



Water Quality Trading: Program Overview

The Freshwater Trust focuses on fixing rivers and streams using practical solutions to meet freshwater challenges. Water quality trading requires rigorous measurement and tracking of conservation outcomes, which The Freshwater Trust believes is needed to meet our collective freshwater objectives.

Water Quality Problem: Nutrients & Sediment

Over the last 40 years, regulations from the EPA under the Clean Water Act have been so successful limiting chemical pollution from pipes into our waterways that regulators are now focusing on more broadly distributed water quality parameters derived largely from nonpoint pollutant sources such as agriculture and urban runoff. Excess nitrogen, phosphorus and sediment runoff from some agricultural practices and urban areas have a negative impact on the overall health of a watershed.

Engineered Solution

Historically, municipalities that need to meet regulatory limits for nutrients would likely look to the best available technology. That would probably mean installing expensive on-site technologies such as advanced

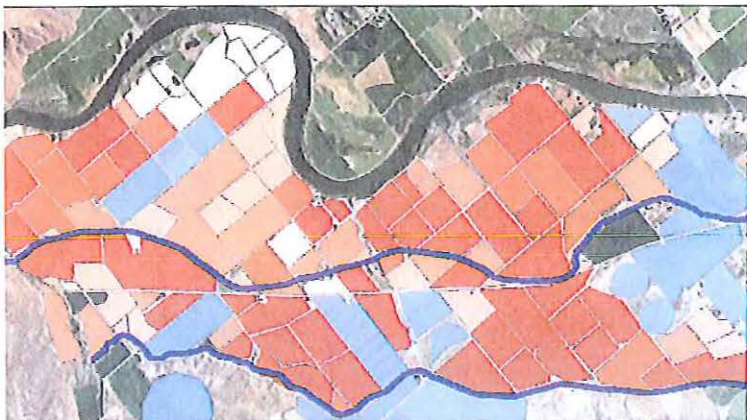
membrane filtration or a biological nutrient reactor, depreciating assets with high associated operating costs and energy requirements.

Restoration Solution: Water Quality Trading

Guidance issued by the EPA and several states allows regulated entities to examine alternative ways to meet strict new limits in their discharge permits. In the many basins where agricultural and urban runoff has a large impact on instream water quality, generating and trading nutrient credits can be the most environmentally and cost-effective actions. With water quality trading programs, municipalities can meet their regulatory requirements or pre-treatment goals by incentivizing agricultural best management practices and/or installing structural conservation measures at a watershed scale.

Currently creditable actions include riparian buffer restoration, irrigation upgrades, livestock exclusion fencing, cover cropping, conservation crop rotation, conservation tillage, nutrient management, and filter strips. Irrigation management, irrigation return flow filtration, wetland restoration, terracing, and contour buffers are in the validation phase and will soon be able to generate nutrient credits.

Watershed solution: upgrading flood irrigated fields (in red) along this stretch of river in Idaho has the potential to substantially reduce sediment and phosphorus loading



Here's How it Works:

1. A regulated entity contracts with a qualified partner with restoration expertise to generate a certain number of credits, which the entity will use to offset the impacts of its discharge. This system often requires entities to purchase credits at a rate of 2:1 to ensure overall ecological gain.
2. The benefits of restoration actions (implementing agricultural BMPs) are calculated using rigorous standards approved by the state and then converted into credits.
3. A neutral third party verifies the validity of the generated credits, which are then serialized and registered.
4. Once credits are registered, the credit producer submits an invoice to the regulated entity for the credits. The participating landowners are paid an annual "rental" fee.
5. Projects are maintained and monitored annually for 5 to 20 years to ensure sites are performing as intended and meet the approved credit standards.

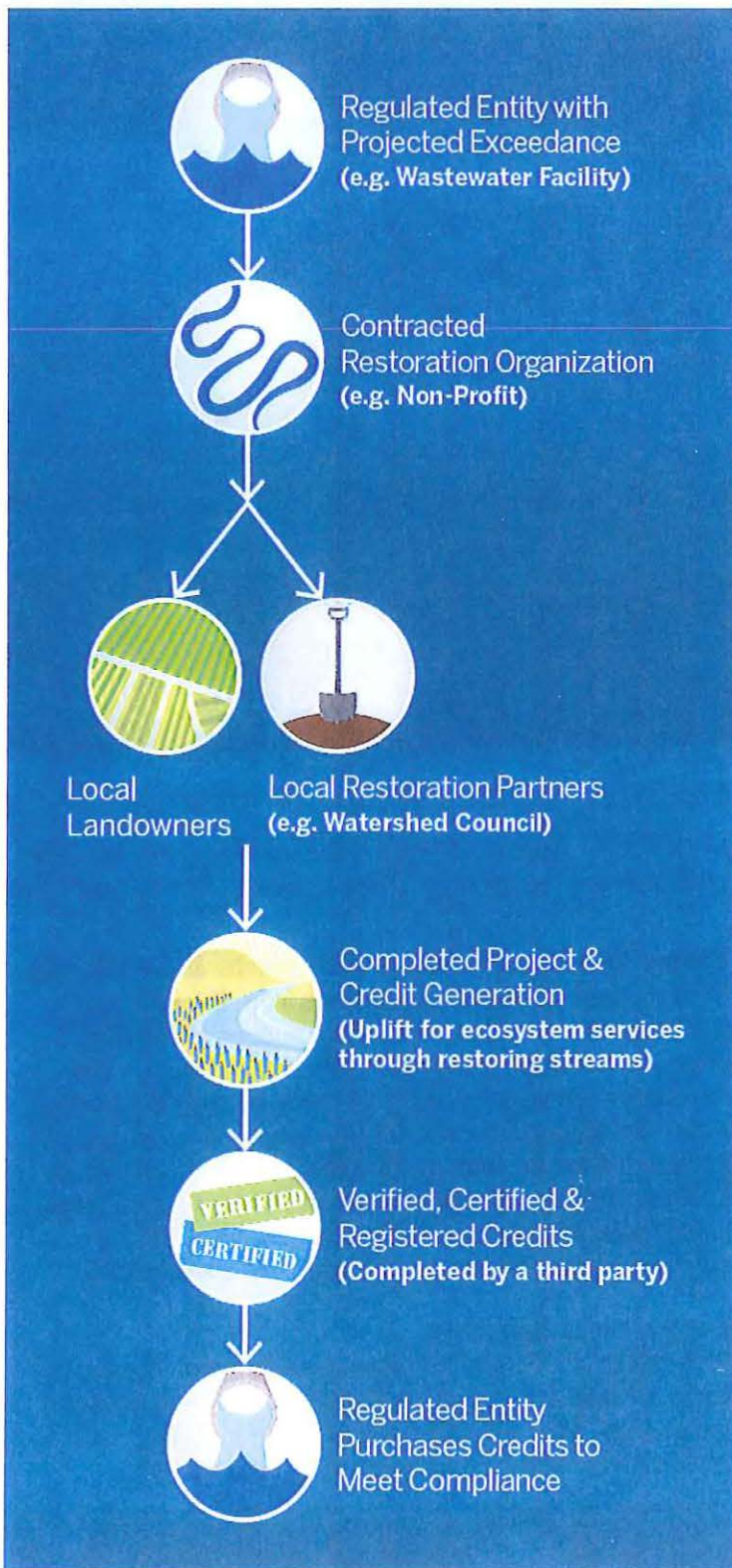
Benefits:

- NPDES permit holder achieves regulatory compliance through significant watershed improvement projects to benefit freshwater species and water quality.
- Ecological uplift benefits include habitat for birds and other species, streambank stabilization to control sediment, and reduction of runoff from agriculture.
- Rental payments go to landowners for new practices and for allowing restoration activities on their land, providing a steady source of income for many years.
- Watershed solutions generally cost much less than an engineered solution.
- Guaranteed maintenance and monitoring of projects (historically not funded).
- Increased pace and scale of restoration projects needed to address mounting freshwater challenges.

Quality Standards and Compliance

Nutrient credits can only be generated by applicable actions meeting specific quality standards meant to ensure environmental benefit. While those quality standards differ for each action, a minimum project life of 5 to 20 years is expected, as well as high levels of monitoring, reporting and maintenance. Coupled with

Restoration Alternative Model



third-party verification and registration on a publicly available registry, these layers add the transparency and rigor necessary to allow these programs to be a viable alternative for regulatory compliance.



The
Freshwater Trust®

The Freshwater Trust is a
501(c)(3) not-for-profit.
All donations are fully tax-
deductible under tax laws.

65 SW Yamhill Street
Suite 200
Portland, OR 97204

info@thefreshwatertrust.org
www.thefreshwatertrust.org