

Total Net Economic Value of Oregonian's Participation in Outdoor Recreation



2019-2023 Oregon SCORP
2019 Sustainable Tourism and Recreation Conference
October 8-11, 2019

Total Net Economic Value from Residents' Outdoor Recreation Participation in Oregon

Oregon Outdoor Recreation Metrics: Health, Physical Activity, and Value

2019-2023 Oregon Statewide Comprehensive Outdoor Recreation Plan
Supporting Documentation

Randall S. Rosenberger

What is SCORP?

- Qualifies state for LWCF funding
- Updated every 5 years
- Provides guidance for other OPRD-administered grant programs
- Provides guidance & information for federal, state, & local units of government & the private sector
- Accepted by the NPS on April 23, 2019



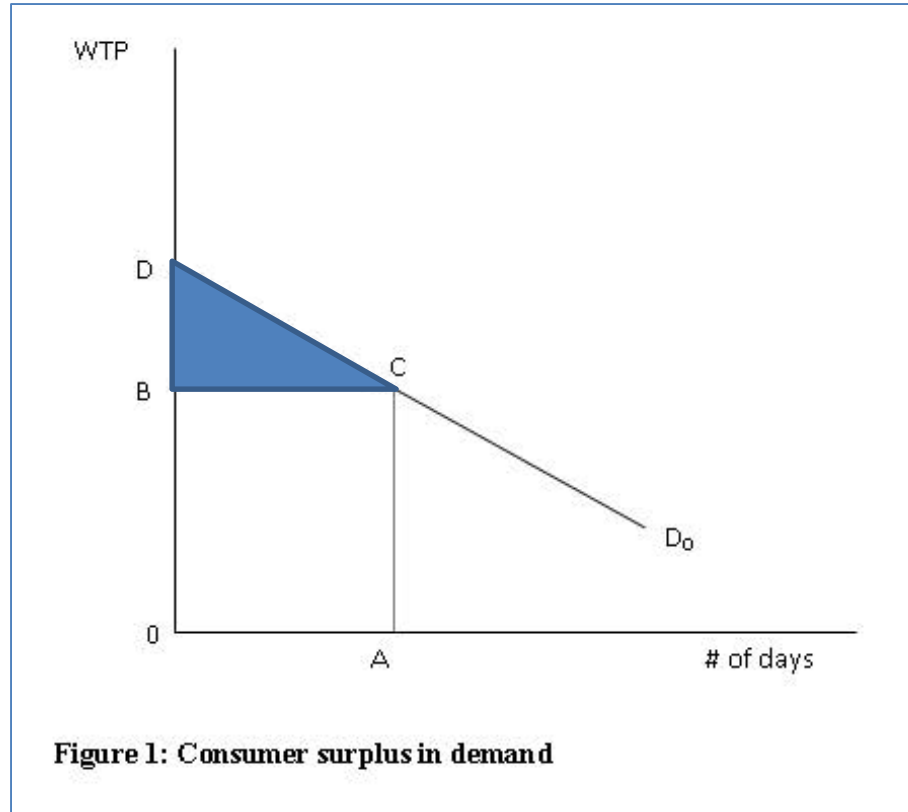
Important Demographic & Social Changes Addressed

- An aging population
- An increasingly diverse population
- Lack of youth engagement in outdoor recreation
- An underserved low-income population
- **Health, physical activity, value**



Total Net Economic Value

- Total value net of the costs of participation
 - Net Economic Value = Net Benefits = Net Willingness to Pay = Consumer Surplus



Benefits v. Expenditures

- Economic value = monetary measure of benefits received by an individual who participates in recreation
 - Net economic value = max WTP – costs to participate
- Economic impact = how spending by recreationists affects a economies (jobs, income, tax revenue, sales)
- Costs to participate \neq total spending

Valuation Method

Total Net Economic Value = \$/person/activity day *
#user occasions

– \$/person/activity day

- Meta-regression analysis benefit transfer function
- Developed using Recreation Use Values Database
- Predicts \$/person/activity day for PNW region

– User occasions

- 2017 SCORP Statewide Survey

Meta-Regression Models

Primary Research Study a

Behavioral Measure
(e.g., trips)

$$Y_a = \alpha_a + \sum_j \beta_{aj} x_{aj} + \varepsilon_a$$

$$WTP_{ak} = \beta_{ak} / \beta_{a5r}$$

Multiple studies

Policy, site, population

Methods

MRM

$$\begin{bmatrix} WTP_{1k} \\ WTP_{2k} \\ \dots \\ WTP_{Ak} \end{bmatrix} = \delta_k + \sum_m \gamma_{mk} \begin{bmatrix} z_{1mk} \\ z_{2mk} \\ \dots \\ z_{Amk} \end{bmatrix} + \sum_s \mu_{sk} \begin{bmatrix} w_{1sk} \\ w_{2sk} \\ \dots \\ w_{Ask} \end{bmatrix} + \varepsilon_k$$

Benefit Transfer Meta-Regression Models

Benefit Function

$$W\hat{T}P_k = \hat{\delta}_k + \sum_m \hat{\gamma}_{mk} z_{mk} + \sum_s \hat{\mu}_{sk} \bar{w}_{sk}$$

Policy Site Data

z

Means or
Selected Values

Predicted Welfare (Value) Estimate

Recreation Use Values Database

- U.S. and Canada
- 1958-2015
- 421 documents
- 3,192 estimates of value
- 132 fields coded
- 42 recreation activity categories

Benefit Transfer of Outdoor Recreation Use Values

RANDALL S. ROSENBERGER AND JOHN B. LOOMIS



A Technical Document Supporting the Forest Service Strategic Plan (2000 Revision)

U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE

USDA
United States Department of Agriculture

Recreation Economic Values for Estimating Outdoor Recreation Economic Benefits From the National Forest System

Randall S. Rosenberger, Eric M. White, Jeffrey D. Kline, and Claire Cvitanovich



U.S. FOREST SERVICE

Pacific Northwest Research Station

General Technical Report PNW-GTR-957

August 2017

recvaluation.forestry.oregonstate.edu

Google Maps Kayaking and Canoe Imported From IE OSU Homepage | College Rosenberger, Rand G



Calendar | Catalog | Maps | Make a Gift

Find pe

College of Forestry

Recreation Use Values Database



Jackson Lake, by Kylie Brooks

Welcome to the 2016 updated Recreation Use Values Database (RUVD) for North America. What you will find here are links to the database, bibliography, and background information. If you have questions, comments and/or suggestions about the RUVD, would like assistance in using it for benefit transfer, or would like to submit documentation on North American studies not in it, please contact Dr. Randall Rosenberger (R.Rosenberger@oregonstate.edu).

We also are interested in how you apply benefit transfer for recreation valuation, so please submit documentation about your applications.

Statewide Resident Outdoor Recreation Survey

An Oregon population survey: (Conducted by OPRD with technical assistance from Kreg Lindberg - OSU)

- 3,069 completed surveys (20% response rate)
- 74% online survey / 26% paper survey
- Supplemented with 481 Qualtrics online sample
- 94% participants / 6% non-participants
- 56 individual outdoor recreation activities

Outdoor Recreation in Oregon



A Study Conducted by:



Oregon Parks and Recreation Department

Total Net Economic Value

SCORP Activity	Total Net Economic Value
Non-motorized Trail Activities	\$20.2 billion
Outdoor Leisure / Sporting Activities	\$11.8 billion
Nature Study Activities	\$10.8 billion
Non-motorized Water-based and Beach Activities	\$3.8 billion
Hunting and Fishing Activities	\$3.5 billion
Vehicle-based Camping Activities	\$1.8 billion
Motorized Activities	\$1.4 billion
Non-motorized Snow Activities	\$0.9 billion

\$54.2 billion

Figure 3. SCORP activity categories by total net economic value

Direct economic impacts from outdoor recreation spending in Oregon: \$12 billion - \$16 billion

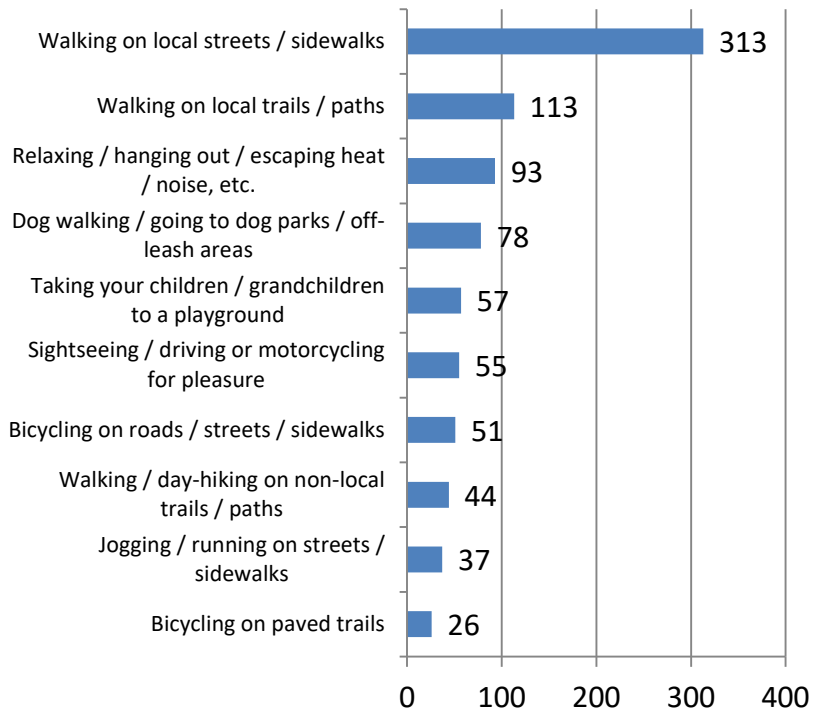
SCORP Activity	Total Net Economic Value
Walking on local streets / sidewalks	\$4.5 billion
Walking / day hiking on non-local trails / paths	\$3.9 billion
Other nature / wildlife / forest / wildflower observation	\$3.5 billion
Sightseeing / driving or motorcycling for pleasure	\$3.1 billion
Relaxing / hanging out / escaping heat / noise, etc.	\$3.0 billion
Bicycling on roads / streets / sidewalks	\$3.0 billion
Jogging / running on streets / sidewalks	\$2.6 billion
Bird watching	\$2.4 billion
Fishing	\$2.2 billion
Beach activities - ocean	\$2.0 billion

Figure 2. Top ten SCORP activities by total net economic value

Top Ten Results

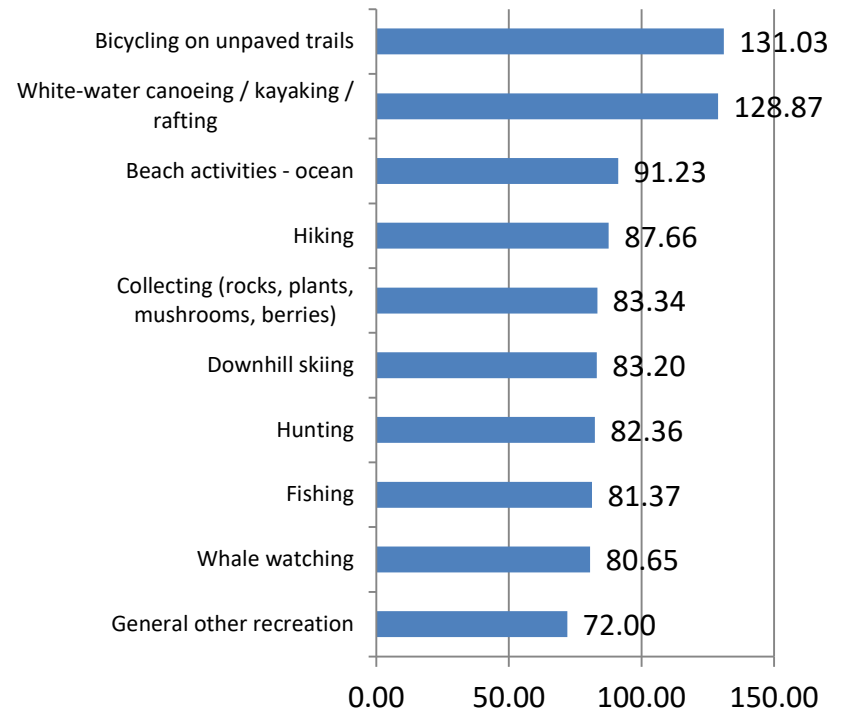
Annual User Occasions

Millions



Value per Person

\$ per Activity Day



Questions



2019-2023 Oregon SCORP
2019 Sustainable Tourism and Recreation Conference
October 8-11, 2019