion

## Conversion period for conventional operations (EU & Naturland)

- Facilities that cannot be drained, cleaned and disinfected
  - 24 month
- Facilities that have been drained, or fallowed
  - 12 month
- Facilities that have been drained, cleaned and disinfected
  - 6 month

# Conversion – Steps to certification



# Contact



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## **Naturland**

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