

CURRICULUM VITAE

Zachary Hughes

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I. GENERAL INFORMATION

A. Education:

YEAR	DEGREE	MAJOR	INSTITUTION/LOCATION
2007-	N/A	Masters of Science in Sustainability	Arizona State University, School of Sustainability
2004-06	B.S.	Environmental Science	University of Washinton, Tacoma, WA
2003-04	N/A	Environmental Science	Tacoma Community College Tacoma, WA
1995-97	N/A	Environmental Science	Lee College, Baytown TX

B. Postgraduate Training:

YEAR	DEGREE	MAJOR	INSTITUTION/LOCATION
2006	N/A	Research apprenticeship on fish habitat and design of marine protected areas	University of Washington, Friday Harbor Labs

C. Employment:

BEGIN	END	POSITION	INSTITUTION/LOCATION
Oct 06	Aug 07	Research Technician	University of Washington, Friday Harbor Labs
Mar 03	Aug 06	Medical Records Tech.	Veterans Administration, Tacoma WA
Aug 97	June 02	Petty Officer First Class	USCG Polar Sea, Seattle WA

II. RESEARCH

A. Projects Completed

1. Primary Research:

i. Ecological and Economic Assessment of Potential Eelgrass Expansion at Sucia Island, WA – By providing an economic assessment of the services provided by eelgrass habitat within Washington State, we are able to inform resource managers about the value of conservation and recovery efforts, such as that undertaken by Washington State Parks. By using bottom mapping techniques, I was able to predict the maximum recovery area and guide buoy relocation efforts to maximize habitat availability for eelgrass. I was then able to place an economic value on the potential eelgrass expansion.

ii. An experiment in Urban-Ecological Restoration at the Tacoma Community College, Tacoma, WA – This project involved the restoration of severely degraded land on the unused portion of Tacoma Community College's campus. Invasive plants were removed and native species were planted in order to restore as much ecological function as possible.

iii. Fish Species Diversity in Costa Rican Rivers in Comparison to Species Diversity in Temperate Rivers – This research was conducted in the field in Costa Rica counting number of fish species in Costa Rican rivers. These numbers were then compared to results of other researchers in comparable rivers in temperate zones to determine if the Mid-domain model of decreasing diversity with distance from the equator holds true for freshwater fishes.

iv. Effects of Nisqually Wetlands on Nitrates, Phosphates, and Ammonia – The Nisqually Watershed is home of a large amount of agriculture for Washingtonstate. This project tested the water downstream from agricultural areas upstream, in, and downstream of the estuarine wetlands to determine the effectiveness of wetlands in pollution removal.

v. Standby Energy Usage in Western Washington Homes – This study evaluated the patterns of power usage in Western Washington homes, particularly in regards to the use of appliances in “standby” mode, that is turned “off” but still using power.

vi. Plant Density and Fertilizer Effects on *Brassica rapa* plants - This experiment was designed to test two separated factors on plant growth. The first part of the experiment involved testing how different plant densities affected the growth of plants, while the second portion of the experiment tested the effects of various fertilizers on plant growth.

vii. Territorial Behavior of the Red-ruffed Lemur – Using recordings of the territorial calls of red-ruffed lemurs from a reserve, the behavioral response of red-ruffed lemurs from Woodland Park Zoo was observed and analyzed in comparison to observed natural behaviors of red-ruffed lemurs and other species of lemurs in the wild.

2. Presentations:

i. Bathymetry, bottom mapping, and recovery projections of eelgrass for anchor buoy relocation project at Echo Bay, Sucia Island, WA – Presented at the 2006 Georgia Basin, Puget Sound Research Conference, Vancouver Mar 2007. 1st place winner for student oral presentation.

ii. Using GIS to Track Potential Economic Gains and Losses in *Zostera marina* Beds – Poster presentation at 2007 Geotools Conference, Myrtle Beach, SC Mar 2007.

iii. Ecological and Economic Assessment of Potential Eelgrass Expansion at Sucia Island, WA – Presented to the San Juan County Marine Resource Council, Dec 2006, presented to Friday Harbor labs research symposium, Dec 2006.

iv. An experiment in Urban-Ecological Restoration at the Tacoma Community College, Tacoma, WA – Presented in UW classroom, May 2005, presented at UWaTERS symposium June 2006, Presented at UW REN Symposium June 2006

v. Lahar Hazards of Mt. Rainier – Presented in UWT classroom, March 2006

vi. Florida Everglades Restoration: Undoing our “Fixes” – Presented in UWT classroom, December 2005

vii. Fish Species Diversity in Costa Rican Rivers in Comparison to Species Diversity in Temperate Rivers – Presented in UWT classroom, August 2005

viii. Chain Reaction: Why Orcas are Eating Sea Otters – Presented in UWT class, June 2005

ix. Effects of Nisqually Wetlands on Nitrates, Phosphates, and Ammonia – Presented in UWT classroom, March 2005

x. Standby Energy Usage in Western Washington Homes – Presented in UWT classroom, December 2004.

xi. Plant Density and Fertilizer Effects on *Brassica rapa* plants – Presented in UWT classroom, December 2004.

xii. Territorial Behavior of the Red-ruffed Lemur – Presented in TCC classroom, May 2004

B. Areas of Research Interest: Coastal Sustainability, Sustainable Development, Sustainable Energy, Restoration Ecology

C. Current Projects: Water and environmental quality monitoring at Westcott Bay, WA, to determine cause of eelgrass decline, Monitoring of voluntary no anchor zone at Sucia Island, WA, Eelgrass restoration efforts in San Juan County, valuing eelgrass habitat in Washington State

III. OTHER PERTINENT INFORMATION:

A. Certification in Restoration Ecology from University of Washington, obtained June 2006 from University of Washington