

FINDINGS AND RECOMMENDATIONS  
REGARDING  
THE U.S. FISH AND WILDLIFE SERVICE'S  
PROPOSED ISSUANCE OF AN  
ENDANGERED SPECIES ACT SECTION 10(a)(1)(B)  
INCIDENTAL TAKE PERMIT  
TO THE  
CITY OF KENT  
IN CONJUNCTION WITH THE  
CLARK SPRINGS WATER SUPPLY  
HABITAT CONSERVATION PLAN

U.S. FISH AND WILDLIFE SERVICE  
WASHINGTON FISH AND WILDLIFE OFFICE  
LACEY, WA  
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## DESCRIPTION OF THE PROPOSED ACTION

The U.S. Fish and Wildlife Service (USFWS) proposes to issue an Incidental Take Permit (Permit) to the City of Kent (Kent) under the authority of section 10(a)(1)(B) and section 10(a)(2) of the Endangered Species Act of 1973(Act), as amended. The proposed Permit term is for a period of 50 years. The following documents were used in the preparation of this statement of Findings and Recommendations, and are herein incorporated by reference:

- Draft Habitat Conservation Plan for the City of Kent Clark Springs Water Supply (City of Kent 2010a)
- Final Habitat Conservation Plan for the Clark Springs Water Supply (HCP) (City of Kent 2010b)
- Draft Environmental Impact Statement for the Clark Springs Water Supply HCP (DEIS) (NMFS/USFWS 2010)
- Final Environmental Impact Statement for the Clark Springs Water Supply HCP (FEIS) (NMFS/USFWS 2011)
- Implementing Agreement (IA) (Appendix B, City of Kent 2010b)
- USFWS's Biological Opinion on the proposed Permit action (USFWS 2011)
- Draft Recovery Plan for the Coastal-Puget Sound Distinct Population Segment of the Bull Trout (USFWS 2004)

Under the Permit, Kent would receive incidental take authorization for certain activities administered under its jurisdiction as identified in the HCP.

Kent is requesting coverage under the Permit for incidental take of the threatened bull trout (*Salvelinus confluentus*) and the unlisted coastal cutthroat trout (*Oncorhynchus clarki clarki*), Pacific lamprey (*Lampetra tridentata*), and the river lamprey (*L. ayresi*). The proposed Permit would be subject to the assurances provided under the “No Surprises” rule at 50 C.F.R. 17.3, 17.22(b)(5) and 17.32(b)(5).

The proposed Permit would authorize the incidental take of these four species caused by the operation and maintenance of Kent’s public water supply system on Rock Creek, the implementation of eight habitat conservation measures (HCMs), and five monitoring and evaluation measures (MEMs) for a period of 50 years.

## COVERED ACTIVITIES

Covered Activities are defined as activities that may occur on the Covered Lands, as identified in the HCP, for which Kent has management responsibility and such activities have the potential to cause incidental take of the bull trout, cutthroat trout, and the two species of lamprey. Covered Activities are identified below and described in detail in Section 3 of the final HCP (City of Kent 2010b):

- Water supply withdrawals from the Clark Springs Water Supply System pursuant to Kent's water rights.
- Operations, maintenance, replacement, monitoring, and improvements to the augmentation system. This includes relocating the augmentation system, maintaining, additions to, and/or replacing all augmentation infrastructures as needed.
- Operations, maintenance, and improvements to the water supply facilities located in the Clark Springs Watershed such as the buildings, wells, access roads, fences and security infrastructure, infiltration gallery, and water transmission main, except for portions within the ordinary high water boundaries of Rock Creek. This includes replacement of the facilities and infrastructure as needed in the future.
- Vegetation management as needed by Kent to maintain its facilities. This includes, but is not limited to, maintaining open areas, service roads, and clearing/trimming fence lines and power line/telephone line areas associated with the facilities.
- Operation and maintenance of the Parshall Flume and U.S. Geological Survey (USGS) gaging station (No. 12118400). This includes cleaning of the flume to remove algae, repair and work to maintain the accuracy and integrity of the flume including maintaining the areas immediately up-stream and downstream.
- Wildlife management within the Clark Springs Watershed for the purpose of protecting and enhancing the quality of the water supply. This includes trapping beavers to ensure a healthy municipal water source and removal of beaver dams to prevent stream relocation and damage to Kent's infrastructure or the quality of the water supply.
- HCMs 1-8 described in Chapter 4 of the Kent HCP and MEMs 1-5 described in Chapter 5 of Kent HCP.
- The electrical, control, and telemetry operations including the maintenance, improvement and replacement of equipment, conduit, cabling and related above-ground and buried infrastructure needed for the water supply facilities within the Clark Springs Watershed. Best management practices for erosion and sediment control will be used during the implementation of the covered activity.
- The maintenance and replacement of storm water conveyance, control, and distribution facilities within the 320-acre Kent property boundaries at the Clark Springs Facility.
- The storage of chemicals; chemical treatment processes; and the operation, maintenance, replacement and improvement of equipment, conduit, piping, and sampling infrastructure required to monitor and treat Kent's water supply.
- Kent may also elect to install monitoring wells along the eastern boundary of the Clark Springs property to monitor groundwater quality and provide a network of wells to help detect any contamination that may come from Landsburg Mine, and the residential and semi-commercial properties along the eastern boundary of the Clark Springs property.

## RELATIONSHIP OF THE TAKE EXEMPTION PROVIDED UNDER THE PERMIT FOR COVERED ACTIVITIES THAT ARE ALSO SUBJECT TO SECTION 7 COMPLIANCE

Private or public actions that are Covered Activities under the HCP may also be subject to separate section 7 compliance requirements of the Act, if those actions are authorized, carried out, or funded by a Federal agency(ies). Incidental take of the Covered Species for Covered Activities carried out by the Permittee will be authorized under the Permit and will be subject to the take mitigation, minimization, and avoidance measures provided for under the HCP. Incidental take coverage for Covered Activities involving a Federal action will be granted to the Federal action agency through an incidental take statement issued with a separate USFWS Biological Opinion.

## TERM OF THE PERMIT

The proposed Permit would be in effect for a period of 50 years. Section 6 of the IA describes the provisions for termination of the Permit. Under these provisions, should Kent request early termination of the Permit, Kent would be required to execute a termination agreement to ensure that mitigation obligations defined under the HCP are fulfilled for all Covered Activities approved, authorized, or carried out by the Kent prior to termination. Mitigation obligations will be implemented by Kent in accordance with the provisions of the HCP and the IA for all Covered Activities approved, authorized, or carried out by Kent. The USFWS may suspend or revoke the Permit if Kent violates the terms and conditions of the Permit and/or violates any applicable Federal laws or regulations. If the Permit is revoked or suspended, Kent remains obligated to fulfill all of its responsibilities under the Permit for any Covered Activities Kent approved, authorized, or carried out between the effective date of the Permit and the date of the Permit suspension or revocation.

## BACKGROUND

### CONSERVATION PLAN

The HCP includes habitat conservations measures (HCMs), related goals and actions, and adaptive management measures described below.

### CONSERVATION MEASURES

The HCMs that Kent has committed to are summarized in Table 1 and include: (1) flow enhancement measures that are designed to directly benefit Rock Creek; (2) habitat enhancement measures that are designed to directly benefit Rock Creek; and (3) conservation measures that can be applied basin-wide and may provide both direct and indirect benefits to aquatic ecosystems in Rock Creek generally, and specifically to the Covered Species. The purpose of the HCMs is to provide both direct and indirect mitigation for Covered Activities included in Kent's water withdrawal.

Four of the habitat enhancement measures were mentioned in the recently released Lake Washington/Cedar/Sammamish Watershed (Water Resource Inventory Area or WRIA 8) Steering Committee Chinook Salmon Conservation Plan (2005). The HCMs that provide the most direct benefits to the Covered Species will occur within 10 years after issuance of the Permit. Others, such as those related to easements or land acquisitions, would occur as opportunities arise within 6-15 years after issuance of the Permit. The conservation measures have been given an identification number consisting of the letters HCM (Habitat Conservation Measure) followed by a number (e.g., HCM-X).

Table 1. HCMs to be implemented by Kent under the Clark Springs Water Supply HCP.

<b>Habitat Conservation Measure</b>	<b>Title</b>	<b>Summary</b>
HCM-1	Flow Augmentation Plan	Augment flows in Rock Creek downstream of the Clarks Springs Water Supply System from October 1 through December 31, with variations in the amount of augmentation required based on a wet, normal, dry or drought year basis (see description in text); Estimated Range of Costs - \$0 to \$387,504 per year.
HCM-2	Passage Improvements at the Mouth of Rock Creek – Reach 1	Modify Rock Creek channel at the mouth of Rock Creek to provide increased water depth during low flows; Estimated Costs - \$55,000.
HCM-3	Wetland Improvement and Juvenile Salmonid Habitat Enhancement – Reach 1	Connect existing pond and improve off-channel habitat conditions pond adjacent to Reach 1 of Rock Creek; Estimated Costs - \$40,000.
HCM-4	Wetland Improvement and Juvenile Salmonid Habitat Enhancement - Reach 2	Improve connectivity and habitat conditions in the existing off channel wetland in Reach 2 of Rock Creek; Estimated Costs - \$69,000.
HCM-5	Summit-Landsburg Road Culvert Replacement-Reach 8/9	Replace the culvert at the Summit-Landsburg Road crossing with a structure that meets existing WDFW fish passage criteria; Estimated Costs - \$680,000.
HCM-6	LWD Placement – Reach 10 and 12	Place large woody debris (LWD) in Reach 10 and Reach 12 of Rock Creek within the Kent watershed property to increase hydraulic complexity; Estimated Costs - \$62,000.
HCM-7	Water Conservation Program	City of Kent’s ongoing water conservation program.
HCM-8	Riparian Acquisition, Easement, and Enhancement Fund in Rock Creek Basin	Establish a \$1.6 million Habitat Fund to mitigate for impacts associated with operations of the Clark Springs Water Supply System.

## GOALS AND OBJECTIVES FOR IMPLEMENTING THE CONSERVATION MEASURES

The overall goal of the HCP (Section 2.7; City of Kent 2010b) is to implement conservation measures designed to protect and enhance habitat of the Covered Species while allowing Kent to continue its operations within the Clark Springs Watershed. Specific objectives of the HCP include:

- Meet all requirements of the Act with respect to the future operation of Kent's Clark Springs Water Supply System.
- Meet all legal requirements for a Permit for species addressed in the HCP.
- Contribute to the conservation of unlisted species covered in the HCP and treat them as if they were listed, with the intent of reducing the potential for future listing of those species.
- Provide net benefits, compared to baseline/current conditions, for both listed and unlisted species covered by the plan that will contribute to the recovery of these species.
- Obtain agreement that no additional commitment of resources would be required of Kent if unlisted species covered by the HCP become listed during the term of the HCP, provided the HCP is being properly implemented.
- Implement scientifically and technically sound conservation measures and provide monitoring to ensure the HCP is working as intended.
- Recognize uncertainty and incorporate management responses that are adaptive.

## ADAPTIVE MANAGEMENT

Adaptive management is a process that allows resource managers to adjust their actions to reflect new information or changing conditions in order to reach a goal, in this case, minimization of the impacts of take and conservation of the Covered Species, while limiting the impacts of Covered Activities on flows and habitat in Rock Creek. Kent will use the adaptive management process as part of the conservation measures to minimize the impacts of take of Covered Species and to ensure the long-term survival of the Covered Species in the covered area. Specific circumstances where adaptive management will be implemented include:

- Initiation of the augmentation period under HCM-1 will be adaptively managed based upon a periodic assessment of the timing of Chinook salmon spawning in the Cedar River Basin.
- Kent will collect precipitation data that will be used to determine current water year classifications and for refining the seasonal water year classifications that Kent will use in determining flow targets and augmentation amounts as part of HCM-1.
- Kent will document spawning utilization of Rock Creek by covered species and provide indices suitable for tracking trends in covered species population abundance in Rock Creek throughout the duration of the ITP.

- Kent will monitor the effectiveness of the fish passage improvement structure at the mouth of Rock Creek including inspecting the structure following flows of greater than 50 cfs.
- Kent will conduct snorkel surveys for juvenile Chinook salmon, sockeye salmon, coho salmon, steelhead trout, and cutthroat trout in the off- channel wetland areas enhanced under HCM-3 and HCM-4 to determine their utilization of the habitat enhancements.

The specific measures that would be implemented in response to these conditions are discussed in Section 5.0 (Monitoring and Reporting) of the HCP. Any adjustments in management practices will occur only with Kent, the USFWS, and NMFS consensus unless otherwise noted under the adaptive management measures or changed circumstances discussed in Sections 2 and 5 of the HCP and Section 10.0 of the IA.

## CHANGED AND UNFORESEEN CIRCUMSTANCES

Changed and unforeseen circumstances are described in Section 2.1.2 “HCP Requirements” of the HCP and Section 9.0 of the IA. Kent is required to provide planned responses to the changed circumstances identified in the HCP in accordance with the USFWS’s “No Surprises” rule at 50 C.F.R. 17.22(b)(5) and 17.32(b)(5).

Pursuant to the “No Surprises” rule, the USFWS will not require any additional land, water, or other natural resources without the consent of Kent in the event an unforeseen circumstance occurs. If the USFWS determines that an unforeseen circumstance has occurred and that additional land, land restrictions, or financial compensation beyond that required under the HCP are needed to conserve the Covered Species, Kent will not be obligated to provide the additional measures without their consent. Pursuant to 50 C.F.R. 17.22(b)(8) and 17.32(b)(8), the USFWS retains the authority to revoke the Permit, in response to an unforeseen circumstance or otherwise, if we find that continuation of the take permitted under the Permit would appreciably reduce the likelihood of the survival and recovery of a listed species.

## CHANGES MADE BETWEEN DRAFT AND FINAL HCP

The Notice of Availability for the draft HCP was published in the Federal Register on April 23, 2010 (75 FR 21344). Public comment was solicited and the comment period ended on July 6, 2010. The public comment period on the draft HCP and its associated environmental documents enabled the USFWS to gather comments from interested parties. The process of reviewing and considering these comments led to the development of several changes by Kent to the draft HCP. These changes were clarifications, updates, and additional minimization, mitigation, and monitoring measures (Appendix A). The final HCP was modified accordingly and is incorporated herein by reference (City of Kent 2010b). The final EIS and final HCP were made available to the public for review on July 5, 2011 (76 FR 39072). The substantive changes from the draft to the final HCP are summarized as follows:

- Chapter 1, “Introduction” – Two figures (Figures 1.2 and 1.4) were inserted to provide additional information as to the location of the Kent property and the cover types that exist in the Rock Creek Basin.

- Chapter 3, “Existing Conditions of the Rock Creek Watershed” – More recent instream flow information from USGS gage 12118500 was added on pages 3-23 and 3-24.
- Chapter 4, “Habitat Conservation Measures to be Implemented Under the HCP” – Clarifying text was added to HCM -1 on pages 4-3 and 4-4.
- Chapter 4, “Habitat Conservation Measures to be Implemented Under the HCP” – Additional text to describe how HCM-1 will be adaptively managed to address future potential changes in spawn timing of Covered Species was added on page 4.5.
- Chapter 4, “Habitat Conservation Measures to be Implemented Under the HCP” – Clarifying text was added to HCM-2 to address review of this measure by the USFWS and to identify when the structure will be monitored (page 4-35).
- Chapter 5, “Monitoring and Reporting” – Non-governmental organizations were added to the list of agencies and other groups who will receive all monitoring reports developed by Kent (page 5-4).
- Chapter 5, “Monitoring and Reporting” – Text was added that expands the initiation period for spawning surveys in Rock Creek was added on page 5-9.
- Chapter 5, “Monitoring and Reporting” – Text was added that requires Kent to inspect the fish passage improvements at the mouth of Rock Creek following flow events greater than 50 cfs was added on page 5-14.
- Chapter 5, “Monitoring and Reporting” – Text was added to define when additional snorkel surveys would be needed was added on page 5-16 and 5-17.
- Chapter 6, “Effects of City of Kent Water Withdrawal and Conservation Measures” – The text was modified to reflect updated information on the frequency of the two-week augmentation period was added on pages 6-22 and 6-23.

## ANALYSIS OF EFFECTS

The Biological Opinion (USFWS 2011) and the HCP (City of Kent 2010b) describe, in detail, the effects the various Covered Activities proposed for incidental take coverage in the HCP have on the Covered Species. Effects to covered species from covered activities are likely to be caused by groundwater withdrawal, flow augmentation, suspended sediment, excavations, and channel dewatering and fish salvaging activities.

### EFFECTS FROM WATER WITHDRAWAL AND FLOW AUGMENTATION

Kent has been withdrawing groundwater at the Clark Springs Facility since 1957. Daily withdrawal measurements recorded by Kent between October 1985 and September 1998 indicate the long-term average production rate from the three sources at Clark Springs has been about 6.2 cfs. HCP water withdrawals from Clark Springs from June through December are anticipated to be similar to those during the 1985-1998 baseline period. The typical amount of withdrawal varied between 4.9 and 7.6 cfs. During high flow periods, primarily January to May but also late November or December during wet falls, additional withdrawals over the baseline amount may occur under the HCP. Additional withdrawals during these periods will likely

require the use of wells. The water right for this use requires the Kent to maintain minimum instream flows (when the wells are pumped) of: 15 cfs between November 1 and April 30; 2 cfs between July 1 and October 31; and minimum instream flows that decline arithmetically from 15 cfs and 2 cfs between May 1 and June 30.

To minimize potential adverse effects from withdrawals on the Covered Species, Kent is proposing to augment low flows in Rock Creek during the months of October, November, and December, periods that are biologically important for adult migration and spawning for a number of the Covered Species (HCM-1). Kent will commit to augmenting up to the stream flow targets, but not more than the maximum augmentation amount defined in Table 2.0 of the HCP (City of Kent 2010b). When instream flows meet or exceed the target flows at the Parshall Flume during October, November, and December, no augmentation would be required. When instream flows are below target flows, water up to the maximum amount would be allocated to increase instream flows to meet the target flow.

Kent's groundwater withdrawals reduce instream flows that reduce the amount of habitat available for Covered Species to carry out their life histories in the covered area. Operations under the HCP involve continued water withdrawal to serve Kent's municipal water supply. Kent modeled the effects of these reduced flows on habitat availability for the Covered Species, using weighted usable area (WUA)(Chapter 4 and Appendix F of City of Kent (2010a, b)) as an index to compare the amount of suitable habitat at different flows. The HCP shows the optimal amount of WUA (i.e., if there were no water withdrawals by Kent), and the WUA under the current water withdrawal program with and without augmentation. During October through December, there are significant decreases in the WUA for the Covered Species compared to the optimal WUA. Decreases in spawning and rearing habitat from reduced instream flows can result in decreased productivity and abundance of the Covered Species, including the bull trout and the cutthroat trout. With the proposed flow augmentation, the amount of WUA increases above baseline conditions, but still below the amount that would be provided without water withdrawals. To address the loss of habitat that would be provided without continued water withdrawals, the HCP requires Kent to augment flows in October, November, and December and to implement a set of HCMs.

Because bull trout spawn during the fall low-flow periods, the effects of groundwater withdrawal on the amount of available bull trout habitat are greater than for the other Covered Species. Even with the proposed flow augmentation under the HCP, the calculated amount of habitat available for bull trout spawning and rearing is less than half the amount of habitat available in Rock Creek absent Kent groundwater withdrawals. Kent's water withdrawals have a small, but positive effect on the amount of spawning habitat available for the cutthroat trout by slightly decreasing instream flows during their spawning period. Kent's analysis indicates that the opposite is true for rearing cutthroat trout. Groundwater withdrawals have a varying negative effect on the calculated amount of available cutthroat trout rearing habitat depending on the time of year. Adverse effects from groundwater withdrawal are not anticipated to adversely affect lamprey spawning or rearing habitat in Rock Creek.

## EFFECTS FROM SUSPENDED SEDIMENTS AND EXCAVATIONS

Several Covered Activities including fish passage improvements at the mouth of Rock Creek, wetland improvements in Reach 1 and 2, Summit-Landsburg Road culvert replacement, large wood placement in Reaches 10 and 12, and the beaver dam removal, all have the potential to generate varying amounts of suspended sediments in reaches of Rock Creek where the work would be conducted. Because adult and/or juveniles of the Covered Species could be present in Rock Creek year-round, they could be exposed to the effects of suspended sediment. Best management practices including in-water work windows employed during any construction and maintenance activities are anticipated to minimize the potential adverse effects of these Covered Activities, but are not expected to eliminate them. Even if the channel is dewatered or the worksite isolated for activities requiring in-channel excavation, there will still likely be one or more pulses of suspended sediment in Rock Creek after the site is re-watered, or during the first high flow events following construction. Increased suspended sediment concentrations can cause lethal, sublethal, and behavioral effects in juvenile and adult salmonids (Newcombe and Jensen 1996). Behavioral effects can include an abandonment of cover or avoidance of the higher suspended sediment concentration areas potentially facilitating increased predation. Sublethal effects may include reductions in feeding rates, and physiological stress. Lethal effects may include reduced growth rates leading to increased susceptibility to predation and severe habitat degradation, such as sedimentation that reduces egg to fry survival (Newcombe and Jensen 1996).

Based on the status of the bull trout in the covered area, we do not anticipate that bull trout will be present and, therefore, exposed to any adverse effects associated with these Covered Activities. Providing access to spawning and rearing habitats within Kent's watershed property at all flows would benefit all life-history stages of the bull trout if they choose to colonize Rock Creek.

Juvenile and subadult cutthroat trout are likely present year-round in Rock Creek. The USFWS expects individual cutthroat trout to be exposed to the range of effects described above with juvenile cutthroat being more susceptible to lethal effects than subadult or adults fish. Providing access to spawning and rearing habitats within Kent's watershed property at all flows would benefit all life-history stages of cutthroat trout.

Any excavation in the stream channel has the potential to adversely affect any lamprey buried in the substrate. Ammocoetes spend most of their time burrowed in stream substrates, moving during flow events and mostly at night. Many age classes can concentrate together in the same areas because of habitat preference, making ammocoete populations particularly susceptible to activities that involve dredging/excavating.

## EFFECTS FROM CHANNEL DEWATERING AND SALVAGE OPERATIONS

In addition to being a source of suspended sediments, culvert replacement at the Summit-Landsburg Road is expected to require that a section of Rock Creek be dewatered. During channel dewatering, some juveniles of the Covered Species are reasonably certain to become stranded in the dewatered channel and not salvaged (e.g., hidden under instream structure).

These stranded individuals are likely to die because they will lack access to flowing water for several days during in-water construction activities. Some rescued individuals may be injured or killed by stress related to capture and handling. Capturing and handling individuals can cause short-term stress, increasing plasma levels of cortisol and glucose (Frisch and Anderson 2000; Hemre and Krogdahl 1996). Even short-term, low intensity handling may cause reduced predatory avoidance for up to 24 hours (Olla et al. 1995).

Based on the status of the bull trout in the covered area, we do not anticipate that bull trout will be present and, therefore, exposed to any adverse effects associated with channel dewatering and salvage operations. The capture and handling of cutthroat trout and lamprey for salvage purposes will result in direct take (kill and capture) of some individuals, however, the direct take resulting from salvage operations will minimize the amount of incidental take of the cutthroat trout and lamprey from stream diversion/dewatering activities.

### **PUBLIC COMMENT**

On June 19, 2006, the USFWS published a Notice of Intent in the Federal Register (71 FR 35286) and accepted written scoping comments over a 45-day comment period ending on August 3, 2006. On June 29, 2006, a public scoping meeting was held at Kent City Hall Council Chambers for which one purpose was to initiate the NEPA scoping process. Comments on an initial draft HCP and scoping were compiled by Kent, the USFWS, and NMFS and used to revise the subsequent drafts of the HCP, to develop a Scoping Report (USFWS and NMFS 2006), and aid in the development of the required environmental documents.

A Notice of Availability of the DEIS, with a public comment period of 60 days, was published in the Federal Register on April 23, 2010 (75 FR 21344). Seven comment letters were received.

A Notice of Availability of the FEIS was published in the Federal Register on July 5, 2011 (76 FR 39072) for public review period of 30 days. The USFWS received three comment letters. Responses to those comments are included in the Record of Decision.

### **INCIDENTAL TAKE PERMIT CRITERIA - ANALYSIS AND FINDINGS**

#### **CRITERION 1**

##### **The taking will be incidental.**

Based on the analyses presented in the HCP (City of Kent 2010b) and the USFWS's Biological Opinion (USFWS 2011), which are herein incorporated by reference, the USFWS finds that take of the bull trout, cutthroat trout, Pacific lamprey, and the river lamprey caused by Covered Activities carried out under the HCP will be incidental to, and not the purpose of, otherwise lawful activities.

#### **CRITERION 2**

**The applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking.**

The USFWS finds that Kent will minimize and mitigate the impacts of take of the Covered Species to the maximum extent practicable. Kent has developed a HCP, pursuant to the incidental take permit requirements codified at 50 CFR 17.22(b)(1) and 50 CFR 17.32(b)(1), which require measures to minimize and mitigate the effects of issuing a Permit. Under the provisions of the HCP, the impacts of take will be minimized, mitigated, and monitored through the following measures:

1. Identification and implementation of eight habitat conservation measures to avoid incidental take and minimize and mitigate the effects of Covered Activities on Covered Species as described in Chapters 3 and 5 of the HCP.
2. Establishment of a monitoring and reporting program to confirm the anticipated biological success and effectiveness of the HCP conservation measures and to provide information for adaptive management of the Covered Species, as needed, as new information becomes available or conditions change.
3. Implementation of a funding mechanism that contains assurances that the HCP will be implemented (Chapter 6 of the HCP).

The minimization and mitigation measures proposed by Kent were developed based on a comprehensive evaluation of impacts to the Covered Species that would result from the operation and maintenance of the water supply facility on Kent-owned property and the implementation of eight HCMs described in the HCP. The HCMs set forth in the HCP are directly related to the form of take (harm and harass) likely to be caused by activities covered under the HCP; a summary of the take assessment is presented below. As discussed in the HCP, the USFWS's Biological Opinion, and the discussion above under "Conservation Measures" and "Analysis of Effects," these conservation measures, some of which have been the subject of ongoing implementation while the HCP has been under development, have been and are likely to continue to be effective in providing for the conservation needs of the Covered Species.

The determination that Kent will minimize and mitigate the impacts of take of the Covered Species to the maximum extent practicable under the proposed HCP is based on the alternatives analysis presented in the FEIS and summarized below. Besides the proposed action, one other alternative was analyzed, considered, and subsequently rejected on the basis it would not effectively contribute to the conservation of the Covered Species, and would not adequately provide for incidental take authorization.

### CRITERION 3

**The applicant will ensure that adequate funding for the plan and procedures to deal with unforeseen circumstances will be provided.**

#### *Estimated Costs of the Habitat Conservation Measures*

The estimated cost of the HCMs, including costs for design, permitting, and construction of the habitat enhancement related measures and the Riparian Acquisition, Easement, and Enhancement Fund developed specifically as part of this HCP will total more than \$2,500,000 dollars (2005 dollars), not including the costs to provide augmented stream flows during the critical low flow period (HCM-1) or the water conservation program (HCM-7). Final costs will depend on results of the monitoring and need for adaptive management. The two major costs of the habitat conservation measures relate to the flow augmentation and habitat enhancement measures consisting of HCM-1 through HCM-6, and the Riparian Acquisition, Easement, and Enhancement Fund in Rock Creek Basin identified as HCM-8. The below costs do not include costs associated with the value of the water that Kent will forego as part of its obligation under HCM-1. The total monetary value of that water to Kent is highly variable depending on the quantity and duration of augmentation water provided during the augmentation period. Costs associated with Kent's conservation program are likewise not included.

### ***Estimated Costs of the Monitoring Program***

As described in Chapter 5 of the HCP, Kent will implement a series of monitoring measures designed to ensure the HCMs are implemented according to specified standards and as agreed to by USFWS and NMFS. In most cases, the monitoring consists of verification that the measures have been implemented. For example, MEM-1 is focused on the monitoring of stream flow in Rock Creek and is directly linked to the flow augmentation program described in HCM-1. MEM-4 is focused on monitoring the Rock Creek passage improvements that will be constructed as part of HCM-2. As described in Chapter 5 of the HCP, monitoring is also included in several of the HCMs including HCM-3, HCM-4, HCM-5, and HCM-6. Project completion reports or periodic summaries of activities conducted specific to each measure will be prepared and submitted as described in Chapter 5 of the HCP. Changes to any of the HCMs may result in changes in monitoring requirements. However, it is difficult at this time to predict the extent of changes that may be necessary. Overall estimated monitoring costs over the term of the HCP will total approximately \$2,509,000. Actual costs may be greater due to inflation.

### ***Funding Sources and Estimated Costs***

Funding will be from sources at Kent's discretion, including but not limited to, revenues from the sale of water and land, and from outside sources such as grants or contributions. Kent will strive to achieve an efficient and effective use of the specified funds to accomplish the goals, objectives, and measures of the HCP. It should be noted that all cost estimates and commitments in the HCP are given in 2005 dollars (Table 2 and Table 3). Inflationary or deflationary adjustments will not commence until the date an ITP is issued.

Table 2. Summary of Costs for HCMs specified in the HCP.

<b>Habitat Conservation Measure</b>	<b>Title</b>	<b>Summary</b>	<b>Estimated Costs in 2005 dollars</b>
HCM-1	Flow Augmentation Plan	Augment flows to maintain the flow target in Rock Creek downstream of the Clarks Springs facility from October 1 through December 31, with some variation in the amount of augmentation required based on a wet, normal, dry and drought year basis (see description in text).	Up to \$387,504 annually
HCM-2	Passage Improvements at the Mouth of Rock Creek – Reach 1	Modify Rock Creek channel at the mouth of Rock Creek to provide increased water depth during low flows.	\$55,000
HCM-3	Wetland Improvement and Juvenile Salmonid Habitat Enhancement – Reach 1	Connect existing pond adjacent to Reach 1 of Rock Creek to improve off-channel habitat conditions.	\$40,000
HCM-4	Wetland Improvement and Juvenile Salmonid Habitat Enhancement – Reach 2	Improve connectivity and habitat conditions in the existing off channel wetland in Reach 2 of Rock Creek.	\$69,000
HCM-5	Summit-Landsburg Road Culvert Replacement-Reach 8/9	Replace the culvert at the Summit-Landsburg Road crossing with a structure that meets existing WDFW fish passage criteria.	\$680,000
HCM-6	LWD Placement – Reach 10 and 12	Place LWD in Reach 10 and Reach 12 of Rock Creek within the City of Kent watershed property to increase hydraulic complexity.	\$62,000
HCM-7	Water Conservation Program	Continue and update ongoing City of Kent water conservation program.	\$9,300,000 – total estimate over 50 years
HCM-8	Riparian Acquisition, Easement, and Enhancement Fund in Rock Creek Basin	Establish a Habitat Fund to mitigate for impacts associated with operations of the Clark Springs Water Supply System.	\$1,600,000

Table 3. Estimated Costs for Monitoring and Evaluation of Habitat Conservation Measures.

<b>Monitoring and Evaluation Measure</b>	<b>Title</b>	<b>Summary of Measure</b>	<b>Estimated Costs in 2005 dollars</b>
MEM-1	Rock Creek Flow Monitoring	Provide funding to maintain USGS gage 12118400 Rock Creek at Highway 516 near Ravensdale.	\$1.86 million
MEM-2	Precipitation Monitoring at Landsburg	Provide funding to the USGS to work cooperatively with Seattle Public Utilities to monitor precipitation at Landsburg, to assist in refining classifications of wet, normal, dry, and drought conditions.	\$132,000
MEM-3	Spawning Surveys in Rock Creek	Conduct spawning surveys at least two years prior to and four years after implementation of HCM -2. Conduct spawning surveys over Index Reaches every fourth year thereafter through the duration of the ITP.	\$410,000
MEM-4	Rock Creek Mouth-Passage Improvements	Document successful project completion and annually check on project functionality.	\$104,000
MEM-5	Wetland Fish Use Monitoring	Document if fish are utilizing the wetlands	\$3,000

#### CRITERION 4

**The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.**

The USFWS finds that the taking to be authorized under the proposed Permit will not appreciably reduce the likelihood of the survival and recovery of the Covered Species in the wild. The Act’s legislative history establishes the intent of Congress that this issuance criterion be identical to a finding of “no jeopardy” pursuant to section 7(a)(2) of the Act and the implementing regulations pertaining thereto (50 C.F.R. 402.02). As a result, the USFWS has reviewed the proposed Permit action under section 7 of the Act. In the Biological Opinion (USFWS 2011), the USFWS reviewed the current status; the environmental baseline; the direct, indirect, and cumulative effects of the proposed Permit action, and cumulative effects for the Covered Species. The USFWS concluded in the Biological Opinion (USFWS 2011) that the proposed Permit action will not appreciably reduce the likelihood of survival and recovery of the Covered Species in the wild. In addition, the USFWS concluded that there is no critical habitat designated for the Covered Species in the action area, and therefore, none will be destroyed or adversely modified by the proposed Permit action.

## CRITERION 5

**The applicant will ensure that other measures that USFWS and NMFS may require as being necessary or appropriate will be provided.**

The USFWS finds that all additional measures required by the USFWS as necessary or appropriate for the HCP are included in the HCP, IA, and/or the Permit. In particular, the IA, an agreement amongst the USFWS, Kent, and NMFS that governs implementation of the HCP, binds Kent to fully implement and fund the HCP.

## CRITERION 6

**The USFWS has received such other assurances as may be required that the HCP will be implemented.**

The USFWS finds that the HCP and the IA provide the necessary assurances that the HCP will be carried out by Kent. By accepting the Permit, Kent is bound to fully implement the provisions of the HCP in accordance with the IA.

## ALTERNATIVES

Two alternatives are analyzed including the No-Action Alternative and the Proposed HCP alternative. Under the No-Action Alternative, Kent would not receive incidental take coverage for its operation of the Clark Springs Facility and would not implement the HCP. Under this alternative, Kent would assume some potential liability for unauthorized take of listed species under section 9 of the Act. The No-Action Alternative is the baseline against which the effects of the proposed action alternative are compared. Under the Proposed HCP alternative, Kent would conduct operations and maintenance activities at the Clark Springs Facility in accordance with the implementation of the proposed HCP and issuance of ITP.

### NO ACTION ALTERNATIVE-A

Under the No-Action Alternative, Kent would not implement the proposed HCP and would not receive incidental take coverage for the effects of its operations at the Clark Springs Facility on listed species of fish in Rock Creek. Kent would be required to ensure that the Clark Springs System is in compliance with the take prohibitions under section 9 of the Act, as well as all applicable local, State, and Federal laws and regulations. Kent would continue operations at the Clark Springs Facility consistent with its water rights and, at its discretion, may continue its voluntary augmentation of Rock Creek. Under the No-Action Alternative, Kent would assume liability for unauthorized take of listed species under section 9 of the Act.

This action was rejected because it would not enable Kent to fulfill its purpose and need to fulfill their responsibilities under section 10(a)(1)(B) of the Act, and for Kent to continue its water supply activities at the Clark Springs Water Supply Facility while complying with the Act.

WATER WITHDRAWAL ALTERNATIVE B-PROPOSED HCP ALTERNATIVE

Under the Water Withdrawal Alternative B-Proposed HCP Alternative, the proposed flow augmentation will help minimize impacts to aquatic habitat as compared to the No-Action Alternative. The additional conservation measures to be implemented under this alternative will further improve spawning, rearing, and migration habitat conditions in Rock Creek for the Covered Species, relative to the No-Action Alternative. Kent's commitments will mitigate potential adverse effects to the maximum extent practicable, as required in Section 10(a)(2)(B)(ii) of the Act. If the USFWS did not adopt the Water Withdrawal Alternative B-Proposed HCP Alternative, Kent would still withdraw water from the Rock Creek aquifer, but there would be no guarantee that any of the conservation measures would be carried out. The Water Withdrawal Alternative B-Proposed HCP Alternative is the environmentally preferable alternative.

**GENERAL CRITERIA AND DISQUALIFYING FACTORS -- FINDINGS**

The USFWS has no evidence that the Permit applications should be denied on the basis of the criteria and conditions set forth in 50 CFR 13.21(b) - (c).

**RECOMMENDATION ON PERMIT ISSUANCE**

Based on the foregoing findings with respect to the proposed action, I recommend approval of the issuance of Permit Number TE04197A-0 in accordance with the HCP and its supporting IA.



Richard Hannan  
Deputy Regional Director, Region 1

Sept. 26, 2011  
Date

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