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Selection of In-Lieu-Fee Mitigation Pilot Areas
Agenda Item #04

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Presented by: ___Chris Townsend/Patricia Johnson_____

Proposed Action: Decision

Summary: Leadership Council approval of the selection of initial pilot areas for the in-lieu-fee compensatory mitigation program is requested to support the expenditure of state capital dollars on advance mitigation projects in pilot areas.

Staff Recommendation: Staff recommends that the Leadership Council approve the selection of watersheds in Pierce and Thurston Counties as the initial pilot areas for the in-lieu-fee mitigation program.

Background: The Puget Sound Partnership (PSP) is developing an in-lieu-fee mitigation program consistent with Action Agenda Near Term Action D.4.6. Based on input received from tribes, the program will initially be implemented in one or two pilot areas.

The Washington State Legislature provided funding in the 2009-2011 budget to implement restoration projects for the Puget Sound in-lieu-fee pilot. These funds will help ensure the success of the in-lieu-fee program by providing capacity to construct restoration projects before impacts occur in pilot areas.

A group of stakeholders, including tribal, federal, state and local governments, non-profits, and the business community provides advice to PSP on the proposed in-lieu-fee program. This group generally agreed upon the criteria that should be used to inform the selection of pilot service areas. The criteria used to select appropriate pilot areas fall into three main categories:

1. Economic need. Does the area have sufficient development pressure to create a need for compensatory mitigation? Specifically, is growth planned for the future?
2. Ecological need. Are there properties that could be restored to provide significant functions, address limiting factors within the watershed, and contribute to the recovery of the health of Puget Sound?
3. Local support. Are there willing collaborators at every level of government including, city, county, state, and tribes?

Other considerations include:

- Providing alternatives to permittee-responsible mitigation where currently no alternatives exist
- Providing mitigation for other ecosystem types in the future, specifically prairie habitat, which is becoming increasingly rare

Based on the above criteria and considerations, PSP staff members recommend that watersheds in Pierce and Thurston Counties serve as pilot areas for the proposed in-lieu-fee program. The stakeholder group concurred with this recommendation.

Please see the attached document for detailed rationale justifying the selection of watersheds in Pierce and Thurston County as pilot areas.

Justification for In-lieu Fee Pilot Areas Selection

The Puget Sound Partnership (PSP) is working with key stakeholders to develop an in-lieu-fee mitigation program consistent with Action Agenda Near Term Action D.4.6. In accordance with advice received from tribes, the program will initially be implemented in one or two pilot areas.

The Washington State Legislature provided funding in the 2009-2011 budget to implement restoration projects for the Puget Sound in-lieu-fee pilot. These funds will help ensure the success of the in-lieu-fee program by providing capacity to construct restoration projects before impacts occur in pilot areas.

A group of stakeholders, including tribal, federal, state and local governments, non-profits, and the business community provide advice to PSP on the proposed in-lieu-fee program. That group generally agreed upon a set of criteria that should be used to inform the selection of pilot service areas. The staff recommendation is based on that advice.

The criteria used to select appropriate pilot areas fall into three main categories:

1. Economic need. In order for an in-lieu fee program to be successful in a particular area there must be sufficient development pressure to create a need for compensatory mitigation. This need arises from development that occurs in, on, or adjacent to aquatic or other resources, such as wetlands.
2. Ecological need. An area will support a successful in-lieu-fee program if it contains properties that could be ecologically rehabilitated to provide significant functions and address limiting factors within the watershed.
3. Local support. A successful in-lieu fee program needs willing collaborators at every level of government including, city, county, state, and tribes.

All the Puget Sound counties are experiencing considerable growth and development, which generally results in the direct loss of resource acreage and function. Plus, development results in urbanization. This in turn is accompanied by increases in impervious surfaces. The effects of imperviousness impair hydrologic processes in a watershed. This leads to increased flooding, erosion, and habitat loss. Imperviousness also results in problems with water quality, such as elevated water temperatures, high nutrient loads and turbidity, and low dissolved oxygen. All of which adversely affect fish and wildlife habitat. Restoration efforts in key locations could provide significant improvements to hydrologic processes as well as benefits to water quality.

Development pressures are affecting resource functions throughout the Puget Sound region. However, the Partnership aims to provide alternatives to permittee-responsible mitigation where currently no alternatives exist. King County has proposed its own in-lieu-fee mitigation program, which is serving as a model in many respects for this program. Snohomish and Skagit Counties both contain certified mitigation banks. Whatcom County is interested in starting its

own in-lieu fee program. Tribal support for the in-lieu fee program is currently lacking in Kitsap County. Of the remaining Puget Sound counties, Pierce and Thurston are experiencing the largest gain in population growth.

In addition, PSP's in-lieu fee program intends to provide mitigation for other ecosystem types in the future. To that end, Pierce and Thurston Counties contain prairie habitat, which is becoming increasingly rare. South Puget Sound prairies provide homes for species found only in the Pacific Northwest. Like aquatic resources, development and urbanization can result in the destruction or degradation of prairies. Obviously, land clearing and grading will impact prairies, but the effects of urbanization and agriculture can be equally as devastating due to the introduction of invasive species and the increase of soil nutrients. Restoration of degraded prairie habitat could aid recovery efforts for federally threatened and candidate species of wildlife and plants.

Based on these criteria, PSP staff members recommend that watersheds in Pierce and Thurston Counties serve as pilot areas for the proposed in-lieu-fee program. Further rationale to justify the selection of watersheds in Pierce and Thurston Counties follows.

Pierce County

Substantial development is occurring in Pierce County. It experienced the second largest gain in population among Washington counties since 2000. Population countywide is expected to increase by nearly 100,000 by the year 2022. Construction of new industrial, commercial, and residential buildings, facilities, and infrastructure accompanies population growth. Counties and cities typically require building permits, grade and fill permits, or both for new construction. For the twelve-month period from January through December 2009 Pierce County Planning and Land Services issued 179 new commercial building permits and 770 new single-family-residence building permits.

Generally, when development will result in the unavoidable loss and degradation of wetlands or other aquatic resources, developers must apply for a permit from the Department of Ecology (Ecology) and the U.S. Army Corps of Engineers (Corps). Between January of 2004 and January of 2010 Ecology and the Corps reviewed at least 407 permit applications for work in water, wetlands, or both in Pierce County. These permits often require some form of mitigation to compensate for the loss of resource functions, area, or both. However, very small impacts (typically less 0.10 acre) may go unmitigated, or the mitigation may be inconsequential due to its size, location, lack of success, or all three.

Increased growth and development also entails the creation, expansion, and improvement of infrastructure such as roads, bridges, utilities, and regional detention facilities. Public entities such as Pierce County Public Works and the Washington Department of Transportation

frequently need wetland mitigation to compensate for unavoidable impacts associated with these types of projects. If an in-lieu fee program were successfully implemented in Pierce County these entities would likely be interested in using it to compensate for unavoidable impacts.

Pierce County provides a valuable location for pilot in-lieu fee areas due to the existing work by local watershed management committees. Local residents comprise the committees in each of the watersheds. Each committee has produced two types of documents. One characterizes the physical, biological, and habitat conditions within each watershed. The second identifies action items aimed at improving water quality.

Pierce County, with assistance from Salmon Recovery Funding Board and Puget Sound Acquisition and Restoration funds, is also actively implementing salmon recovery in its watersheds. This includes identifying and assessing priority areas for habitat and ecosystem restoration. For example, the Levee Setback Feasibility Study looked at potential levee setback sites within the Puyallup watershed, and prioritized projects for implementation. Goals included the following:

- Increase floodplain connectivity and flood storage.
- Reestablish short and long term geomorphic processes and functions.
- Maximize aquatic habitat diversity and use.

The Pierce County senior management team has been briefed regarding the proposed in lieu fee program. They are supportive of implementing the program in Pierce County and feel that the program could be a valuable tool for improving the overall performance of compensatory mitigation in the county.

The Puget Sound Partnership is in the process of scheduling government-to-government meetings with the Muckelshoot, Puyallup and Nisqually tribes. Tribal chairs and council members will be offered a briefing about the in lieu fee program at those meetings. Key senior management staff from the Nisqually and Puyallup tribes indicate that the tribes are interested in the potential contributions that an in-lieu-fee program could make to improving the performance of compensatory mitigation in their areas. They indicated a willingness to work with the Partnership to craft a workable program.

Pierce County contains all, or portions, of four major watersheds, or water resource inventory areas (WRIAs).

- WRIA 10 – the Puyallup/White watershed
- WRIA 11 – the Nisqually watershed
- WRIA 12 – Chambers/Clover watershed
- WRIA 15 – West Sound watersheds

The West Sound watersheds include the northwest portion of Pierce County, including the Key and Gig Harbor Peninsulas, as well as Anderson, McNeil, and Fox Islands. These watersheds contain the entirety of Kitsap County, and therefore will not be included in the pilot area selection. The remaining watersheds in Pierce County include the Puyallup/White, Chambers-Clover, and Nisqually. Each of these watersheds has some level of degraded function, providing ample opportunities for restoration.

Puyallup/White River Watershed

The Puyallup River watershed is highly urbanized. It includes the cities of Tacoma, Auburn, Fife, Puyallup, Sumner, Buckley, Bonney Lake, and Orting. Over 200,000 people reside within the Lower Puyallup Watershed.

Pierce County ranked the Lower Puyallup Watershed as the top priority for reducing nonpoint pollution due to its "degree of degradation, the potential for preservation, and the beneficial uses in need of protection" (LPWAP 2004). The Lower Puyallup Watershed Action Plan identifies substantial problems with water quality, primarily due to high fecal coliform bacteria levels as well as high levels of toxic metals. Non-point sources contribute the majority of pollution into the watershed. Pollution problems in most of the streams and rivers in the watershed have made fishing and swimming unhealthy. The Puyallup River discharges into Commencement Bay, which is a superfund site due to pollution and contamination from historic industrial and commercial activities. In addition, the last several miles of the Puyallup River are channelized, thereby disconnecting the river from its floodplain and disrupting natural floodplain functions.

Lower Puyallup River Watershed contains wild fish runs, which have declined in recent years. In fact, Spring Chinook salmon using the White River, tributary to the Puyallup, are federally listed as endangered. The Puyallup/White River Watershed also provides a core area for the recovery of bull trout. Recovering endangered steelhead is also an important restoration effort in this watershed. Restoration activities in the Puyallup River Watershed would provide opportunities to improve several "beneficial uses," including fish and wildlife habitat and recreational activities such as swimming, fishing, and wildlife viewing.

The Chambers-Clover Creek Watershed

The Chambers-Clover Creek Watershed includes the cities of Tacoma, Ruston, Fircrest, University Place, Lakewood, Steilacoom, and DuPont. It is an urban watershed with a population that is expected to increase by a third over the next decade. Drinking water in the Chambers-Clover watershed comes from a sole source aquifer. Water quality issues include fecal coliform, low dissolved oxygen, temperature, pH, turbidity, and toxic metals (such as arsenic, copper, and zinc) in surface waters. Groundwater contaminants include organic

chemicals, nitrates, and chlorides. The water quality issues in this watershed impair drinking water, recreation, and wildlife habitat, including reduced native salmon runs. In fact, the Chambers-Clover Creek early Coho and Chambers-Leach Creek summer chum runs are now extinct.

The majority of the Chambers-Clover Creek watershed lies within existing urban growth boundaries. Urban growth predictions assume that commercial and residential development will occur on most of the currently undeveloped land within this watershed. Improvement of the beneficial uses, including drinking water, recreation, and wildlife habitat, within the watershed depends upon the protection and restoration of high functioning wetlands and other aquatic resources.

The Nisqually River Watershed

The Nisqually watershed is probably the least degraded. It straddles the Thurston-Pierce County line. Therefore, the western portion of the watershed lies in Thurston County and encompasses the cities of Yelm, and portions of Lacey. The eastern portion lies in Pierce County and contains the cities of McKenna, and Eatonville, as well as Fort Lewis Military Installation. The Nisqually River Basin Characterization Report states:

> Many parts of the Nisqually mainstem are in much better condition than most Puget Sound lowland rivers. However, some reaches have been adversely affected by simplification of the channel, disconnection of the channel from its floodplain, and lack of large wood available to create complex instream habitat. Channel modifications such as dikes, levees, and riprap confine the channel and prevent natural channel migration.

Channel simplification and disconnection from the floodplain have resulted in flooding issues and reduced aquatic habitat suitability. Primary water quality impairments are elevated temperature, not enough dissolved oxygen, and elevated phosphorus concentrations. The Nisqually Tribe and the Nisqually National Wildlife Refuge have taken tremendous first steps to restore the Nisqually delta to free flowing estuary. Restoration of hydrologic processes at strategic upstream locations could further improve fish and wildlife habitat as well as increase flood flow attenuation functions. This would provide even greater function to a showcase ecosystem restoration project in Puget Sound.

Thurston County

Thurston County ranks third in the state for percent increase in population from 2000-2009. In terms of total population it ranks sixth in the state. In the next 25 years, an additional 150,000 people and 63,000 jobs are expected. Population growth involves new residential and

commercial development, which results in land clearing and construction. In the three-year period from 2006 through 2008 Thurston County issued 2820 permits for single family and mobile home residences and received 975 applications for commercial development.

During the same time period, 2006 through 2008, Thurston County received 234 Joint Aquatic Resource Permit Applications (JARPAs). These applications requested Shoreline Substantial Development permits, Conditional Use permits, Exemptions, or Shoreline Variances. JARPA numbers provide a better indication of the number of projects that are potentially affecting wetlands, shorelines, and other aquatic resources. Between January of 2004 and January of 2010 Ecology and the Corps of Engineers reviewed at least 94 permit applications for work in water, in wetlands, or both. Clearly there is an economic need for aquatic resource mitigation options in Thurston County.

Not all development results in direct impacts to wetlands or other aquatic resources. Between 1985 and 2000, Thurston County experienced substantial urbanization. This resulted in the conversion of 32,000 acres of forest, shrub, or agricultural lands to urban land, most of which can be considered impervious. As discussed in the introduction to this document, increases in impervious surfaces degrade water quality and wildlife habitat and increase flooding and erosion.

Thurston County poses an ideal location as a pilot area for several reasons. First, it has completed basin plans for the waterbodies that contribute to and flow into the Puget Sound. Though these plans are somewhat dated (most were completed in the mid 90s), they describe problems, such as flooding, erosion, poor water quality, and the degradation of aquatic habitat, as well as potential solutions within each basin. Second, Thurston County has completed watershed characterizations for portions of its watersheds that flow into Puget Sound. The county is proposing to complete characterizations on the remaining areas. Third, the county contains some of the last and best prairie habitats in the South Puget Sound. Fourth, as of 2008, Thurston County increased the acreage of open space land enrolled in the Open Space Tax Program. The county is so committed to maintaining or increasing open space land in this program that it developed a benchmark to measure its success.

In addition, the county maintains an active intergovernmental board, the Thurston Regional Planning Council (TRPC). The membership of the TRPC includes the local jurisdictions and tribes within the county. The TRPC develops regional plans for environmental quality and growth management, among other things. It also provides data to promote regional decision-making.

Partnership staff have met with senior management staff at Thurston County regarding their interest in participating as a pilot of the in lieu fee program. They expressed interest and requested a briefing before the Board of County Commissioners. That briefing was provided to

all three commissioners. They expressed support for implementation of the program in Thurston County and assigned a staff person to be the primary point of contact.

Senior staff at the Nisqually tribe is supportive of implementing the program in the Nisqually watershed. The Partnership is in the process of scheduling government-to-government meetings with the Nisqually and Squaxin Tribes to discuss a number of topics including the in lieu fee program.

Thurston County contains four major watersheds, or WRIAs.

- WRIA 11 – Nisqually watershed
- WRIA 13 – the Deschutes watershed
- WRIA 14 – Kennedy/Goldsborough watershed
- WRIA 23 – the Upper Chehalis watershed

The Upper Chehalis watershed flows into Grays Harbor rather than the Puget Sound, and therefore, will not be included in the pilot area selection. The Kennedy/Goldsborough watershed is predominately located in Mason County, and therefore, will not be included in the pilot area selection. Pilot area selection in Thurston County focuses on the remaining two watersheds, the Deschutes and the Nisqually.

Deschutes Watershed

The Deschutes watershed contains Budd and Henderson Inlets, as well as portions of Eld Inlet and the Nisqually Reach. The watershed includes most of the designated Urban Growth Areas for the county's largest cities of Olympia, Lacey, Tumwater and Rainier. These urban areas are expected to increase in population from fewer than 150,000 in 2002 to nearly 225,000 in 2025.

Significant, rapid population increase produces Urbanization within the watershed. This in turn results in rapid changes of land cover, converting forest, shrub, or agricultural lands in to residential, commercial, or industrial uses. Between 1985 and 2000 the Budd/Deschutes watershed experienced an eight percent rate of conversion. The Henderson Inlet sub-watershed, which includes the city of Lacey, had a 14 percent urbanization rate for the same period. In addition, the Henderson Inlet sub-watershed experienced 20 percent population growth from 2000 to 2009.

This rapid population growth and urbanization has resulted in a continuing degradation of water quality. Nearly all of the major streams in the watershed are on the Clean Water Act 303(d) list of impaired waters for fecal coliform bacteria. Temperature, dissolved oxygen and pH are other common parameters, resulting in Totally Maximum Daily Loads (TMDL).

Unfortunately, the configuration of shallow bays and inlets – while ideal for growing clams and oysters – also make the region highly susceptible to water quality deterioration from the input

of nutrients. These inputs come from a variety of sources including human and animal waste and stormwater runoff. The marine waters of the south Sound, including the Deschutes Watershed, do not circulate well and the nutrient input promotes the growth of plankton. This cycle of input, bloom, and die-off consumes oxygen to levels that affect the health and survival of marine life. As a result, Budd and Henderson Inlets and the Nisqually Reach have considerable water quality issues. High fecal coliform levels have closed shellfish harvesting in Budd and portions of Henderson Inlets and the Nisqually Reach. Within this watershed only Eld Inlet is currently entirely approved for shellfish harvesting.

Shoreline armoring, loss of riparian vegetation, and fill associated with bulkhead placement, ramps, and overwater structures are major ecosystem constraints in the Deschutes watershed. These activities eliminate or disrupt the habitat for forage fish, salmon, and other nearshore species.

Coho smolt production in the Deschutes River continues to decline. Primary causes include habitat degradation, severe winter storms, and poor marine survival. The Deschutes watershed also suffers from low summer water flows and high storm-driven flows in winter, which could affect salmonid mobility and survival.

Acquisition and restoration of priority estuarine and freshwater areas could increase nursery areas for salmonid species, improve forage fish spawning areas, and contribute to resurgence of shellfish production.

Nisqually Watershed

The Nisqually River Watershed, which is discussed under the Pierce County section, extends into Thurston County. Within Thurston County the Nisqually watershed had a six percent rate of conversion from forest, shrub, and agricultural land to urban land between 1985 and 2000. In addition, the city of Yelm experienced 42 percent population growth between 2000 and 2009. The watershed supports fish runs, including Chinook, chum, coho, and pink salmon, steelhead, rainbow trout, cutthroat trout, and kokanee. Water quality in the basin is relatively good, though McAllister Creek and the lower Nisqually River are on the Clean Water Act 303(d) list of impaired waters for dissolved oxygen and fecal coliform. However, water quality is declining and shellfish closures in the Nisqually Reach shoreline have led to the creation of a Shellfish Protection District.

References

Pierce County Planning and Land Services. 2010. *Building Division's Mini-Scorecard December 2009*. Retrieved January 7, 2010, from Pierce County Planning and Land Services PALS Reports and Statistics website: http://www.co.pierce.wa.us/pc/services/home/property/pals/aboutus/reportsandstats.htm

Pierce County Planning and Land Services. 1994. *Title 19A Pierce County Comprehensive Plan*. Retrieved January 20, 2010, from Pierce County Planning and Land Services, Landuse Plans and Policies website: http://www.co.pierce.wa.us/pc/services/home/property/pals/landuse/landuse.htm

Pierce County Public Works and Utilities Water Programs Division. 1997. *Chambers-Clover Creek Watershed Action Plan*. Retrieved January 7, 2010, from Pierce County Public Works and Utilities Watershed Action Plans website: http://www.co.pierce.wa.us/pc/services/home/environ/water/ps/watershed/main.htm

Pierce County Public Works and Utilities Water Programs Division. 2004. *Lower Puyallup Watershed Action Plan.* Retrieved January 7, 2010, from Pierce County Public Works and Utilities Watershed Action Plans website: http://www.co.pierce.wa.us/pc/services/home/environ/water/ps/watershed/main.htm

Pierce County Public Works and Utilities Water Programs Division. 2006. *Nisqually River Basin Characterization Report*. Retrieved January 7, 2010, from Pierce County Public Works and Utilities Nisqually River Watershed website: http://www.co.pierce.wa.us/pc/services/home/environ/water/ps/watershed/nisquallymain.htm

Thurston County Development Services Planning and Environmental Section. 2009. *Activity 2006-2008 Comparison*. Retrieved January 11, 2010, from Thurston County Development Services Informational Handouts website: http://www.co.thurston.wa.us/permitting/fees.htm

Thurston County Development Services Department. 2004-08. *Thurston County Comprehensive Plan*. Retrieved January 20, 2010, from Thurston County Planning Department's Thurston County Comprehensive Plan website: http://www.co.thurston.wa.us/planning/comp_plan/comp_plan_document.htm

Thurston County Water and Waste Manangement, Water Resources Programs. *Basin Planning in Thurston County*. Retrieved January 11, 2010, from Thurston County Water and Waste Manangement, Water Resources Programs, Basin Planning in Thurston County website: http://www.co.thurston.wa.us/stormwater/Basin%20Plans/Basin_Plans_home.htm

Thurston Regional Planning Council. 2002. *The Rate Of Urbanization and Forest Harvest in Thurston County, 1985-2000, A Land Cover and Change Detection Satellite Remote Sensing Study*. Retrieved January 11, 2010, from TRPC Library, Estimates and Forecasts, Development website: http://www.trpc.org/library/estimates+and+forecasts/development/rate+of+urbanization+and+forest+harvest+in+thurston+county+1985-2000.htm

Thurston Regional Planning Council. 2008. *Regional Benchmarks for Thurston County, Tracking Growth Management Policy Implementation*. Retrieved January 11, 2010, from TRPC Programs, Estimates and Forecasts website: http://www.trpc.org/programs/estimates+and+forecasts/development/benchmarks2008.htm

Washington Department of Fish and Wildlife. 2009. *Species of Concern in Washington State*. Retrieved January 7, 2010, from Washington Department of Fish and Wildlife Species of Concern website: http://wdfw.wa.gov/wlm/diversty/soc/soc.htm

Washington State Department of Health,. 2009. *Commercial and Recreational Shellfish Growing Areas*. Retrieved January 14, 2010, from Division of Environmental Health, Office of Shellfish and Water Protection, Shellfish Program website: http://www.doh.wa.gov/ehp/sf/Pubs/ai-map.pdf

Washington State Office of Financial Management. 2009. *2009 Population Trends.* Retrieved January 7, 2010, from 2009 Population Trends for Washington State website: http://www.ofm.wa.gov/pop/poptrends/default.asp