

Agricultural land in Puget Sound Action Areas: results from the 2019 Washington State Agland Database

Natural Resource Spatial Informatics Group
Precision Forestry Cooperative
School of Environmental and Forest Sciences
University of Washington

Project Information:

www.nrsig.org
www.nrsig.org/projects/parcels
www.nrsig.org/projects/washington-state-agland-database

Introduction

A new spatial database of agricultural parcels in Washington state has been developed¹. The database provides a census of all agricultural parcels in 2019² and enables parcel-level change analysis between 2007³ and 2019. Parcels located in Puget Sound Action Areas are summarized here. Each parcel is attributed with:

- **Owner class** (private, tribal, municipal, state, or federal)
- **Owner name and contact information (contact us)**
- **Acres** (parcel, tract, farmed, and owner total)
- **Crop type**
- **Length of roads and streams**
- **Zoning and housing density**
- **Watershed** (WRIA and WAU)
- **Location** (county, congressional district, legislative district)
- **Proximity to development and urban growth area**
- **Market and taxable value** (land and improvements)
- **Most Recent Sales**



Map 1. Puget Sound Action Areas.

Methods: The Washington State Parcel Database

The Agland Database is based on the updated Washington State Parcel Database⁴. The Parcel Database is a standardized, statewide parcel layer stored in a Microsoft SQL Server database. Versions were developed in 2007, 2009, 2010, and 2012, with a partial update in 2016. Tabular and spatial data are collected from each county as well as state and federal agencies. Sales data was acquired from each county and from the Washington State Department of Revenue. Address, land use code, sales, and other data are normalized prior to loading into the Database. Owner names are normalized across counties to identify likely common owners despite small differences in names and addresses. Where parcels from different data providers overlap, a priority parcel is identified to create a wall-to-wall parcel layer without overlap for the state.

Methods: The Washington State Agland Database

The standardized parcel layer is intersected with roads, streams, waterbodies, jurisdictional layers, crop, and other layers. The Washington State Department of Agriculture (WSDA) and National Agriculture Statistics Service (NASS) Cropland layers provide estimates of crop type for each parcel. Agricultural parcels are identified as those with a land use code of 81, 82, or 83 or farmland according to the WSDA layer. Because WSDA was not available with parcel-level spatial resolution for the 2007 version, change results are limited to comparing land use codes. To analyze change, we unioned the parcel layers from the 2007 and 2019 version of the Agland Database. A minimum overlap of 30% was used to determine parcels that converted into or out of agricultural land since 2007.

¹ Agland Database. 2019. Natural Resource Spatial Informatics Group, Precision Forestry Cooperative, School of Environmental and Forest Sciences, University of Washington.

² Whitman County provides tabular data only and is not included in the Agland Database.

³ First year with spatial data (number of counties): 2007 (27 counties); 2009 (9 counties); 2012 (1 county).

⁴ Parcel Database. 2019. Natural Resource Spatial Informatics Group, Precision Forestry Cooperative, School of Environmental and Forest Sciences, University of Washington.

Results: Agricultural Parcels in 2019

Puget Sound Action Areas contained 511,000 acres of farmland in 2019. There were 36,000 parcels held by 26,000 owners. The average parcel size was 11.9 acres. The average tract (a contiguous set of parcels owned by the same person) was 32.2 acres. The average owner holds 424.8 acres. By land use class, 51% of parcels (68% of acres) were agricultural (codes 81, 82, or 83), 32% (15%) were residential (codes 0 – 19), and 14% (14%) were undeveloped (codes 84 – 99).

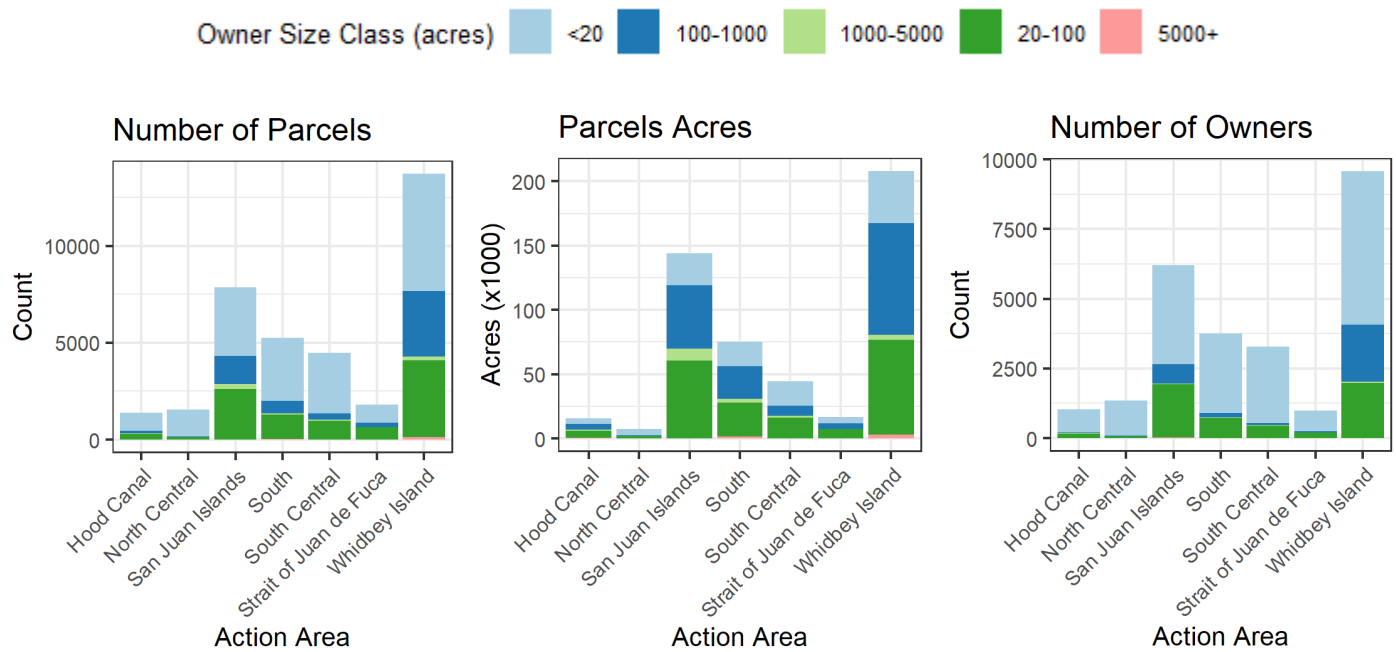


Table 1. Summary statistics for 2019 by Puget Sound Action Area.

PSAA	Num Parcels	Parcel Acres	Avg Parcel Acres	Avg Tract Acres	Avg Owner Acres	Num Owners
Hood Canal	1,379	15,504	11.2	27.4	280.6	1,041
North Central	1,539	7,547	4.9	7.7	10.3	1,355
San Juan Islands	7,864	144,221	18.3	44.3	252.1	6,098
South Central	4,468	44,585	10.0	19.8	302.8	3,275
South Puget Sound	5,263	75,099	14.3	40.4	322.5	3,760
Strait of Juan de Fuca	1,805	16,459	9.1	35.5	355.3	982
Whidbey Island	13,718	207,748	15.1	50.6	1,450.2	9,515
	36,036	511,163	11.9	32.2	424.8	26,026

Results: Change in Agricultural Parcels between 2007 and 2019

The net change in farmland in Puget Sound Action Areas between 2007 and 2019 was a decline of almost 15,000 acres and 625 parcels. Farmland declined in all Action Areas except South Central. Change is based on assessor land use codes only and may not represent actual change of land use or land cover.

Table 2. Summary statistics for change between 2007 and 2019 by Puget Sound Action Area.

PSAA	Num Parcels	Parcel Acres	Avg Parcel Acres	Avg Tract Acres	Avg Owner Acres	Num Owners
Hood Canal	33	(93)	(2.4)	6.8	59.8	32
North Central	12	(148)	(1.5)	(2.8)	(4.2)	6
San Juan Islands	(709)	(16,151)	(0.3)	9.8	49.8	(187)
South Central	946	13,781	0.7	6.0	40.4	656
South	(242)	(4,028)	0.9	19.0	107.6	(170)
Strait of Juan de Fuca	(21)	(112)	0.1	6.4	318.9	63
Whidbey Island	(642)	(8,087)	0.5	15.6	117.1	(557)
	(623)	(14,837)	(0.3)	8.7	98.5	(157)