Integrating Nitrogen Footprints across Scales
From Institution to Watershed

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Summary
The Nitrogen Footprint Tool Network educates communities and promotes sustainability by connecting actions to impact. The development of new N footprint tools helps us understand how entities contribute to N pollution and how they can manage their impact.

Individuals (N-Print)
N Footprint Calculation tools now exist for individuals by country, individuals by watershed, and institutions. Presented here is a summary of how the tools have been used and how they compare.

Institutions
Institution N footprints are being developed by a network of 18 colleges, universities, and research institutions in the United States, Australia, Canada, and the Netherlands.

Watersheds
A new tool for the Chesapeake Bay allows individuals within the watershed to calculate their Bay N Footprint, the amount of N that enters the bay as part of their footprint.

Figure 1. The average individual N footprint in the United States is 39 kg N per person per year.

Figure 2. The average of 7 US institution N footprints is 157 MT N per year (11 kg N per capita).

Figure 3. A typical Bay N footprint is 14 kg N per person per year.

How can footprint tools reduce N pollution?
Individuals can learn about the impact their actions and become informed about sustainable practices.
Institutions can set N footprint reduction goals and assess management scenarios and projections.
Individuals can see their contributions to N pollution in the Chesapeake Bay and learn about sustainable practices.

Management Strategies
- Reduce Energy Consumption
- Transportation
- Reduce Food Waste
- Expand Composting & Food “Recycling”
- Improved Sewage Treatment
- $ N offsets
- Substitute Non-Meat Proteins
- Storm water

What action can be taken to manage N footprints?
Individuals can:
- Reduce utility usage
- Use public transit, walk, and bike
- Eat recommended amount of protein
- Eat less animal protein and less beef
- Purchase sustainably produced food
- Reduce food waste

Meeting University of Virginia’s 25% N Footprint reduction goal will require combination of strategies:
- Improve sewage treatment
- Improve energy efficiency reduce fossil fuel use on-site
- Reduce food waste
- Educate the community about the N footprint of food choices

If everyone in the watershed reduced their protein consumption to recommended levels, the Chesapeake Clean Water Blueprint pollution reduction goals would be met. Other strategies include:
- Reduce stormwater runoff
- Use public transit, walk, and bike
- Reduce utility usage

Learn More
N-print.org
calc.nprint.org

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