Joint Base Lewis-McChord Waste Water Treatment
Plant Replacement

Biological Evaluation

October 2012
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<th>Description</th>
</tr>
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<tbody>
<tr>
<td>Army</td>
<td>Department of Army</td>
</tr>
<tr>
<td>BA</td>
<td>Biological Assessment</td>
</tr>
<tr>
<td>BE</td>
<td>Biological Evaluation</td>
</tr>
<tr>
<td>BMP</td>
<td>Best Management Practices</td>
</tr>
<tr>
<td>CFR</td>
<td>Code of Federal Regulations</td>
</tr>
<tr>
<td>CWA</td>
<td>Clean Water Act</td>
</tr>
<tr>
<td>DoD</td>
<td>Department of Defense</td>
</tr>
<tr>
<td>DPS</td>
<td>distinct population segment</td>
</tr>
<tr>
<td>ESA</td>
<td>Endangered Species Act</td>
</tr>
<tr>
<td>ESU</td>
<td>evolutionarily significant unit</td>
</tr>
<tr>
<td>gpm</td>
<td>gallons per minute</td>
</tr>
<tr>
<td>JBLM</td>
<td>Joint Base Lewis-McChord</td>
</tr>
<tr>
<td>LEED</td>
<td>Leadership in Energy and Environmental Design</td>
</tr>
<tr>
<td>MBR</td>
<td>membrane bioreactor</td>
</tr>
<tr>
<td>mgd</td>
<td>million gallons per day</td>
</tr>
<tr>
<td>mg/L</td>
<td>milligrams per liter</td>
</tr>
<tr>
<td>NE</td>
<td>No Effect</td>
</tr>
<tr>
<td>NEPA</td>
<td>National Environmental Policy Act</td>
</tr>
<tr>
<td>NMFS</td>
<td>National Marine Fisheries Service</td>
</tr>
<tr>
<td>NOAA</td>
<td>National Oceanic and Atmospheric Administration</td>
</tr>
<tr>
<td>NPDES</td>
<td>National Pollutant Discharge Elimination System</td>
</tr>
<tr>
<td>PBDE</td>
<td>Polybrominated diphenyl ethers</td>
</tr>
<tr>
<td>PCE</td>
<td>primary constituent element</td>
</tr>
<tr>
<td>ROD</td>
<td>Record of Decision</td>
</tr>
<tr>
<td>RWDS</td>
<td>reclaimed water distribution facility and system</td>
</tr>
<tr>
<td>Services, the</td>
<td>USFWS and NOAA-NMFS</td>
</tr>
<tr>
<td>USEPA</td>
<td>U.S. Environmental Protection Agency</td>
</tr>
<tr>
<td>USFWS</td>
<td>U.S. Fish and Wildlife Service</td>
</tr>
<tr>
<td>WWTP</td>
<td>waste water treatment plant</td>
</tr>
<tr>
<td>WRIA</td>
<td>Water Resource Inventory Area</td>
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</table>
1.0 INTRODUCTION

1.1 Background and Agency Consultation History

In February 2011, the Executive Director for the Army Installation Management Command signed a Record of Decision (ROD) for Fort Lewis Army Growth and Force Structure Realignment Final Environmental Impact Statement (U.S. Army 2010) which allowed the stationing of up to 5,700 new active duty Soldiers at Joint Base Lewis-McChord (JBLM). Due to the identification of potential significant impacts to water quality associated with the increase of future demands at the existing Solo Point Waste Water Treatment Plant (WWTP), the Department of Army (Army) committed to the construction of a new WWTP to mitigate impacts to less than significant. The Army also reaffirmed their commitment to pursue funding and proposed general timeframes for plant construction and operation in a letter to the U.S. Environmental Protection Agency’s (USEPA) Regional Administer. This was a required conservation measure outlined in USEPA’s Formal Consultation with the National Oceanic and Atmospheric Administration’s (NOAA) National Marine Fisheries Service (NMFS) for the Reissuance of the Fort Lewis (JBLM) Wastewater Treatment Facility National Pollution Discharge Elimination System (NPDES) Permit (NMFS, 2012).

On April 23, 2012 the Army requested informal consultation on a Biological Assessment (BA) that was prepared for the construction of a new WWTP and Reclaimed Water Distribution System (RWDS) at JBLM. After review of the Biological Assessment (BA), the U.S. Fish and Wildlife Service (USFWS) indicated in a letter that was received by the Army on May 24, 2012, that additional information was needed before consultation could begin. After receipt of this letter, the Army scheduled an on-site meeting on May 30, 2012 between Gayle Kreitman from NMFS, Ryan Reynolds from USFWS, and JBLM Planning and Environmental Division staff to discuss concerns and potential issues with the project.

Following the meeting with the USFWS and NMFS (known collectively as the Services), the Army realized the scope of the proposed project that was outlined in the March 2012 BA needed to be clarified in order for consultation to continue. In the previous assessment, the Army set out a broad description of their proposed action, which mimicked the project’s National Environmental Policy Act (NEPA) Environmental Assessment (EA), including its cumulative impact which discussed the full range of past and future federal activities. The BA stated that the proposed action would construct a new WWTP facility at JBLM, construct a new outfall, remove the existing Solo Point WWTP, and construct a reclaimed water distribution system, but then limited the effects determination to only the construction of the WWTP and RWDS. While the intention was to give the Services a general understanding of the long-term plan for the WWTP, the Army did not explicate the current proposed action from those long-term activities that are not programmed and currently remain unfunded.

This revised Biological Evaluation (BE) has been prepared to analyze the design-builds potential effects on proposed species, federally listed threatened and endangered species, as well as their critical habitat. Candidate species were also acknowledged within this BE, if determined to potentially be present in the action area. This BE will be used by the Army to facilitate compliance with the requirements of Section 7(c) of the Endangered Species Act (ESA).
This BE addresses all direct and indirect effects associated with the design and construction (design-build) of the proposed WWTP on listed species and their critical habitat. These effects were considered together with the effects of other activities that are interrelated or interdependent with the design and construction of the WWTP. Impacts associated with the WWTP operation were not considered within this evaluation. The WWTP operation and the discharge of effluent is covered by the consultation conducted for the NPDES permit and the Army is not required to reinitiate consultation for this impact at this time.

Environmental impacts associated with actions that fall under a separate Federal nexus (such as Federal permitting requirements) were not considered a direct and/or indirect effect associated with the project’s proposed construction, but were considered part of the environmental baseline. The environmental baseline covers the past and present impact of all Federal actions within the action area. This includes the effects outlined in previous consultations and effects of existing Federal projects that have not yet come in for their Section 7 consultation (USFWS & NMFS, 1998).

The NPDES permitting program is authorized by Section 402 of the Clean Water Act (CWA) and implemented by regulations appearing in Part 122 of Title 40 Code of Federal Regulations (CFR). NPDES permits are administered by the USEPA and are required to be obtained for the operation of the proposed WWTP and the subsequent discharge of the treated water to the Puget Sound. The approval and issuance of a NPDES permit is a federal action, and consequently, requires a separate Section 7 consultation under the ESA. Current outfalls from the Solo Point WWTP are covered under the existing Solo Point WWTP NPDES permit which is valid through April 1, 2017 (USEPA 2009a, 2009b, 2009c, 2010a, 2010b, 2011b) which were previously discussed in formal and/or informal consultation with the Services (see USFWS 13410-2009-F-0394, NMFS 2009/03531).

1.2 Project Description

The purpose of the proposed project is to design and construct a new WWTP at JBLM Solo Point. JBLM’s existing WWTP uses 1950-70’s technology, relying primarily on trickling filters and bacteria for secondary treatment, and has a history of permit exceedances. The need to replace the existing Solo Point WWTP is based on a feasibility study which indicated that WWTP permit exceedances were not due to plant capacity, but rather its outmoded treatment processes. Furthermore, the study indicated that the aging WWTP had an overall remaining service life of five to seven years before facility failure (CH2M Hill, 2009). Failure to meet permit requirements violates the Clean Water Act and is grounds for an enforcement action or permit termination. Violations may also result in criminal and civil penalties.

The proposed project would construct a new WWTP facility on a roughly ten acre, undisturbed site immediately south of the existing Solo Point WWTP (Figure 1). The proposed design-build specifies a tertiary treatment plant that will produce Class A reclaimed water, using activated sludge treatment with a tertiary filter capable of treating the effluent to less than 1 mg/l Biological Oxygen Demand and less than 1 mg/L Total Suspended Solids (TSS). The design also includes nitrogen removal to less than 3 mg/l. The design-build will also consider technology upgrades, including treatment of Polybrominated diphenyl ethers (PBDEs). In addition to meeting all state water quality standards, the goal of the WWTP is to be capable of producing reclaimed water that would meet Class A standards, which would be
suitable for reuse in the future (JBLM 2011b). Class A reclaimed water treatment requirements are listed in the Washington Administrative Code under WAC-173-219-420. Class A reclaimed water would be suitable for reuse on JBLM for recharging of upstream aquifers, vehicle wash racks, fire protection, irrigation, and heating ventilation and air conditioning systems.

The proposed design-build would also include a new administration building, shop and laboratory building, and associated vehicle parking lots. The administration building would be designed to meet Leadership in Energy and Environmental Design (LEED) Silver Certification standards and the intent of Executive Order 13423, Strengthening Federal Environmental, Energy, and Transportation Management.

The project’s action area covers all interrelated and interdependent actions associated with the WWTP construction, including all utilities and connections, lighting, connecting roadways, and landscaping.

Specific project elements and/or construction activities will include significant site preparation and construction. Substantial site clearing, including tree and brush removal, will be required. Construction methods, materials, and techniques will not differ from those of typical military construction project. Heavy equipment will be used, including but not limited to, the use of excavators, graders, concrete mixers, etc. The general project timeline states that the project award for the design-build would occur August 2013 with design to follow immediately thereafter. Project construction is to be completed by August 2015.

The proposed WWTP will tie into the existing 24-inch diameter outfall which discharges effluent to Puget Sound through a 130-foot long, 14 port diffuser. Each of the 6-inch diameter ports is separated by a distance of 10 feet. The outfall extends from its closest point, approximately 370 feet from shore, to 500 feet at its furthest point. The diffuser depth at mean low water ranges from 70 feet at its deepest point. There are no plans to modify this structure at this time. The mixing zone of the proposed WWTP will remain the same as that under the current NPDES permit.

1.3 Impact Avoidance and Minimization Measures

Previous project designs included the construction of a new outfall as part of the proposed WWTP project. Recent inspection of the outfall, including the outfall diffusers, associated piping and manhole cover showed the pipe was not in need of replacement. In order to avoid the need for in-water work and impacts to marine species, the culvert replacement has been removed from the proposed project.

While NEPA and ESA must be completed in order for the Army to move forward with contract approval for the design and construction (design-build) of a new WWTP; the proposed WWTP will legally not be operational until it is approved for a NPDES permit, or otherwise authorized by the USEPA to use the existing permit. The USEPA has administrative authority for the issuance NPDES permit at JBLM Solo Point. The issuance of a permit constitutes a Federal action requiring consultation under the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.). USEPA has requested review of the Army’s WWTP beginning at 35% design and will continue to work with the Army through the designing process. Although ESA consultation cannot be completed for the NPDES permit and associated effluent at this stage of the process (prior to project design), any constructed WWTP will not be operational until authorized by the USEPA and any required ESA consultation is completed with the Services. Any required mitigation or minimization measures that result from USEPA’s NPDES Section 7
consultation will be incorporated into the WWTP design plans and subsequent construction. Recommendations that are provided by the Services that would reduce impacts to species will also be considered.

1.4 Action Area

The action area for a proposed project is defined as all areas to be affected directly and indirectly by the Federal action, and not merely the immediate area involved in that action (50 CFR 17.11). The limits of the action area are based upon the geographic extent of the farthest reaching physical, chemical and/or biological effects resulting from the proposed action, including direct and indirect effect, as well as effects from interrelated and interdependent activities. Direct effects of the proposed action include the immediate impacts associated with the project construction, such as noise disturbance, potential sedimentation/erosion, etc. Indirect effects are those effects that are caused by or will result from the proposed action and are later in time, but are still reasonably certain to occur (50 CFR 402.02). Although considered, no indirect effects were identified with the construction of the proposed WWTP\(^1\). Operation was not considered because it is covered by the consultation that occurred for the NPDES permit and is not part of this project.

Because all new construction at JBLM requires on-site infiltration and best management practices (BMPs) associated with the projects Stormwater Management Plan, noise impacts associated with construction were considered the farthest reaching effect associated with the proposed action. The project’s action area was defined by equating the distance construction point source noise attenuates to ambient sound over soft ground (forested area). The proposed projects ambient baseline was taken from the Fort Lewis Noise Management Plan which indicates that the day-night sound level is between 65-75 dBA (Noise Zone II). Maximum noise levels for non-impact construction equipment ranges from 73-100 dBA. Using the most conservative numbers, it was determined that construction noise has the potential to travel 1256 feet (383 meters) before attenuating to background (D=50*10\(^{(100-65)/25}\)).

\(^1\) Indirect effects are those effects that are caused by or will result from the proposed action and are later in time, but are still reasonable certain to occur (50 CFR 402.02). These effects can include impacts that result from the operation of the project and/or future activities related to the project. During project scoping, the operation of the WWTP and the associated outfall was discussed as a potential indirect effect of the projects construction. Although “reasonably certain to occur”, the proposed operation of the WWTP was considered a direct/indirect impact of USEPA’s NPDES permitting decision, not that of the Army’s decision to move forward with the design and construction. Although these projects in many ways go hand in hand, the Department of Army is required to complete a NEPA analysis (including a review of other relevant environmental laws) prior to agency decision-making to ensure that the potential environmental impacts of construction of a new WWTP do not outweigh the environmental impacts associated with the ‘no action’ alternative (the continued operation of the existing WWTP). Prior to the decision to allocate funds in order to pursue the design and construction of a new WWTP, the Department of Army must also ensure that the decision to pursue ‘new construction’ does not have significant environmental impacts (impacts to wetlands, threatened and endangered species, cultural resources, etc).

Although the permitting of the proposed WWTP is related to its construction, information needed in order to quantify and evaluate impacts associated with the NPDES permit will not be available until the Army is able to allocate funding to pursue a design-build (Federal nexus). Farther into the project design, but no later than 180 days prior to construction and/or operation, the Department of Army will provide the USEPA plans and specifications for the proposed WWTP (likely at 35% design). These plans will be able to provide the USEPA information needed for NPDES approval including, but not limited to: amounts of the pollutant/effluent flow, effluent characteristics, average flow, mixing zones, etc. Under Section 511(c)(1) of the Clean Water Act, NEPA applies to any permitting decisions for the discharge of any pollutant by a ‘new source’. In addition to NEPA, USEPA will be required to enter into ESA consultation to address the potential impacts NPDES permitting and effluent discharges have on marine species within the Puget Sound.
FIGURE 1. Proposed JBLM WWTP Replacement Project Location and Action Area
FIGURE 2: Existing Solo Point WWTP Facilities
FIGURE 3. Site Layout for New Solo Point WWTP Facilities

(HDR Engineering, 2011)
### 2.0 LISTED SPECIES AND DESIGNATED CRITICAL HABITAT IN ACTION AREA

#### TABLE 1: ALL ESA-LISTED ENDANGERED, THREATENED

Listing status and likelihood of occurrence in the action area is provided.

<table>
<thead>
<tr>
<th>Common Name (Scientific name)</th>
<th>Listing Status (Federal)</th>
<th>Critical Habitat</th>
<th>Likelihood of Occurrence</th>
<th>Rationale for Absence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Plants</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Golden paintbrush (<em>Castilleja levisecta</em>)¹</td>
<td>Threatened</td>
<td>Not designated</td>
<td>Not present</td>
<td>Extirpated from range by agricultural/urban development; several surveys on JBLM found no individuals (U.S. Army 1997; USFWS 2000b; Dunwiddie 2009; WDNR 2011).</td>
</tr>
<tr>
<td>Marsh sandwort (<em>Arenaria paludicola</em>)¹</td>
<td>Endangered</td>
<td>Not designated</td>
<td>Not present</td>
<td>Extirpated from range by elimination or degradation of habitat; two surveys on JBLM found no individuals (U.S. Army 1997; Eco-logic 2009; WDNR 2011).</td>
</tr>
<tr>
<td>Water howellia (<em>Howellia aquatilis</em>)¹</td>
<td>Threatened</td>
<td>Not designated</td>
<td>Not present</td>
<td>Population present on eastern edge of JBLM but no known individuals in or near action area (Gamon 1997, 1998; Lynch 2005; WDNR 2011).</td>
</tr>
<tr>
<td>Whitebark pine (<em>Pinus albicaulis</em>)¹</td>
<td>Candidate</td>
<td>N/A</td>
<td>Not present</td>
<td>Habitat supporting this species is not present in the action area; historical records indicate this species has never been present in the action area (USFWS 2011a).</td>
</tr>
<tr>
<td><strong>Insects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taylor’s checkerspot (<em>Euphydryas editha taylori</em>)¹</td>
<td>Proposed</td>
<td>N/A</td>
<td>Not present</td>
<td>Suitable habitat not present in the action area; no recent known occurrence in the action area (McAllister et al. 1997; U.S. Army 2006).</td>
</tr>
<tr>
<td><strong>Fishes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bull trout (<em>Salvelinus confluentus</em>); Coastal-Puget Sound DPS ¹</td>
<td>Threatened</td>
<td>Designated</td>
<td>Potentially present in marine nearshore</td>
<td></td>
</tr>
<tr>
<td>Chinook salmon (<em>Oncorhynchus tshawytscha</em>); Puget Sound ESU ²</td>
<td>Threatened</td>
<td>Designated</td>
<td>Potentially present in marine nearshore</td>
<td></td>
</tr>
<tr>
<td>Steelhead (<em>Oncorhynchus mykiss</em>); Puget Sound DPS ²</td>
<td>Threatened</td>
<td>Under review</td>
<td>Potentially present in marine nearshore</td>
<td></td>
</tr>
<tr>
<td>Pacific eulachon/smelt (<em>Thaleichthys pacificus</em>); Southern DPS ³</td>
<td>Threatened</td>
<td>Designated⁶</td>
<td>Potentially present in marine nearshore</td>
<td></td>
</tr>
<tr>
<td>Common Name (Scientific name)</td>
<td>Listing Status (Federal)</td>
<td>Critical Habitat</td>
<td>Likelihood of Occurrence</td>
<td>Rationale for Absence</td>
</tr>
<tr>
<td>-------------------------------</td>
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</tr>
<tr>
<td>Canary rockfish (Sebastes pinniger); Puget Sound/Georgia Basin DPS&lt;sup&gt;5&lt;/sup&gt;</td>
<td>Threatened</td>
<td>Not designated</td>
<td>Potentially present in marine nearshore</td>
<td>Suitable habitat not present in the action area; no recent known occurrence in the action area (McAllister et al. 1997; U.S. Army 2006).</td>
</tr>
<tr>
<td>Yelloweye rockfish (Sebastes ruberrimus); Puget Sound/Georgia Basin DPS&lt;sup&gt;5&lt;/sup&gt;</td>
<td>Threatened</td>
<td>Not designated</td>
<td>Potentially present in marine nearshore</td>
<td></td>
</tr>
<tr>
<td>Bocaccio (Sebastes paucispinis); Puget Sound/Georgia Basin DPS&lt;sup&gt;5&lt;/sup&gt;</td>
<td>Endangered</td>
<td>Not designated</td>
<td>Potentially present in marine nearshore</td>
<td></td>
</tr>
<tr>
<td><strong>Reptiles and Amphibian</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oregon spotted frog (Rana pretiosa)&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Candidate</td>
<td>N/A</td>
<td>Not present</td>
<td></td>
</tr>
<tr>
<td><strong>Birds</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marbled murrelet (Brachyramphus marmoratus)&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Threatened</td>
<td>Designated&lt;sup&gt;6&lt;/sup&gt;</td>
<td>Not present</td>
<td>Although species have been observed near JBLM on the Nisqually River and in Puget Sound near Solo Point, suitable foraging habitat for species is not found in the proposed action which is typically 1-2km from shore (USFWS, 1997).</td>
</tr>
<tr>
<td>Northern spotted owl (Strix occidentalis caurina)&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Endangered</td>
<td>Designated&lt;sup&gt;6&lt;/sup&gt;</td>
<td>Not present</td>
<td>Although habitat is present on JBLM, none is found in the action area. No records of this species in the action area exist (U.S. Army 2010).</td>
</tr>
<tr>
<td>Streaked horned lark (Eremophila alpestris strigata)&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Proposed</td>
<td>N/A</td>
<td>Not present</td>
<td>Although habitat is present on JBLM, none is found in the action area. No records of this species in the action area exist (U.S. Army 2010).</td>
</tr>
<tr>
<td>Yellowbilled cuckoo (Coccyzus americanus)&lt;sup&gt;2&lt;/sup&gt;</td>
<td>Candidate</td>
<td>N/A</td>
<td>Not present</td>
<td>Decline due to reduction of suitable habitat and habitat fragmentation. No habitat or known population is present in the action area (USFWS 2000a).</td>
</tr>
<tr>
<td><strong>Mammals</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southern resident killer whale (Orcinus orca)&lt;sup&gt;4&lt;/sup&gt;</td>
<td>Endangered</td>
<td>Designated</td>
<td>Not present</td>
<td>Although occasional visitors of South Puget Sound, the intertidal and nearshore environments of the action area is not suitable habitat for SRKW (City of Tacoma 2007; Orca Network 2011).</td>
</tr>
<tr>
<td>Humpback whale (Megaptera novaeangliae)&lt;sup&gt;3&lt;/sup&gt;</td>
<td>Endangered</td>
<td>Not designated</td>
<td>Not present</td>
<td>They are only infrequent visitors to waters near the Nisqually National Wildlife Refuge and are considered an accidental migrant to</td>
</tr>
<tr>
<td>Common Name (Scientific name)</td>
<td>Listing Status (Federal)</td>
<td>Critical Habitat</td>
<td>Likelihood of Occurrence</td>
<td>Rationale for Absence</td>
</tr>
<tr>
<td>------------------------------------------------------------------</td>
<td>--------------------------</td>
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<td>--------------------------</td>
<td>---------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Steller sea lion (<em>Eumetopias jubatus</em>); eastern population⁴</td>
<td>Threatened</td>
<td>Designated⁶</td>
<td>Not present</td>
<td>No breeding rookeries are found in Washington; no haul-out sites are found in or near the action area (Jefferies et al. 2000).</td>
</tr>
<tr>
<td>Mazama pocket gopher (<em>Thomomys mazama</em> ssp. <em>glacialis</em> and <em>tacomensis</em> (Roy Prairie and Tacoma)³)</td>
<td>Candidate</td>
<td>N/A</td>
<td>Not present</td>
<td>Suitable habitat is not present in the action area; no populations have been identified in the action area (U.S. Army 2006). Decline due to reduction of native prairie habitat. They avoid areas with high densities of Scotch broom or Douglas-fir (Stinson 2005).</td>
</tr>
<tr>
<td>Fisher (<em>Martes pennanti</em>); West Coast DPS¹</td>
<td>Candidate</td>
<td>N/A</td>
<td>Not present</td>
<td>Decline due to over trapping and loss and fragmentation of low- and mid-elevation late-successional forests. No habitat or known population is present in the action area (Hayes and Lewis 2006).</td>
</tr>
<tr>
<td>North American wolverine (<em>Gulo gulo luteus</em>); contiguous U.S. DPS⁵</td>
<td>Candidate</td>
<td>N/A</td>
<td>Not present</td>
<td>Decline due to habitat fragmentation and climate change. No habitat or known population is present in the action area (USFWS 2010a).</td>
</tr>
</tbody>
</table>

### 3.0 EFFECTS ANALYSIS

Section 7 of the ESA requires federal agencies to ensure that any action authorized, funded, or carried out by a Federal agency is not likely to jeopardize the continued existence of any threatened or endangered species. The species considered in this discussion are those that are listed as endangered or threatened under the ESA. Although considered in this BE, there were no Candidate species identified to be potentially present within the proposed action area. Of those species listed in Table 1, which have the potential to occur in Pierce County, only seven species have been identified to be potentially present within the projects action area. The effects analysis will discuss the direct and indirect effects the proposed project may have on listed species within the action area, as well as any associated critical habitat. The effects of the interrelated and interdependent actions, that have been identified with this action, will also be considered.

### 3.1 Bull Trout

Juveniles and/or foraging Coastal-Puget Sound Bull trout (*Salvelinus confluentus*) have the potential to be found in the intertidal areas of Solo Point, Puget Sound. Although noise attenuation from construction activities may extend into the nearshore areas of Solo Point, they are not expected to propagate underwater and the proposed project is expected to have no effect on Coastal-Puget Sound bull trout.
3.2 Chinook
Puget Sound Chinook salmon (*Oncorhynchus tshawytscha*) have the potential to be found in the intertidal areas of Solo Point, Puget Sound. Although noise attenuation from construction activities may extend into the nearshore areas of Solo Point, they are not expected to propagate underwater and the proposed project is expected to have no effect on Chinook salmon.

3.3 Steelhead
Puget Sound Steelhead (*Oncorhynchus mykiss*) have the potential to be found in the intertidal areas of Solo Point, Puget Sound. Although noise attenuation from construction activities may extend into the nearshore areas of Solo Point, they are not expected to propagate underwater and the proposed project is expected to have no effect on steelhead.

3.4 Pacific Eulachon
The Southern DPS Pacific eulachon/smelt (*Thaleichthys pacificus*) have the potential to be found in the intertidal areas of Solo Point, Puget Sound. Although noise attenuation from construction activities may extend into the nearshore areas of Solo Point, they are not expected to propagate underwater and the proposed project is expected to have no effect on Pacific Eulachon.

3.5 Rockfish
Juvenile canary (*Sebastes pinniger*), yelloweye (*Sebastes ruberrimus*), and Bocaccio (*Sebastes paucispinis*) rockfish have the potential to be found in the intertidal areas of Solo Point, Puget Sound. Although noise attenuation from construction activities may extend into the nearshore areas of Solo Point, they are not expected to propagate underwater and the proposed project is expected to have no effect on any listed rockfish species.

4.0 CONCLUSIONS AND DETERMINATION OF EFFECTS

An evaluation of all ESA-listed threatened or endangered species in Pierce County indicated that seven marine species have the potential to occur within the projects action area. After review of the project and the potential impacts that are associated with the proposed action, it was determined that the proposed WWTP design and construction will have no effect (NE) on any ESA-listed, or candidate species within the projects vicinity.

While a NE determination has been made for the proposed WWTP design and construction, any changes in the project location and/or new species listings within the project vicinity will trigger further review by JBLM Fish and Wildlife Staff to ensure additional Section 7 consultation is not warranted. This documentation allows the Army to pursue funding for a contract award that would design and construct a new WWTP at Solo Point, but does not complete the agencies Section 7 requirements for the plants operation and/or future RWDS plans. Preferably at 35% design, but no later than 180 days prior to construction, the Army will initiate review of WWTP design plans with the USEPA. In addition to initial design review, the Army will also provide any information requested by the USEPA in furtherance of
their Section 7 requirements for NPDES approval at this time and/or as the project planning proceeds through 35%, 65%, 95%, and 100% design.
LITERATURE CITED


USEPA (United States Environmental Protection Agency). 2009b. The U.S. Environmental Protection Agency Plans to Reissue a Wastewater Discharge Permit to: Solo Point Wastewater Treatment
Plant. U.S. Department of Defense, Department of the Army Fort Lewis Army Base Fort Lewis, Washington 98433-5000 and the State of Washington proposes to certify the permit and issue a consistency determination. Permit No.: WA-002195-4 Fort Lewis - Solo Point WWTP. October 13, 2009.


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