1. About the Fourmile Creek revegetation project

Overview of the Restoration Project

The Fourmile Creek is a tributary of the Nooksack River in what is now Whatcom County. The creek is characterized by a series of wetlands and riparian areas that provide important habitat for fish and wildlife. Over the years, however, the creek has been altered by activities such as logging, agriculture, and urban development. These activities have resulted in the loss of riparian habitat, which is crucial for the survival of fish and wildlife species.

Objectives of the project:

- To restore and enhance riparian and wetland habitats
- To improve water quality and aquatic ecosystems
- To provide public access and education opportunities

The restoration project involved the removal of accumulated sediments and non-native vegetation from the creek, as well as the planting of native species to restore the ecosystem. The project was funded through a combination of federal, state, and local government grants and donations from private entities.

2. Methodology for assessing benefits vs. costs

Benefits

In order to quantify the value of the benefits associated with the restoration project, we identified two forms of value: traditional and non-market values.

- Traditional values refer to the benefits that can be quantified in monetary terms, such as increased property values or improved water quality.
- Non-market values refer to the benefits that are difficult to quantify in monetary terms, such as aesthetic or cultural values.

The benefit-transfer method is used to estimate the economic value of the benefits created by the restoration project. This method involves using existing valuation studies to estimate the benefit values associated with the project.

Costs

The costs associated with the restoration project were identified using a range of methodologies, including cost-benefit analysis and market-based approaches.

3. Benefits and costs: results

Benefits

- Landowners: The project provided benefits such as improved water quality, decreased flooding, and enhanced habitat for fish and wildlife. The cost to landowners to retire agricultural land, i.e., the opportunity cost of not farming their land, is $350,000 per year, which represents a 13% increase over the value of commercial farmland that has historically been drained to support intensive berry and agricultural production.

Costs

- Cost of removing accumulated sediments and non-native vegetation: $0.98 per acre/year
- Cost of maintenance: $0.98 per acre/year

4. Potential application in a natural resources marketplace

Application of findings

This study demonstrates the importance of natural resources markets for the commercialization of ecosystem services. It shows how the benefit-transfer method can be used to estimate the economic value of ecosystem services and how these values can be traded in a market. This approach can help landowners and other stakeholders to understand the value of their land and how it can be used to generate income.

Potential credits as incentives or exchanges for restoration and enhancement of wetland habitat in the Fourmile watershed

Type of credit:

- Water quality credits
- Habitat enhancement credits
- Water quantity credits
- Carbon credits

What is a “marketplace approach”? What is a “marketplace approach”? The principle behind a range of emerging market-based tools for natural resource management is that people or groups who use the standards required to manage a natural resource (e.g., water, air, or land) are willing to pay for the opportunity to avoid the unavoidable impacts of their actions or projects. The marketplace approach is a way to make the invisible economic value of ecosystem services visible.

How would a marketplace approach work?

- Conservation activities that have been made available through market-based tools can be bought and sold, providing a way for landowners and other stakeholders to generate income from the value of their land.
- The marketplace approach can help to address challenges such as the cost-sharing of restoration projects and the distribution of benefits across different stakeholders.

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