

A Guide to Summer Cottage WASTEWATERS

Time spent at a summer cottage is time spent in the nature, making it crucial to remember responsibilities about the state of the surface and groundwaters as well as the general cleanliness of this environment.

Wastewaters form a significant part of the environmental impacts of a summer cottage, therefore they require a special attention. The wastewater management at a holiday home require often much simpler implementation than that of a permanent residence.

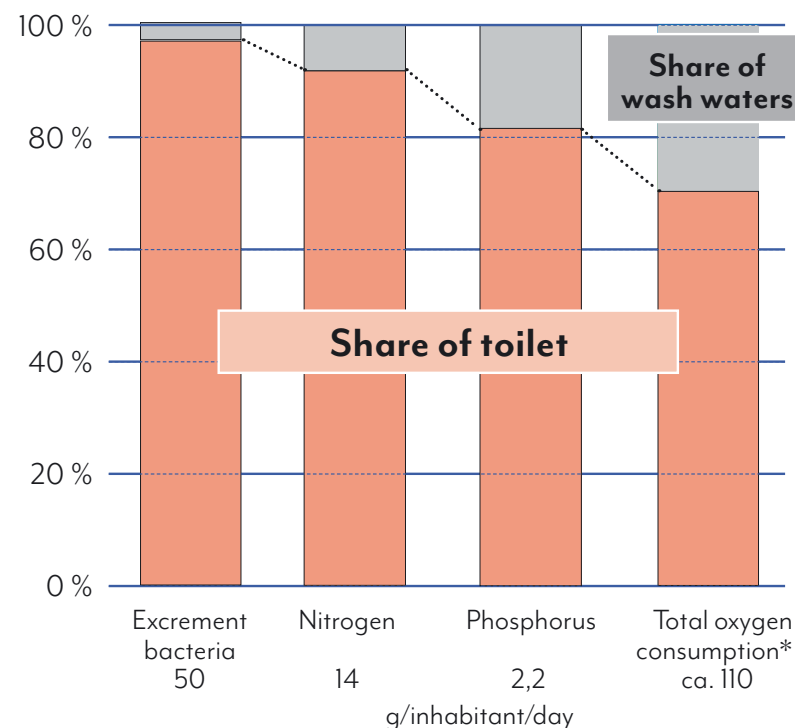
The less water is consumed, the easier it is to manage the wastewaters.



It pays off to separate the toilet and wash waters

Most of the wastewater contaminants are in excrements and urine. By choosing a dry or composting toilet instead of a water toilet in your summer cottage you can avoid many challenges in wastewater management. The "outhouse" could be inside or outside and the nutrients can be used in your own garden as fertilizers – as long as they are composted appropriately.

Wastewater load of a household



*Total oxygen consumption includes organic matter, as well as the oxygen consumption effect of reduced nitrogen compounds, which is 4,57g O₂/1gNH₄-N.

Water conservation dos and dont's:

- Use organic and quickly decomposing detergents
- Place the outhouse and compost far from the surface waters
- Ensure that the wash waters or outhouse fluids do not run to the surface waters even after the treatment
- Wash your carpets and other laundry on dry land – you can request the locations of the drained carpet washing places from the municipalities
- Preserve the shoreline as natural as possible, leave a strip of the shoreline completely unbuilt and do not use fertilizers there.

If there is blue-green algae in the sea/lake water:

- Do not swallow the water colored by the algae
- Do not use the water in washing or sauna
- Do not swim in water containing large amounts of algae
- Do not let children or pets to the shoreline smeared by the algae.



Legislation

According to the Finnish Environmental law, wastewaters should be directed so that they do not cause danger of contamination.

Environmental conservation law

Small amounts of water, such as water carried to the summer cottage and sauna, are not considered to cause danger of environmental contamination. In most cases they can be directed to the ground without separate treatment in a controlled manner. Even small amounts of wash waters should not run directly to the surface waters.

The treatment of **large water amounts** is regulated by the Environmental conservation law and the Government Decree on household wastewater treatment outside centralized wastewater networks. The treatment requirements for contaminants are defined in the law in percentage.

Wastewater treatment systems should be refurbished to meet these requirements

- by 31.10.2019 in groundwater areas and within 100 m from surface waters.
- in other areas when there are larger, permit requiring construction on going, a water system is established, or specific renovation or changes are made on the property.
- immediately, if a new construction takes place.

Building of a water toilet e.g. in some municipality planned leisure areas may be forbidden or will require a permit. Confirm the exact regulations from your own municipality.

A document explaining the wastewater situation is required on each property.

The document:

- may be written informally or to a pre-formatted form designed for this purpose.
- is stored on the property, and will be presented to the municipal authority when required.
- includes information about the property usage, equipment and wastewater management structures, as well as a simple map or site plan.



Suomen Omakotiliitto ry,
Suomen Kylätoiminta ry,
Suomen Vesiensuojeluyhdistysten Liitto ry

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Treatment of wastewater at a summer cottage

Small quantities of wastewater

Properties which have no water closet and consumption of wash waters is small, e.g. summer cottages and saunas for which water is carried. Small wash water amounts may lead to the ground in a controlled manner without treatment.

Outhouse in order!

- Fluids should not run to the environment, they are evaporized or collected separately to a weatherproof container.
- Ventilation is of high importance: straight pipe from the tank through and above the roof top.
- The smells are prevented by taking care of the moisture balance: use appropriate dry litter.
- The solids are post-composted, and not buried to the ground.
- If the outhouse fluids are lead to the wastewater treatment system, the system has to be appropriately designed to treat also black waters.

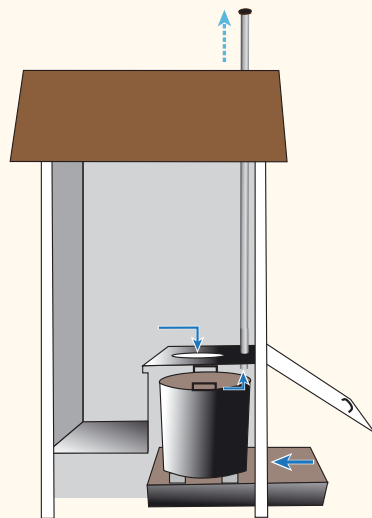


Figure: Example of a modern, self built outhouse.

The treatment and usage of the outhouse waste

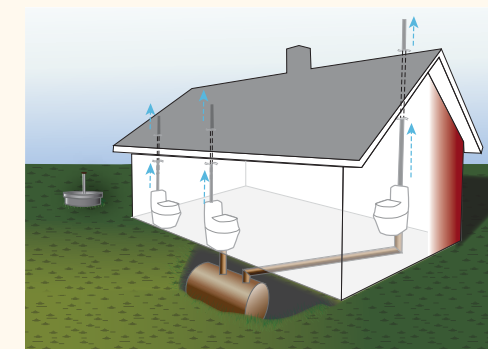
- 1 year is normally sufficient for post-composting.
- The composting container must have a water proof base and be protected from the rain.
- Prerequisites for the composting to function are dry litter and suitable temperature.
- The compost is good to be located close to the outhouse but far enough from the surface waters.
- The separated urine can be used as a fertilizer after aging or diluting (1:3 or 1:10).
- Possible seep liquid can be used as a compost starter.
- Make sure you are also aware of the local municipal regulations.

Large quantities of wastewater

Wastewater quantity is not small if there is a water closet, pressurized water heater, shower, bath tub or pressurized water using electric equipment, such as laundry or washing machine or similar. Wastewater is required to be treated appropriately. Please remember, that if new equipment is brought into use, the wastewater treatment system has to be updated respectively!

Dry toilet indoors

- The waste from the waterless toilets should be composted, dried, frozen or burned.
- Seep water or separated urine is collected to a closed container, evaporated or lead to a specific post-treatment.
- The fluids can be aged and used as a fertilizer on the property or as a compost starter. The composted solid waste is also suitable as a fertilizer.
- There are several toilet models in the market to replace the water toilet – the existing structures, purpose and number of users should inform the selection.



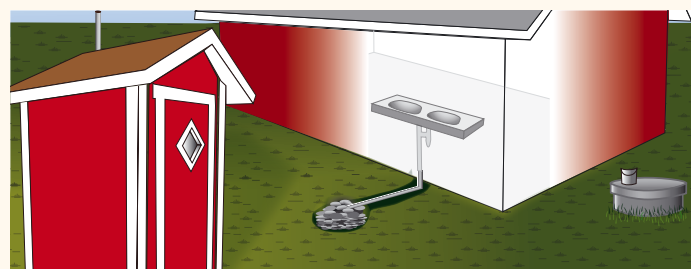
Wastewater treatment

- In holiday homes the irregular, discontinuous use challenges the treatment system. Select a system which is designed for irregular use.
- In addition, possible winter use of the holiday home challenges the treatment system: remember sufficient insulation and possibly include heating cables. Please remember, that the water management may require heating during

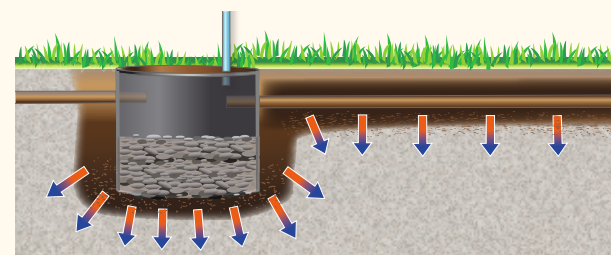
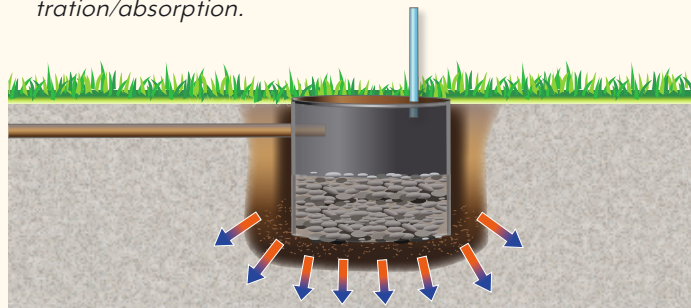
the winter, even if nobody is staying at the cottage.

- Wastewater which includes black waters is more than challenging to treat in irregular holiday use. In addition to the biological treatment chemical treatment is often needed. Separating toilet waters from the wash waters pays off!

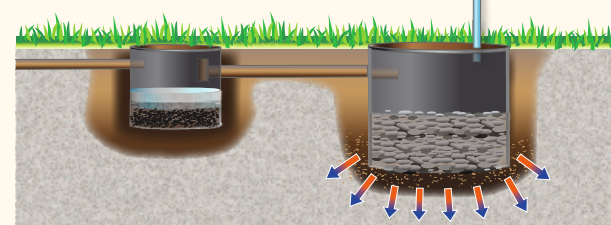
Directing of small wastewater amounts in a controlled manner is easy to organize



- At the simplest, they are directed to a stone eye.
- A more controlled way is to build a simple structure for infiltration/absorption.



- If the soil is compact, it is possible to ensure the absorption of small wastewater amounts by using a infiltration pipe.
- If also greasy waters are lead to the absorption system, a small septic tank may be needed.



Treatment of larger wash water quantities

- Wash waters include only small amounts of treatment requiring compounds. In the long run the wastewater treatment systems are therefore often lighter, easier to implement and cheaper than systems designed for all wastewaters.
- The wash waters are lead through a two compartment septic tank to soil treatment i.e. infiltration (A) or precipitation field (B) or directly to a grey water filter (C).

