



The Economic Value of Metro Parks Tacoma's Natural Capital

A Summary Report
January 11, 2012

Contents

About Metro Parks.....	2
Introduction	2
What are Ecosystem Goods and Services?	2
What is Natural Capital?	3
What is Social Capital?	3
Appraisal of Metro Parks Tacoma's Natural Capital Value.....	3
Annual Contributions to the Regional Economy	4
Total Asset Value	4
Conclusions	4
Areas for Further Research.....	5

About Metro Parks

Created in 1907 by a vote of the people, the Metropolitan Park District of Tacoma, known as Metro Parks Tacoma, strives to be a leader among its governmental peers and to set an example with regard to stewardship and sustainability of park lands and facilities, efficient use of public dollars, excellence in educational programming and conservation of resources. As a separate entity from the City of Tacoma and Pierce County, Metro Parks operates a comprehensive, award-winning system of parks, zoological and recreation facilities for the City of Tacoma and the Browns Point/Dash Point area of Pierce County, Washington. Metro Parks oversees 2,960 acres of park and open space; the majority of the park land is in Tacoma.

Introduction

Currently Metro Parks Tacoma (MPT) is evaluating innovative and timely methods for assessing the value of the parks in its jurisdiction so it can more effectively maintain and restore its park lands and facilities and better serve the growing community of park users. In 2011, MPT began working with a Tacoma-based non-profit, Earth Economics, on a study to provide a more complete assessment of park value to complement the Economic Impact Study of parks completed in January of 2010. Earth Economics was able to assign dollar values to ecosystem goods and services provided by the Park District's natural capital as well as to the social capital associated with these parks, and to the health and education benefits these parks provide to local community members and a broad spectrum of visitors.

This document summarizes the key findings of the Earth Economics Report: *The Economic Value of Metro Parks Tacoma's Natural Systems*, which can be accessed at: MetroParksTacoma.org/Ecosystems.

What are Ecosystem Goods and Services?

A 21st century approach to economic development recognizes that recreation, stormwater, flooding, fish and wildlife habitat, wastewater, drinking water and other important functions are best managed as a system. A systems approach to use and management improves economic efficiency, providing needed services and saving money for City of Tacoma residents. Further, it also recognizes that our natural environment provides things we need to survive – breathable air, drinkable water, food, security from flood and storm, and stable atmospheric conditions. **Ecosystem goods and services** are the benefits these natural systems provide free of charge, which would be enormously expensive to recreate with manmade solutions.

What is Natural Capital?

Natural capital is our stock of minerals, energy, plants, animals and ecosystems that yields a flow of ecosystem goods and services to human beings. Natural capital is an efficient producer of many goods and services. It is also largely self-maintaining, while built (manmade) capital depreciates and eventually falls apart. For example, in addition to aesthetic and recreational values, forested areas provide clean air, flood protection, slope stability, biodiversity and other services with little or no maintenance costs.

Natural capital assets such as clean water, flood protection and recreation, are far more stable in value than most manmade assets. They create long-term jobs in industries like forestry, fisheries and recreation that cannot be outsourced to other countries or regions. They bring outside revenue and support a high quality of life for residents.

Metro Parks Tacoma's natural capital consists of the greenspace, forests, bodies of water and coastline within the parks system.

What is Social Capital?

Organizations, institutions, laws, informal social networks, and relationships of trust that make up or provide for the productive organization of the economy are described as **social capital**. While parks may be involved in many kinds of social relationships, the quantifiable social capital in a parks context is the hours and money donated by volunteers. These concepts and the valuation methods used are explained in detail in the body of the report. The report makes a strong argument that social capital and health and education benefits are linked to natural capital. If park systems are allowed to deteriorate, people are less likely to volunteer time and money and are less likely to use parks, thereby reaping fewer health and education benefits.

Appraisal of Metro Parks Tacoma's Natural and Social Capital Value

The Earth Economics study identifies 23 ecosystem services provided by the natural capital present in MPT parks. Of these, 10 ecosystem services could be assigned value using established and accepted valuation techniques such as market value and cost avoidance. Values are presented as ranges, similar to house or business appraisals. As new studies are published and added to the Earth Economics database, and as spatial ecosystem service mapping of the parks and watersheds containing them is completed, the range in values will narrow. As it was not possible to value all 23 ecosystem services in this study, the low end of the ranges can be considered a "below the basement" baseline value.

The study also placed a dollar value of the health and community benefits present in MPT parks. Parks have been shown to support health benefits including stress relief, toxin reduction and access to space for exercise. In addition to providing health benefits, the zoos and nature centers at some MPT parks provide the community with opportunities to enjoy and learn about the natural environment.

Annual Contributions to the Regional Economy

By assigning value to ecosystem services like reducing the frequency and severity of urban floods, supporting fisheries and food production, maintaining critical habitat, enhancing recreation and providing waste treatment, **MPT park ecosystems provide between \$3.6 million and \$13.0 million in benefits to the regional economy every year.**

The social capital and education and health benefits provided by MPT parks are worth approximately \$18.2 million per year.

Total Asset Value

Ecosystem services may also be treated like an economic asset, providing a stream of benefits over time the way a bridge or other capital infrastructure does. Calculating the net present value of an asset in traditional economics requires the use of a discount rate in order to account for the loss of purchasing value of a dollar over time. **If treated as an asset with a lifespan of 100 years, the present value of MPT parks is between \$521.4 million and \$763.0 million, using a 4.125% discount rate.**

Conclusions

MPT's natural assets provide the region tremendous economic value by any measure. Recognizing this value presents an opportunity for advancing the importance of all MPT parks to the health of the regional economy. It also demonstrates how allowing ecosystems to be further degraded will create real and potentially significant negative economic impacts both within the parks and within the communities and watersheds they support. To ensure a healthy, resilient Tacoma economy, a sustainable future and a high quality of life for citizens, the flow of benefits from MPT's natural capital should be incorporated into decision-making - including development of agency goals, metrics, indicators, assessment and general operations. This report provides guidance for achieving these objectives.

Further, ecosystem service values should be considered when developing budgets, program plans and grant applications; examining policies and accounting practices; reporting and aligning to Pierce County's Environmental Health Indicators and action agenda; and developing review and permitting processes. This will enable decision-makers at Metro Parks Tacoma to

develop an even more integrated approach with greater cost-efficient, sustainable and beneficial results.

Areas for Further Research

While the Earth Economics report provides a valuation of ecosystem services in MPT parks and a whole view of the economy, it is only a first step in the process of developing policies, measures and indicators that support discussions about the tradeoffs in investments of public and private money that ultimately shape the long-term regional economy.

Next steps recommended in this study include:

1. **Jobs creation analysis on the results from restorations activities and expenditure in parks.** The Phase I report, conducted by Hebert Research showed that over \$22 million is spent annually by visitors to MPT's parks and attractions. This spending supports local store owners, vendors and other businesses that rely on these park attendees for sales of their goods and services. Using expenditure models, this economic activity can be used to identify the number of jobs this creates in Tacoma's local economy.
2. **Ecosystem service mapping of service beneficiaries and provisioners.** Using hydrological models and GIS data, sophisticated maps can show geospatially where specific ecosystem services, such as flood risk reduction or salmon habitat, are provisioned on the landscape, and who benefits from those services. Mapping can also show impairments to ecosystem services, such as features on the landscape that impact salmon habitat.
3. **Funding mechanism review.** After modeling the flow of ecosystem service benefits and impairments across the landscape, funding mechanisms can be designed for green infrastructure investments. These investments typically reduce tax spending on solutions designed to address a single problem, such as flood risk reduction, and instead invest in a suite of ecosystem services that provide many benefits and produce far higher economic and quality of life returns.

Residents and decision-makers in the Park District have an excellent opportunity to begin developing policies, measures and indicators that can provide the data and information needed to support discussions about the tradeoffs among many potential investments of public and private money – investments that ultimately affect human well-being in our beautiful city. Seizing the opportunity and rising to the challenge will ensure a sustainable and desirable future for all Tacoma residents.