LCDC TILLAMOOK AREA TOUR

NOVEMBER 14, 2013

"The Land of Cheese, Trees and Ocean Breeze"

LCDC Tillamook Area Tour Schedule

1:00 – 3:45 pm

** * Please remember to bring a raincoat and all-weather shoes. * **

1:00 Depart Port of Tillamook Bay

The Port of Tillamook Bay contains the largest contiguous tract of industrial land on the Oregon Coast. With some 1,600 acres zoned for manufacturing and airport/industrial use, diverse arrays of tenants occupy the busy and growing park. www.potb.org

1:10 Drive through Downtown Tillamook

Tillamook Mayor Suzanne Weber and City Manager Paul Wyntergreen will highlight ongoing revitalization efforts and major redevelopment activities in the heart of the city.

➔ *To learn more about Tillamook's past, present and future, please turn to pages 5-7.*

1:30 – 1:55 Whiskey Creek Shellfish Hatchery, Netarts Bay

Alan Barton, Whiskey Creek Shellfish Hatchery Production Manager, and Steven Rumrill, ODFW Shellfish Program Leader, will meet us at the hatchery to provide a brief tour of the facility and lead a discussion on changing ocean/estuary conditions, innovative partnerships and adaptive management strategies employed at the hatchery.

➔ *Additional documents pertaining to this tour stop may be found on pages 8-12.*

2:05 – 2:30 Symons State Scenic Viewpoint, Oceanside

Paul Klarin, DLCD Marine Program Coordinator, will meet us at the scenic viewpoint to describe how visual assessments at ocean viewpoints were collected and incorporated into the Territorial Sea Plan. Commissioners will have the opportunity to conduct their own visual assessment at the viewpoint and compare their findings to the results in the TSP.

➔ *Additional documents pertaining to this tour stop may be found on pages 13-15.*

2:50 – 3:30 Southern Flow Corridor Project, Tillamook

Tillamook County Chief of Staff Paul Levesque will meet us at the confluence of the Wilson and Trask Rivers just northwest of the city to detail one of the largest wetland restoration and flood mitigation projects in Oregon. On our drive from Oceanside to Tillamook, Tillamook officials will point out several locations along the way that have undergone successful flood hazard mitigation projects.

➔ *Additional documents pertaining to this tour stop may be found on pages 16-19.*

3:45 Return to Port of Tillamook Bay

Interested in knowing more about Tillamook's population stats, demographic data and other regional information including flood hazard mitigation sites and activities? Turn to pages 20-22 in the guide.

TILLAMOOK AREA MAP

NETARTS/OCEANSIDE AREA MAP

The History of Tillamook County

By Gary Albright, Director, Tillamook County Pioneer Museum

Cohn & Co. Store, Tillamook, 1900

In April, 1851, Joseph Champion landed at Kilchis Point on Tillamook Bay and was welcomed by the Tillamook Indians living at Kilchis Point. Champion was the first Pioneer Settler in the area, and the area's first land claims eminated from his initial lodging in a large spruce stump near the Kilchis Point Indian site.

By 1853, Tillamook was a county, and by 1855, the initial pioneers had built a commercial ship, *The Morning Star,* at the mouth of the Kilchis River and launched it to deliver cheese through Astoria toPortland. *The Morning Star* was the first ship built in Tillamook County and the first registered ship in the Oregon territory.

Logging and dairy industries flourished from the initial pioneer settlement, and actually grew concurrently. Over 100 years ago, Tillamook County Creamery Association created a farmer-owned cooperative to create today's internationally recognized cheese industry. The limited shipping potential in Tillamook County to both import and export goods hindered development until Ocotber 9, 1911, when the railroad system from Portland reached the City of Tillamook. Subsequent road systems that were developed in the 1930's and 1940's expanded both commercial markets and substantially expanded tourism.

At the beginning of World War II, a naval base with blimps was constructed south of the City of Tillamook. The two blimp hangars became the largest free-standing wood structures in the world, and one of those hangars exists to this day.

Today, Tillamook County has 26,000 full-time residents, hundreds of second homes for part-time residents, and a large base of hotels, motels and rental properties. The Tillamook County Creamery Association remains the largest employer. There are three school districts, an outstanding community college, and seven incorporated cities. Six of the unincorporated areas are represented by county-designated Community Advisory Councils.

Logging and dairy interests remain prominent in Tillamook County, and tourism growth is a significant current factor in economic growth. Commercial fishing for dungeness crabs remains a substanial industry, and sport fishing has – for decades – been a major interest for both visitors and locals.

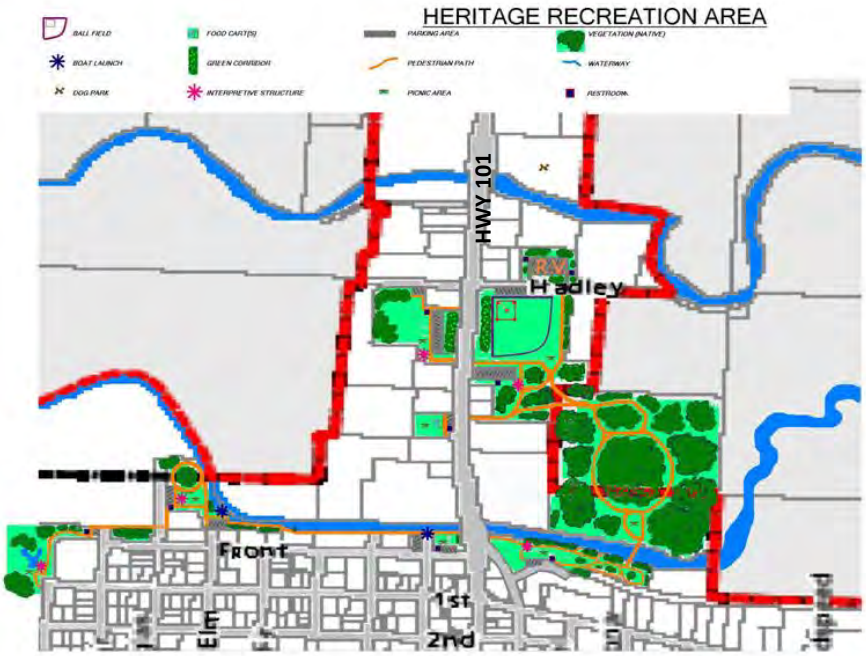
A Perspective on Tillamook

By Paul Wyntergreen, Tillamook City Manager

The City of Tillamook's town center/waterfront area is emerging from difficult economic times and is now faced with an impending change that will shape the future of the community for decades to come. This area was the site of Tillamook's original settlement, dependent on goods being brought into the city via the bordering waterway. It was the active business district for years, with restaurants, hotels, an opera house, docks and lumberyards lining the streets adjacent to the slough. Construction of the train line began to pull businesses away from the waterway, a process that was later accelerated by the construction of US Highway 101 through Tillamook. With the shift in focus to activities along the highway, properties in the waterfront area have largely been overlooked and underutilized for many years. With the recent recession, its successor, the Central Business District has joined in that fate.

However, things are about to change. The recent addition of the Pelican Brewing Co., an anchor for downtown, and the impending ODOT US 101/OR 6 highway realignment project, bring tremendous opportunity to the city and region. The highway project runs north/south bisecting the community. To complement and balance that project, the downtown core has been recommended for concurrent Enhance-It funding for streetscape improvements that will tie State construction work with local projects on the cross-streets and focus on improving east-west connections within the Town Center. The City is attempting to maximize the realignment project by improving multimodal intra-city circulation, enhancing vibrant streetscape place-making, and fostering street safety.

The community also looks to create a balanced transportation network with safe pedestrian and bicycle circulation to and from city parks, within close proximity to employment centers and the historic center of the town. The City's recently adopted Parks Master Plan ties unbuildable flood-prone FEMA buy-out properties that have landed in municipal possession into a walkable, discoverable Parks System that threads through the area's planned transportation and economic development projects (see attached graphic of Hoquarton Heritage Area parks).



The waterfront area, dominated by industrial uses, vacant lots, aimless zoning regulations, inconsistent sidewalks, and lack of multi-modal infrastructure, is in a prime location for redevelopment considering its tangential relationship to the Town Center, adjacency to US 101 and OR 6, and direct access to the Hoquarton Water Trail. Its significant historic, social and cultural value and potential health and recreational values also have led the community to strive for a transition to a lively compact live/work district.

This revitalization effort is based on a community-wide visioning and strategic planning process involving several organizations and general plans that are already in place for this area:

Urban Renewal Agency (UR Plan)
Pioneer Museum
Service Groups
City (Comp Plan/Town Center Plan)
People's Utility District
Tillamook Revitalization Association
Private Businesses
Property Owners
Tillamook Creamery Association
Tillamook County

Recently-awarded grants from the Transportation & Growth Management Program and Coastal Management Technical Assistance Program will help advance the community's efforts to revitalize the city's downtown and waterfront areas. The opportunities in Tillamook are bountiful, as is the energy to realize them.

DOCUMENTS FOR THE WHISKEY CREEK SHELLFISH HATCHERY TOUR STOP START HERE.

Oregon Department of Agriculture

Netarts Bay Shellfish Operations

State law establishes that "the commercial cultivation of oysters, clams and mussels is declared to be an agricultural activity subject to the regulatory authority of the State Department of Agriculture. The State Fish and Wildlife Commission has jurisdiction over all native oysters, clams and mussels in the waters of the state, but not cultivated oysters, clams and mussels in plats." ORS 622.220

The Department of Agriculture (ODA) has jurisdiction on state owned submerged and submersible lands. ODA does not have jurisdiction on other public and private owned lands. With some small exceptions, most of the submerged and submersible lands within Netarts Bay are owned by the State of Oregon.

Total acres leased for oyster production: 357.64
(Plats range in size from 4.13 acres 40.5)
Number of individual plats: 21
2013 reported production: 47,457.98 gallons of oyster meats.

In addition to the 21 platted leases located in the bay, approximately 153 acres have been "designated as natural oyster beds." This area is commonly know as the OSU Reserve (ORS 511.625).

Commercial oyster production is currently prohibited in the most southerly portion of the bay due to food safety concerns related to water quality.

Species cultivated: Oysters cultivated in Netarts Bay include Pacific and Kumamoto oysters. Both of these species are not native to Oregon. Olympia oysters, which are native, are found within the OSU Reserve Area. OSU Reserve oysters are not cultivated for commercial purposes.

When determining if a proposed oyster lease/plat will be authorized on state lands, ODA considers the following:

1) Consistency with local land use regulations, plans and zoning requirements and with the Statewide Planning Goals.
2) Consistency with applicable local, state or federal laws.
3) Certification or approval by ODA (Food Safety Division) for harvest intended for human consumption.
4) Compatibility with existing commercial fishing and shellfish operations including crabbing, shrimping and clamming.
5) Impacts on fish and wildlife habitat.
6) Impacts on navigation.
7) Compatibility with recreational activities, commerce or other public uses or public trust values.
8) Evidence that the land is owned by the state.
9) If the land is available for shellfish cultivation.

Netarts Bay Shellfish Plat Leases
Legend
Management
Prohibited Area
Plats
Sandbars

2012 Shellfish Plat Production Annual Report as of May 2, 2013

Estuary	* Acres Leased	Gallons Shucked	** Bushels Raw	*** Total Production	**** Production Value	Lease/Fees Collected
South Slough	240.13	795.00	713.83	1,508.83	$52,809.17	$1,113.66
Netarts Bay	357.64	2,653.00	2,933.97	5,586.97	$195,543.83	$1,928.34
Tillamook Bay	2,605.14	9,497.25	5,330.92	14,828.17	$518,985.83	$11,717.98
Umpqua River	60.00	1,315.50	565.58	1,881.08	$65,837.92	$437.02
Yaquina Bay	517.00	13,766.60	9,886.33	23,652.93	$827,852.67	$4,611.02
Totals	**3,779.91**	**28,027.35**	**19,430.63**	**47,457.98**	**$1,661,029.42**	**$19,808.02**

Source: Oregon Department of Agriculture, Natural Resources Division

* Acres leased from State of Oregon for shellfish cultivation at end of year. Numbers do not reflect production from lands not owned by the State of Oregon. For example, considerable production occurs in Coos Bay on lands owned by the Port and the County, which are not included in these numbers.

** Numbers include dozens that have been converted into bushels.

*** One bushel of Pacific Oysters will yield approximately one gallon of oyster meats. Total production is expressed as sum of gallons and bushels for comparative purposes.

**** Oyster price used in computing value is $35 per gallon.

For more information on shellfish leases in Oregon, contact:

Oregon Department of Agriculture
Natural Resources Program Area
Shellfish Plat Leasing Program
635 Capitol Street NE
Salem, Oregon 97301
Phone 503 986-4701
Fax 503 986-4730

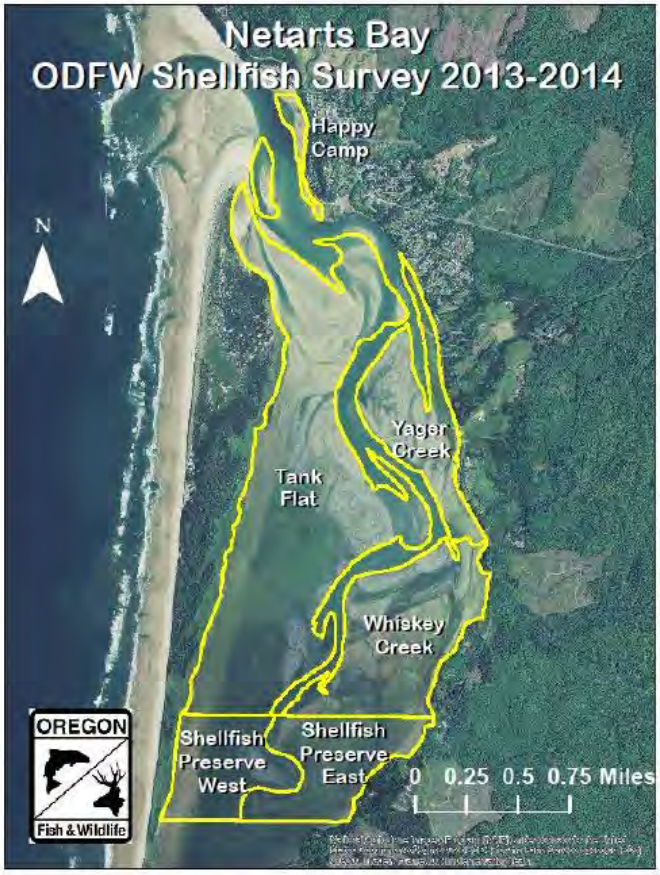
OCEAN ACIDIFICATION IN OREGON

Upwelling along the Oregon continental shelf brings deep, cold, and acidified ocean waters to the surface where it is advected into estuaries by the flooding tides. Invertebrates that incorporate calcium carbonate into their shells, such as the larval stages of clams, mussels, oysters, crabs, and other shellfish, are vulnerable to the stress associated with decreased carbonate saturation levels in the nearshore ocean and estuarine waters.

Are the populations of native oysters, clams and other shellfish impacted in a negative way that is similar to the problems observed for cultivated oysters in the hatchery? What happens to the acidified ocean waters after they are swept into Oregon estuaries by the flooding tides?

Olympia oyster: This native oyster broods the embryos and releases late-stage larvae that are susceptible to acidified estuarine waters.

Cockle: Cockles bury themselves just beneath the surface of sand and mud, and their larvae are exposed to acidified waters in the summer.



Despite the detrimental effects of ocean acidification on larvae of Pacific oysters in the hatchery, populations of native cockles, gaper clams, and other shellfish are doing very well in the tideflats and subtidal regions of Netarts Bay. It is not yet clear how the carbonate chemistry conditions in Oregon estuaries differ from those in the nearshore ocean waters. It is possible that respiration by eelgrass, macroalgae, and benthic diatoms changes the carbonate chemistry in a manner that allows native oysters and clams to survive and flourish.

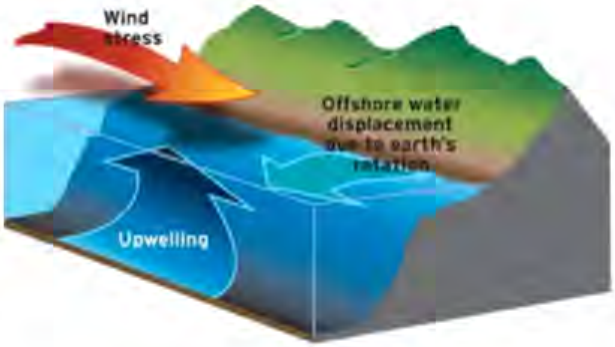
For More Information: Steve Rumrill, ODFW
steven.s.rumrill@state.or.us

The ODFW Shellfish Program is currently conducting detailed shellfish stock assessment surveys in Netarts Bay during 2013-14.

Clamming is a popular recreational activity in Netarts Bay

OCEAN ACIDIFICATION IN OREGON

Ocean acidification is a decrease in ocean pH caused primarily by CO_2 absorbed from the atmosphere. Acidification threatens a range of marine organisms, including commercially and ecologically valuable species such as oysters. Scientists and industry have started to see acidification's effects on nearshore ecosystems, risking billions of dollars in losses for coastal communities.



In Oregon, coastal upwelling brings deep, cold water with low pH and low oxygen close to the surface. In fact, our coastal waters have the same pH levels predicted for the open ocean in the year 2100. This allows research in Oregon waters to provide a unique window into the future. Although pH naturally fluctuates on daily and seasonal cycles, the overall trend will be a decrease in the pH of Oregon coastal waters as atmospheric CO_2 levels continue to climb.

WHISKEY CREEK HATCHERY

In 2005, larval oysters mysteriously began dying at the Whiskey Creek Hatchery, resulting in losses of as much as 85% of total yield. At the brink of economic failure in 2009, the hatchery worked with OSU researchers to discover that acidified seawater pumped in from Netarts Bay was to blame. With continuing help from OSU scientists, the hatchery is now able to monitor their intake and avoid pumping when the waters are most acidic. Hatchery yields have recovered enough that the owners can now consider exporting their oysters overseas. However, as background pH continues to drop, this adaptation strategy may no longer be economically feasible.

ACIDIFICATION AND SHELLFISH

In shellfish, early life stages appear most susceptible to acidification because they have thinner shells and are generally more sensitive to environmental stress. For example, the free-swimming larval stage of an oyster's life lasts about three weeks and is generally the bottleneck to becoming an successful, reproducing adult. Acidification of coastal waters, along with changes in other factors such as temperature and salinity, will likely shorten the favorable windows of opportunity that larval oysters have to make it through this key life stage. This has clear implications for shellfish industries.

WHAT CAN WE DO?

Although atmospheric CO_2 will continue to rise, at-risk communities and industry can ratchet down the contributions from other drivers of coastal pH - such as stormwater, local atmospheric deposition and agricultural runoff. Thoughtful land-use planning, in concert with existing local, state and federal authorities, may offer low-cost mitigation of the risks that acidification poses to coastal economies.

FOR MORE INFORMATION

Burke Hales, OSU: bhales@coas.oregonstate.edu
George Waldbusser, OSU: waldbuss@coas.oregonstate.edu
Heather Reiff, COMPASS: hreiff@COMPASSonline.org

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COMMUNICATION PARTNERSHIP
for SCIENCE *and the* SEA

The TSP Part Five Viewshed Inventory

The Department of Land Conservation and Development (DLCD) collected new information on the important ocean viewsheds along the coast for inclusion in Part Five of the Territorial Sea Plan. The process for creating the viewshed inventory and map was called the Visual Resource Inventory Assessment (VRIA), and it resulted in the mapping and categorizing of 144 ocean viewsheds based on their importance and the quality of the view.

How were sites selected?

Sites were selected to provide comprehensive coverage of the Territorial Sea. In many counties, a majority of the viewpoints are located in Oregon State Park property and were evaluated by the OPRD assessment team. In all other areas, DLCD staff selected viewpoints that were selected by local planning departments or identified in the local comprehensive plans, such as those listed in the Goal 5 or Goal 17 aesthetic resource and ocean shore public access inventories.

Who participated in the assessments?

The assessments were performed by two teams. One team was made up of Oregon Parks and Recreation Department (OPRD) staff who surveyed sites in state parks. The second team, organized by DLCD, was composed of agency staff along with local city or county elected officials or planning staff. All team members were trained by a consultant or DLCD staff to apply the VRIA evaluation methods.

How was the assessment conducted?

An assessment was conducted at each viewpoint. The team assembled at the viewpoint location and decided on the vantage point for the assessment. The team then recorded observations of the visual landscape across various categories, including the landforms, color, vegetation, water features, adjacent scenery, and cultural modifications. Each category was then scored on a scale of 0 to5, based on a set of specific criteria. The scores were summed to provide a total score for the viewshed site which was used to assign each viewsheds to one of three classes, A to C, with Class A views being most scenic and Class C least. Most viewsheds are either Class A or B.

What is the visual resource management framework?

The Visual Resource Management (VRM) framework consists of several parts. The first one is a baseline assessment component. This is the scoring system that was used by the team when doing the field work. Our baseline methods are a slightly modified version of the visual resource inventory methods originally developed by the US Bureau of Land Management and the US Forest Service, adopted for the seascape. The VRM framework was reviewed and approved by the Ocean Policy Advisory Council and the LCDC Territorial Sea Plan Advisory Committee, through their separate public review and comment processes. Other components in the VRM framework include GIS viewshed modeling, sensitivity analysis and impact analysis.

How did the public review and comment on the viewshed assessment process?

After the assessment teams collected data onsite for each viewshed, the results were shared with the local governments who then decided on the type of local review process to undertake. This often involved DLCD staff participating in local public hearings or commission meetings to review and collect public comments on the results of the site

assessments. In certain instances, additional sites were added to the inventory as a result of receiving public comment.

How was the information used to create the map and inventory?

After the initial review VRIA process was completed, the baseline data was used to model the resulting viewsheds. The geospatial analysis then modeled the extent of the viewshed from each viewpoint, factoring in the elevations of the viewer and the objects being observed. A baseline inventory report was produced containing the basic information about each site, with photos, and the viewsheds classes that were delineated on a VRM class map. Given the proximity and span of the 144 viewshed locations, it is likely that many proposed developments could affect multiple viewsheds.

How is the visual resource information used in the Territorial Sea Plan?

Part Five of the Territorial Sea Plan contains Visual Resource Protection Standards for evaluating the potential impact of proposed marine renewable energy projects on affected viewsheds. The map overlay of all 144 viewsheds is incorporated into Part Five under Appendix B as one of the resource and uses inventory maps. The visual resource protection standards will be applied, using the inventory and map information, to evaluate the potential visual impact of a proposed marine renewable energy project during the permit application review process administered by the Department of State Lands (DSL). The project review will be conducted by the Joint Agency Review Team or JART, which will be organized by DSL to provide recommendations on specific project proposals.

Where do I get more information and the viewshed inventory map?

The Visual Resource Inventory Baseline Report, with information, classification scores and photos of each site, is available at: http://oregonocean.info

The Territorial Sea Plan, including Part Five and the Appendix B inventory maps are located on the agency website at:
http://www.oregon.gov/LCD/OCMP/Pages/Ocean_TSP.aspx

For more information contact:

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(503) 934-0026
paul.klarin@state.or.us

Andy Lanier
(503) 934-0072
laniera@dlcd.state.or.us

Symons, State Scenic Viewpoint, Beach Access Viewpoint

Site Name	Site ID:	County
Symons, State Scenic Viewpoint, Beach Access Viewpoint	OPRD076	Tillamook

Description
This site is located at Symons State Scenic Viewpoint on an overlook immediately off of the Netarts Oceanside Highway that leads into the community of Oceanside. Panoramic views focus on Three Arch Rocks, Maxwell Point, and Cape Lookout to the south.

Date: 10/3/12 **Time:** 12:24 **Weather:** Clear **Wind:** Gentle Breeze

Panorama Photos

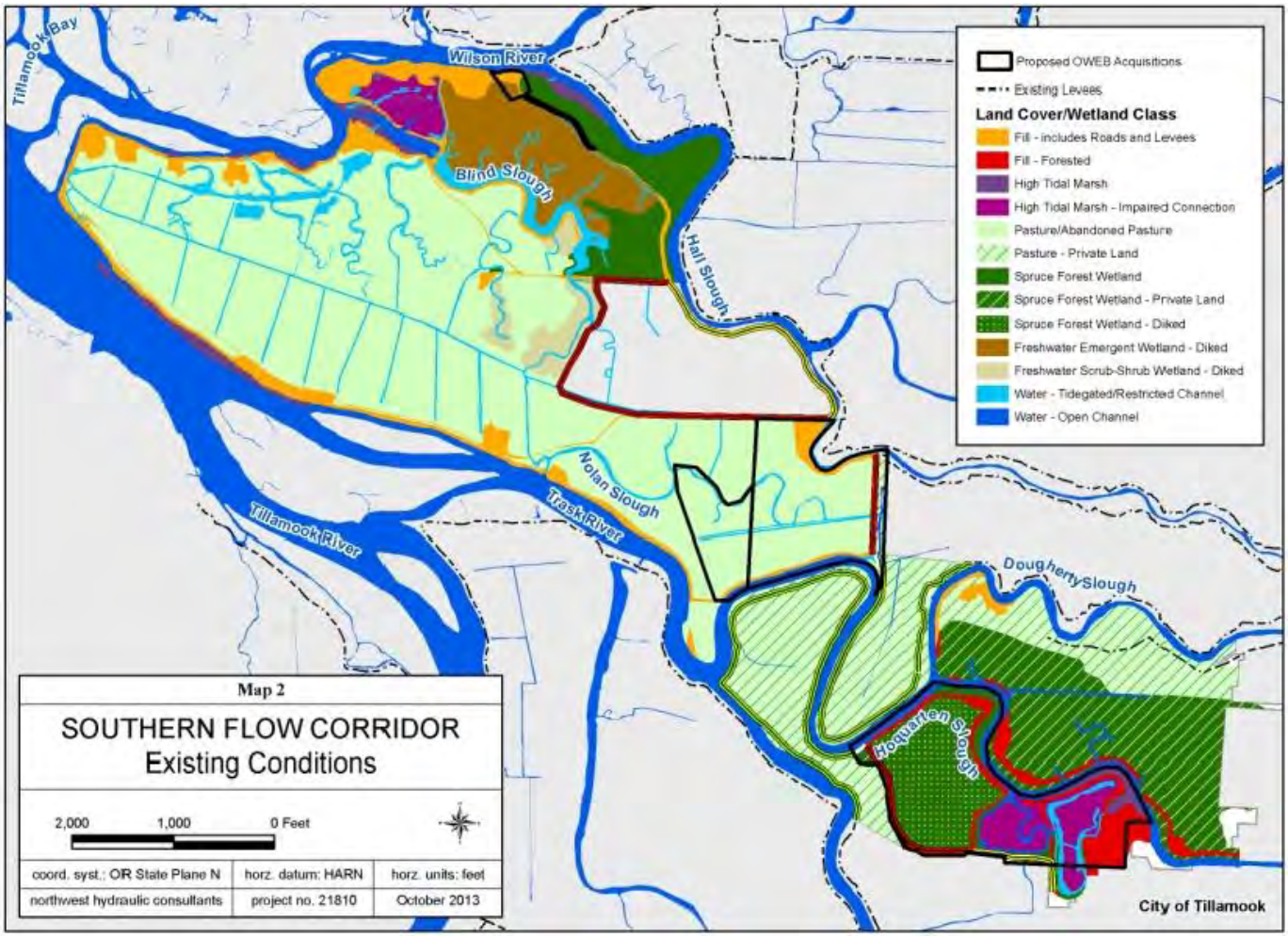
Attribute	Score	Description
Landform	4.5	Three Arch Rocks National Wildlife Refuge complex and Maxwell Point to the north, Netarts Spit, coast range mountains leading out to Cape Lookout, long sandy beach, multiple streams on beach, coastal plain and dunes, some scattered driftwood, some cobble near the stream in the foreground.
Vegetation	4	Stunted shore pine in the immediate foreground with a few scotch broom, blackberry, sword ferns and other ferns, salal, native rose, seawatch, European beach grass, willow, ivy, yarrow, thistle. Distant coastal forest at Cape Lookout, Sitka spruce and shrubs at Maxwell point, wetland plants on the beach to the south and a few sea rocket. Some seaweed in the wrack.
Water	3.5	Multiple streams onto the beach, Netarts Bay outlet/part of the estuary, waves crashing on Three Arch Rocks and Maxwell Point cliffs/rocky shore.
Color	3	Blue ocean with white surf leading up to a tan sandy beach. Dark gray/brown offshore rocks. Bright green to brownish and sage/yellow vegetation, blue/green willows, gray driftwood and cobbles, red rosehips, some yellow flowers.
Adjacent	1	Netarts/Oceanside sanitary plant in the foreground with some homes on the hills, telephone poles, county road, and forested hillsides.
Scarcity	4	View of Three Arch Rocks, Netarts Bay outlet and spit, expansive views of Cape Lookout headland.
Cultural	0	Three small buoys in the water, a crab pot in the water, entrance to Maxwell Point Cave/Trail at the base of the cliff at the edge of the view, clearcuts in the distance at the edge of the view.
Total	**20**	**Class A View**

SOUTHERN FLOW CORRIDOR PROJECT

Tillamook, Oregon

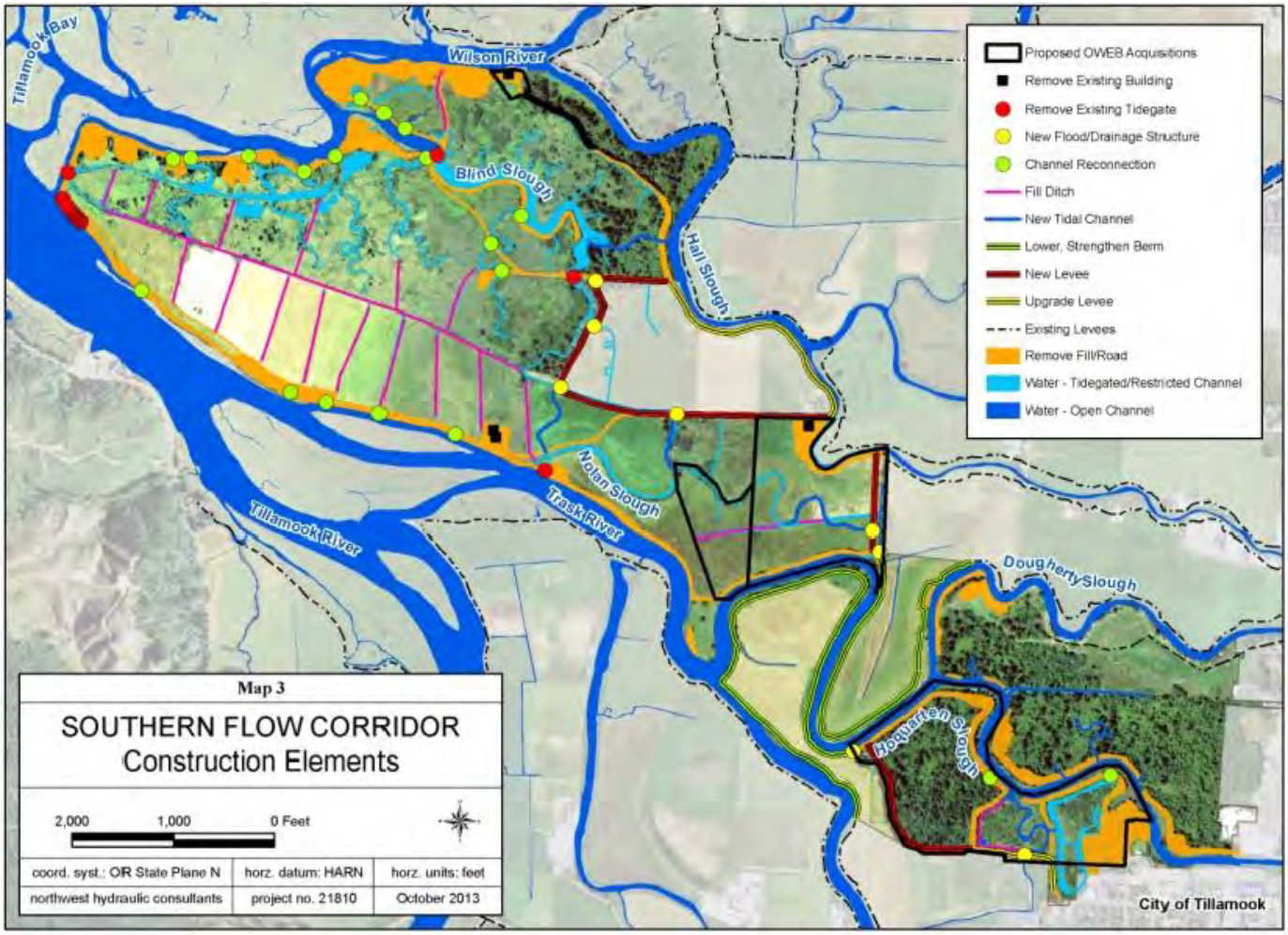
General Project Overview

Working with a diverse set of partners, Tillamook County proposes to permanently restore and protect 521 acres of tidal wetland habitats at the confluence of the Bay's two most productive salmon systems, the Wilson and Trask Rivers. Representing 10% of the watershed's historic tidal acreage and a far greater percentage of the "restorable" tidal lands, the project site contains an expansive mosaic of tidal wetlands, disconnected freshwater wetlands, and drained pasture lands. Once restored to a tidal regime, the resulting range of habitats (including mud flats, aquatic beds, emergent marsh, scrub-shrub wetlands, forested wetlands and sloughs) will provide substantial habitat benefits to not only threatened coho, but also chum and Chinook salmon, steelhead and cutthroat trout. By delivering full tidal inundation to 521 acres of restored marsh and wetland fringe habitats, this project directly addresses the loss and simplification of estuarine rearing habitat for the project's five Target salmonid species. Coupled with the recreation of 14 miles of high quality off-channel areas on-site, this project represents a crown jewel of tidal wetlands conservation efforts on the Oregon Coast.

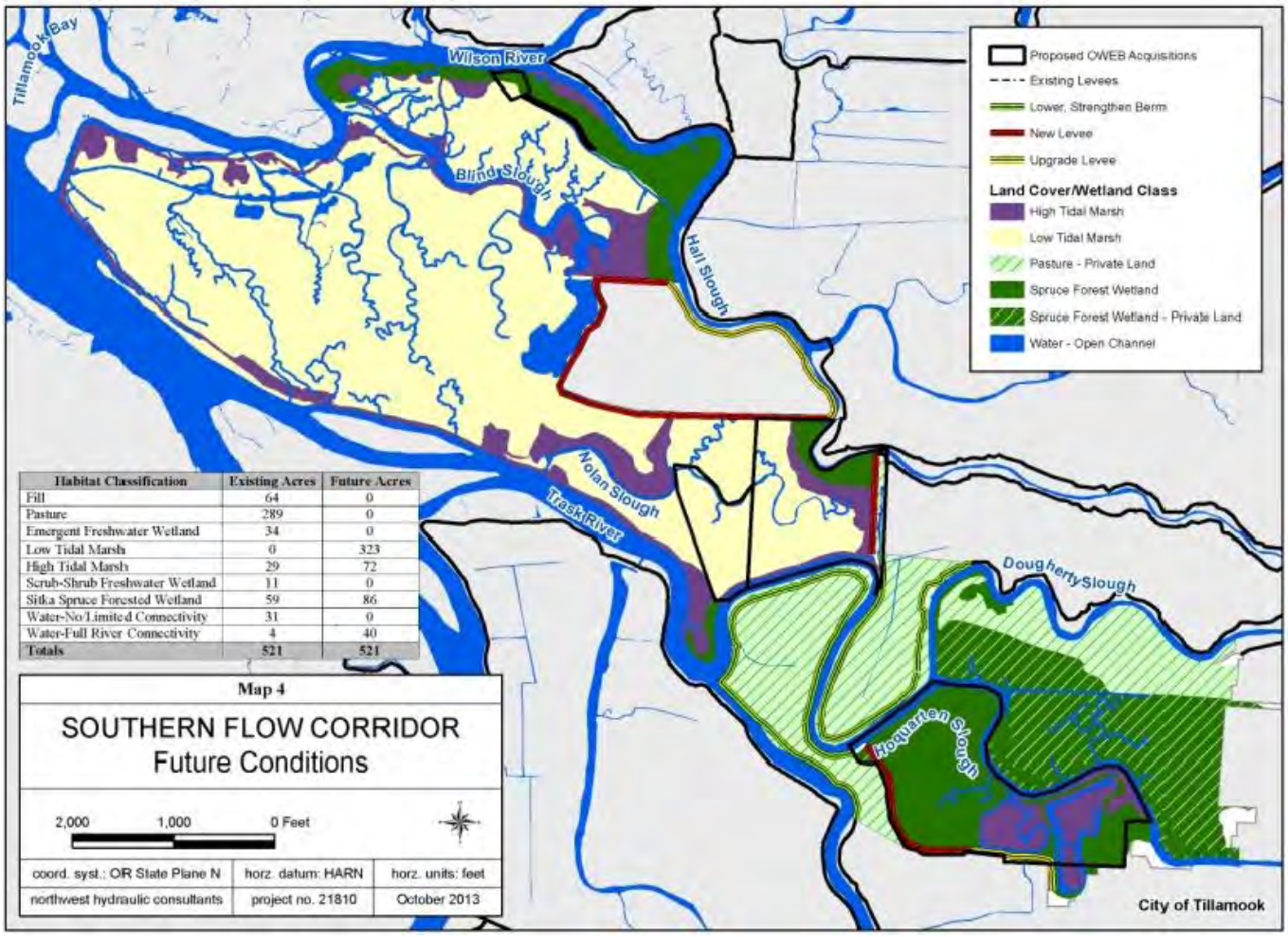


Phase I: Design and Acquisition: In addition to 398 acres within the project area that are currently in public ownership and slated for restoration, Tillamook County will acquire title or easements to an additional 248 acres. As these lands are being acquired, the County will work with project partners to complete the final design and engineering; acquire permits; develop a monitoring plan; undertake baseline monitoring; and revise the Management Plan to incorporate all public lands. (Timeline: October 2013 - April 2015)

* Phase 2: Construction: The project will result in the removal of seven miles of existing levees, 85,000 cubic yards of material, and 2.1 miles of road. Nine tidal channels will be reconnected, resulting in the restoration of over 14 miles of tidal channels on site. Over three miles of drainage ditches will be filled to restore a natural drainage regime. Additional construction activities will include lowering 2.1 miles of levee; upgrading and constructing 2.1 miles of tidal dikes; removing and/or relocating seven tidegates and one floodgate; and removing four structures. The project will also undertake extensive large wood placement. (Timeline May 2013 - November 2015)



* Phase 3: Post-project Monitoring: The preliminary monitoring plan proposes monitoring changes in soil and vegetation, groundwater levels, tidal hydrology and channel morphology, sedimentation, fish distribution and density, fish use of large wood structures, flooding, and macro-invertebrates. (Timeline: October 2016 - October 2019)



Habitat Classification	Existing Acres	Future Acres
Fill	64	0
Pasture	289	0
Emergent Freshwater Wetland	34	0
Low Tidal Marsh	0	323
High Tidal Marsh	29	72
Scrub-Shrub Freshwater Wetland	11	0
Sitka Spruce Forested Wetland	59	86
Water-No/Limited Connectivity	31	0
Water-Full River Connectivity	4	40
Totals	521	521

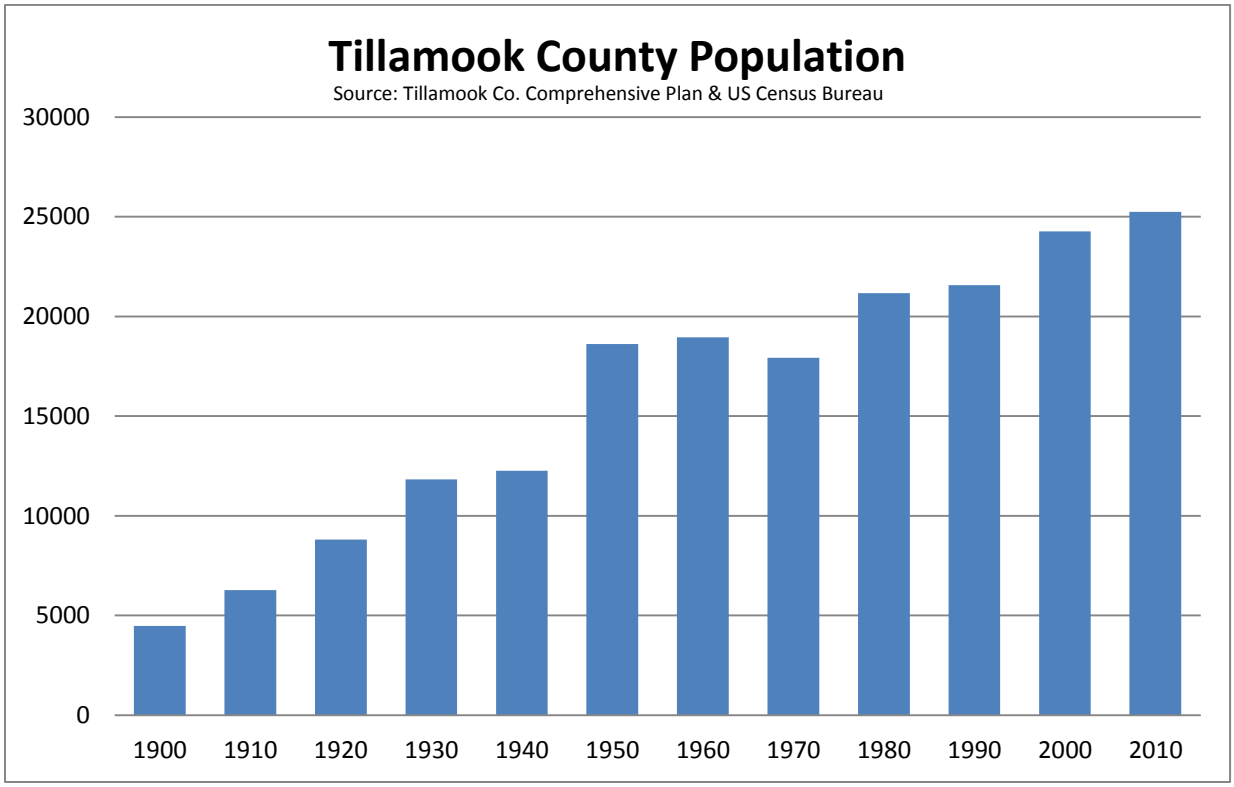
Benefits and Outreach to Surrounding Communities: Flood mitigation. Substantial flood damage reduction benefits anticipated from this project will have a significant favorable benefit on the local governments, homes and businesses. The removal of more than seven miles of existing levee at the lowest point in the north Tillamook City floodplain will also eliminate the back water effect that these levees created, thereby resulting in substantial reductions in flood elevations throughout the remaining areas of that floodplain.

Finally, it is estimated that water level reductions of up to 1.5 feet will be achieved for all floods from small, frequent events through a 100-year event. The area of flood level reduction is over 3,000 acres and encompasses the lower Wilson, Trask and Tillamook Rivers' floodplains. There are 540 residential, commercial and agricultural structures located in this area of benefit. Total

estimated economic benefits accrued from avoided flood damages over a 50-year project life are $9.2 million.

Recreational Spending. The close driving distance to the state's population centers offers excellent public use opportunities. As predominantly publicly owned land managed for fish, wildlife, and associated resource values, this site will provide expanded opportunities for kayaking, hunting, fishing, hiking, wildlife viewing, and interpretive activities. These activities are vital to regional and local economies. Moreover, direct economic benefits from increased sport fishery opportunities due to increased coho and Chinook production are estimated at $4.6 million to $7.7 million over a 50-year project life. In Tillamook County in 2008, travel-generated expenditures associated with not only fishing, but shellfishing, wildlife viewing, and hunting were a combined total of $63.5 million. Expenditures associated with saltwater fishing alone were $20.8 million. In a county of roughly 25,000 people, this amount flowing into the region is a significant economic driver and is dependent upon functioning watersheds and estuaries.

TILLAMOOK COUNTY POPULATION STATS



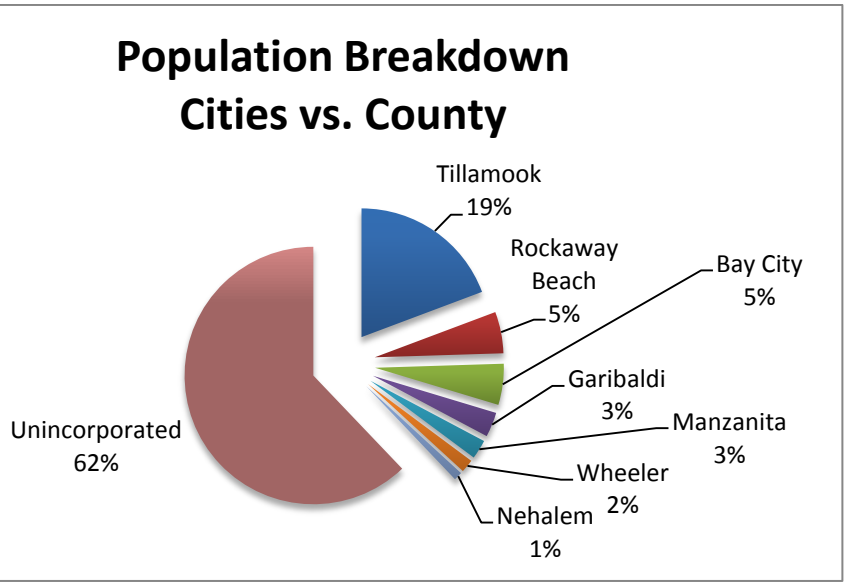
2012 POPULATION

TILLAMOOK

Cities vs. County

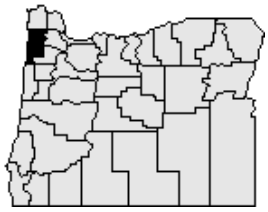
Source: PSU Population Center

Tillamook	4880
Rockaway Beach	1320
Bay City	1305
Garibaldi	785
Manzanita	610
Wheeler	415
Nehalem	270
Unincorporated	15720
TOTAL	25305



TILLAMOOK COUNTY DEMOGRAPHICS

Source: PSU Population Center & US Census Bureau



YEAR 2012

TOTAL COUNTY POPULATION:	25,305	
TOTAL PERSONS AGES 0-17	5057 (20.0%)	STATE AVG: 22.3%
TOTAL PERSONS AGES 18-64	14,679 (58.0%)	STATE AVG: 62.9%
TOTAL PERSONS AGES 65+	5569 (22.0%)	STATE AVG: 14.8%

APRIL 2012 UNEMPLOYMENT	8.8%	(STATE OF OREGON: 8.7%)
APRIL 2013 UNEMPLOYMENT	7.5%	(STATE OF OREGON: 7.8%)

HOMEOWNERSHIP RATE, 2007-2011	69.8%	(STATE OF OREGON: 63.1%)
MEDIAN HOUSEHOLD INCOME, 2007-2011	$41,400	(OREGON: $49,850)

MAJOR INDUSTRIES INCLUDE FORESTRY, AGRICULTURE, FISHING, FOOD MANUFACTURING, HEALTH SERVICES, CONSTRUCTION AND TOURISM

MAJOR ATTRACTIONS INCLUDE THE TILLAMOOK CREAMERY/CHEESE FACTORY, TILLAMOOK FOREST CENTER, TILLAMOOK AIR MUSEUM, OCEAN BEACHES, BAYS, RIVERS AND ESTUARIES.

TILLAMOOK COUNTY BUILDING, SANITATION AND PLANNING PERMITS
JAN – SEP 2013

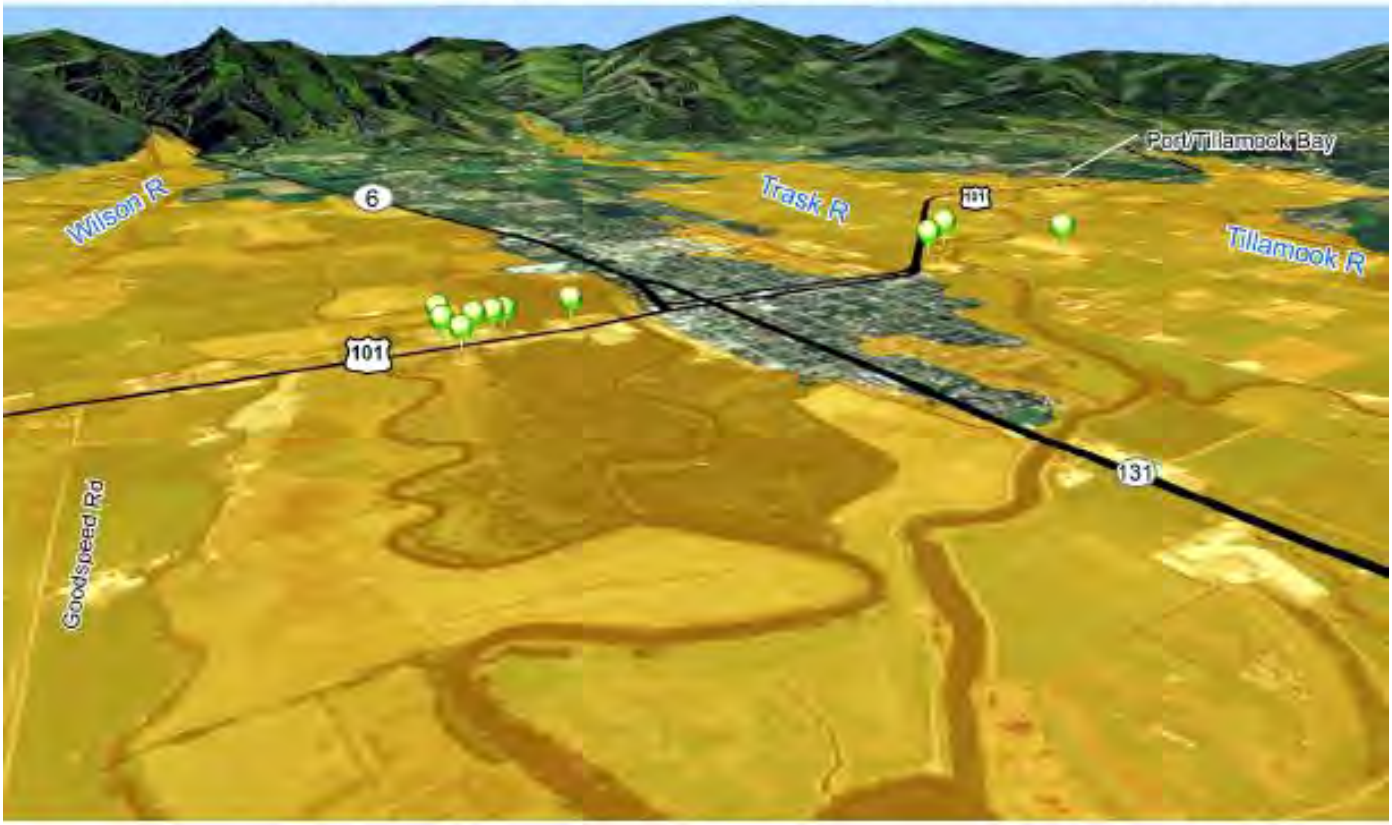
TOTAL VALUE OF CONSTRUCTION PERMITTED:	$20,536,599
TOTAL NUMBER OF BUILDING PERMITS ISSUED:	293 (including 58 new single-family dwellings)
TOTAL NUMBER OF SANITATION PERMITS ISSUED:	102
TOTAL NUMBER OF PLANNING/LAND USE APPROVALS:	133

DLCD GRANT HISTORY

Tillamook County and all cities in the county receive annual Coastal Zone Management Planning Assistance grants that range from $2700 for small cities to $4500 for the City of Tillamook and $25,200 for Tillamook County. Since 2002, Tillamook County has received DLCD grant awards for development of a Geographic Information System (GIS) and associated training for staff, coastal hazard assessments and adaptation strategies, buildable lands inventories and shoreline protective structures.

Tillamook area (looking southeast)

With "100-year" Floodplain and Mitigated Repetitive Loss Properties



Address	# Losses	Mitigation Action	Mitigation Funding
645 HWY 101 NORTH	11	Building was acquired & demolished as part of a program	Flood Mitigation Assistance Program (FMA)
542 MAIN AVE N	7	Building was demolished, but not acquired through any program	Property Owner
800 N MAIN AVE	8	Building was demolished, but not acquired through any program	Property Owner
1810 HIGHWAY 101 N	8	Building was acquired & demolished as part of a program	Flood Mitigation Assistance Program (FMA)
1000 MAIN AVE N	5	Building was elevated to or above the Base Flood Elevation (BFE)	Property Owner
440 N MAIN AVE	4	Building was demolished, but not acquired through any program	Hazard Mitigation Grant Program (HMGP)
840 MAIN AVE N	3	Building was demolished, but not acquired through any program	Increased Cost of Construction (ICC) coverage
1125 MAIN AVE N	4	Building was elevated to or above the Base Flood Elevation (BFE)	Property Owner
2110 NIELSEN RD	2	Building was elevated to or above the Base Flood Elevation (BFE)	Property Owner
2105 TILLAMOOK RIVER	2	Building was elevated to or above the Base Flood Elevation (BFE)	Unknown
2250 NIELSEN RD	2	Building was elevated to or above the Base Flood Elevation (BFE)	Flood Mitigation Assistance Program (FMA)
2150 N HADLEY RD	8	Building was demolished, but not acquired through any program	Hazard Mitigation Grant Program (HMGP)