

Introduction

This Habitat Management Plan (HMP) was authorized by Mr. Taudd Hume to address the riparian habitat associated with the proposed preliminary plat of the JRP Land LLC property. The Spokane Municipal Code (Section 17E.020.050 *Regulated Activities*) provided guidance in the development of this HMP.

The purpose of the Fish and Wildlife Conservation Areas chapter in the City's code (SMP 17E.020 *et. seq.*) is to: "protect the public health, safety and welfare by providing protection for environmentally sensitive areas and their functions and values, and by preserving and protecting fish and wildlife habitat conservation areas through the regulation of development . . ." Furthermore, specific to the property discussed herein, the intent of the Riparian Habitat Area is to maintain the riparian habitat function and values associated with Latah Creek.

The City of Spokane's Shoreline Master Plan Hydrologic Assessment deems the majority of the shoreline and associated habitat in the area of this property as not properly functioning. Moreover, the 2005 Conservation District Properly Functioning Conditions study rated this particular reach of Latah Creek as functionally poor and at risk for the entirety of its length. The HMP proposes to address and correct many of the issues that lead to the poor performance of this riparian habitat area through appropriate buffer averaging, protection and enhancement of a wildlife migration corridor, planting of native vegetation, fencing removal, HMA protection signage and the implementation of a viewing area. By implementing these proposed enhancements the City of Spokane can realize its obligations of preserving and restoring this important habitat area.

The JRP Land project will consist of proposed lots located on 47 acres. The layout is adjacent to Latah Creek that is identified as Interim Zone Segment 6. The project is located in existing parcels 35312.0002, 25361.0006 and 25361.0007 Section 36 T.24N, R. 42E- City of Spokane, Washington. This section of Latah Creek has a Riparian Habitat Area (RHA) which is established 250' from the Ordinary High Water Mark (OHWM) or the 100-year floodplain-whichever is the greatest distance. The intent of the RHA is to maintain the riparian habitat function and values associated with Latah Creek. Averaging will not allow development any closer than 130' from the OHWM or the site potential tree height, but in no instance less than fifty feet from the OHWM (17E.020.050 (B) (2) (m) (i)). The decrease is allowed if the increased buffer begins 250' from the Ordinary High Water Mark (OHWM).

The proposed project involves reducing the RHA within a western portion of the property (see attached site plan for buffer reduction areas). The majority of the reduced buffer area is previously disturbed with several outbuildings and crossfencing limiting the current wildlife utilization. The HMP recommends: 1) the RHA will be allowed a reduction within specified areas; 2) that an increase of riparian habitat be identified beyond the easternmost 250' RHA to allow the proposed RHA reduction; 3) protection and habitat enhancement of a contiguous corridor established for wildlife use; and 4) installation of educational signage, trail system and a viewing area. The Habitat

Management Plan was developed in consultation with Stantec Engineering, Washington Department of Fish and Wildlife, Washington Department of Ecology and the City of Spokane Planning Department.

The initial site assessment was conducted in October, 2008, November 6, 2009, January 14, 2010 and again on June 19, 2016. The primary investigator was William T. Towey, a qualified habitat biologist with over 25 years of habitat related professional experience.

Methods

The field investigation consisted of assessing the current condition of the riparian area and an assessment of potential buffer averaging areas, establishment of the OHWM and enhancement/protection opportunities relative to the current RHA. Aerial photographs were obtained and utilized to identify habitat conditions and formulate recommendations. The final recommended actions will provide for a functioning riparian area while allowing development inside portions of the RHA. The buffer reduction will be coupled with habitat protection and enhancement buffer averaging. The identified buffer encroachment equals 124,053 sq.ft. and will be compensated at a 3.4:1 ratio equaling 421,246 sq.ft. The total proposed buffer for the project is 1,032,370 sq.ft., an increase of 421,246 sq.ft. in buffer protection. The protected riparian buffer will preserve, in perpetuity, wildlife habitat and other values associated with Latah Creek and the surrounding area.

Results and Discussion

Site Description/Analysis

The specific reach of Latah Creek associated with this proposed project contains current and projected future transportation infrastructure (SR-195, railroad crossing and new interchange), single family dwellings, the former location of a mobile home park, mini-center and commercial use, agriculture use, an electrical sub-station, and a sanitary sewer. The City of Spokane Shoreline Master Plan's hydrologic assessment deems the majority of the reach as entrenched (not properly functioning). The assessment documents the channel straightening, bank hardening projects and channel entrenchment due to the construction of SR-195. The shoreline vegetation consists of intact grass and shrub vegetation. The shoreline habitat transitions to a pine tree (*Pinus ponderosa*), wild rose (*Rosa spp.*) and snowberry (*Symphoricarpos albus*) community. The area generally lacks any significant vegetative stands which contributes to degraded wildlife habitat along the creek. The 2005 Conservation District Properly Functioning Conditions study rated this reach as functional at risk and poor to fair ecological function for 100-percent of its length and that most of the ecological functions are not functioning adequately. This reach is generally in poor condition.

The shoreline area transitions to an open-grassland type habitat which appears to be historically used for agricultural purposes and has degraded habitat conditions. This

previously disturbed area is very low in habitat and rates low for riparian function and value. This area transitions to a well established pine tree, wild rose and snowberry community. This area serves as optimal habitat for wildlife and is high in riparian function and value. The area was identified as important habitat to protect due to the connectivity to a larger-contiguous forested area associated with protected land in ownership by the City of Spokane.

Recommended Actions

The habitat assessment identified the following opportunities associated with the development of the property. The recommendations are based on the objective of maximizing the exchange of biological attributes within the riparian corridor. The recommended area for the built environment is located in the most disturbed portion of the riparian corridor. Enhancements to this area would be least desirable as the most benefit would be gained through protecting and enhancing the riparian corridor that is currently in good condition and providing ecological benefits.

The HMP was developed to be consistent with the purposes of the City Code. Specifically, the code requires compliance with specific elements that are highlighted and addressed (in bold) as follows:

1. 17E.020.050. Latah Creek riparian zone segment 6 may allow buffer averaging if it can be shown through a HMP that the averaging will not negatively affect the riparian habitat. Buffer averaging shall comply with the following criteria:

Averaging shall not allow development any closer than one hundred thirty feet from the OHWM or the site potential tree height, but in no instance less than fifty feet from the OHWM, as determined for the project area.

The proposed buffer in this area is at one hundred thirty feet from the Ordinary High Water Mark.

2. The area that the buffer is reduced should be those areas already impacted by development. New development using buffer averaging will be clustered within existing development or be developed within the most disturbed portion of the site if there is no existing development as determined through a HMP.

The majority of the site has previously been developed and utilized for

agricultural activities. As such, the full extent of the proposed buffer reduction area has been impacted by existing development. However, the greatest buffer reduction will be located in the southern portion of the property in an area currently occupied by a farm house and outbuildings and the most active, consistent farming activity. The proposed area for buffer increase is the least disturbed, most natural parts of the property with adjacency to the City Park. The City of Spokane's Shoreline Master Plan Hydrologic Assessment deems the majority of the shoreline and associated habitat in the area of this property as not properly functioning. Moreover, the 2005 Conservation District Properly Functioning Conditions study rated this particular reach of Latah Creek as functionally poor and at risk for the entirety of its length.

3. The area to be increased shall be adjacent to the RHA, on either side of the stream, and suitable for riparian habitat. Measurement of the increased buffer area shall begin two hundred fifty feet from the OHWM.

The proposed tract is located adjacent to the RHA. Webster's dictionary defines "adjacent" as: "not distant and near," or "having a common endpoint or border." The proposed buffer tract shares a common border with the existing buffer area on the north end of the property, runs easterly up the hillside and then south across the nearby hillside. The proposed buffer tract is adjacent.

The proposed buffer tract qualifies as "riparian" under the definition contained in SMC 17A.020.180. It contains elements of both aquatic and terrestrial ecosystems throughout the tract, where the biological and physical properties of the adjacent aquatic ecosystems are influenced and benefitted by adjacent vegetation, nutrient, and sediment loading, terrestrial wildlife. The area includes not only streamside vegetation, but also upland vegetation that is part of the zone of influence for the riparian area. The buffer tract allows for a contiguous upland and aquatic habitat corridor to be utilized by terrestrial and aquatic species. The protected buffer tract would be utilized by amphibians,

bald eagle (Haliaeetus leucocephalus), beaver (Castor canadensis), heron (Ardea Herodias), waterfowl, neo tropical migrants, pheasants (Phasianus colchicus), white tailed deer (Odocoileus virginianus), belted kingfisher (Megaceryle alcyon), owls, and other small mammals. As evidenced by the existing game trials, the proposed tract also has high wildlife density and species diversity, and serves as an important wildlife movement corridor.

It is worthy to note that pursuant to the City's code the RHA extends 250 feet landward from the Ordinary High Water Mark regardless of the type of terrain it encounters. In many places along Latah Creek, this 250 foot buffer runs directly up a steep slope that is of much poorer riparian quality than the proposed buffer tract – but yet is still considered “riparian” by definition. By contrast, the proposed riparian corridor for the proposed subdivision provides important aquatic, floodplain and upland functions to the local ecosystem. It is adjacent to the Riparian Habitat Area and is considered ecologically connected to the riparian corridor habitat.

4. Buffers will only be averaged within individual parcels or along parcels of common ownership that are immediately adjacent. Multiple parcels cannot be combined into a single parcel.

All parcels utilized for the buffer tract are along parcels of common ownership that are immediately adjacent.

5. Buffer averaging will require a habitat management plan prepared by a qualified biologist that is subsequently reviewed by WDFW staff. Enhancement and/or preservation plans will include, but are not limited to:
 - clean-up and/or removal of trash, foreign debris, noxious or invasive vegetation or toxic materials;
 - stabilization of eroded or unnaturally disturbed riverbank with materials that are

native to that particular section of the shoreline;

- installation and/or reintroduction of sufficient native flora as to significantly enhance the function of that stretch of streamside habitat for wildlife use.

This Habitat Management Plan contains all of the foregoing elements.

Recommended actions within the riparian corridor include: 1) a RHA reduction within an area currently disturbed with building infrastructure, fencing and a road; 2) protection of the identified forested area- that provides riparian habitat connectivity- through habitat buffer averaging; 3) protection of a wildlife migration corridor that would provide connectivity to Latah Creek and the forested buffer averaging area; 4) enhancements to include vegetation enhancement, fencing removal, RHA protection signage, trail system and a viewing area; and 5) use of plantings and vegetation enhancements to help further stabilize shoreline areas which have encountered previous erosion. The protected areas waterward of the RHA will be placed into a common open space designation and managed by a homeowners association or other third party entity.

RHA Buffer Reduction/Buffer Averaging

Current riparian habitat (condition and extent) were mapped during the habitat assessment. The extent of the intact current riparian vegetation will be protected within the recommended RHA buffer reduction. The buffer reduction distance was calculated down to the allowed 130 feet distance considering the location of the previous development and farming activity. The riparian corridor area was delineated as the floodplain (100 year) using scientific guidance from *Riparian Ecotone: A Functional Definition and Delineation for Resource Assessment* (Verry et al. 2004). This riparian corridor provides important aquatic, floodplain and upland functions to the local ecosystem. The proposed buffer averaging area is adjacent to the Riparian Habitat Area and is considered ecologically connected to the riparian corridor habitat.

The Washington State Forest Practices Rules Chapter 222-16 and 30 were used for guidance on the site potential tree height. The project reach is categorized as a *Site Class III* which drives the Riparian Management Zone (RMZ) buffer width. The site potential tree height is based on a 100-year site index range for Eastern Washington. The total RMZ width for the *Site Class III* is 100'. Based on this information-the allowable riparian buffer reduction is nothing greater than 150' from the established RHA. This proposal limits the buffer reduction to 120' and does not take advantage of further reductions based on site potential tree height.

The largest reduction to the RHA is recommended in the area that has already been impacted by development (outbuildings, cross-fencing and agricultural uses). The reduction of RHA habitat will be replaced (at a 3.4:1 ratio well above the required 2:1) with habitat protection. The buffer reduction and buffer averaging recommendations are consistent with, and were guided by, the City of Spokane Municipal Code.

Wildlife Migration Corridor Protection

A natural wildlife migration corridor was identified in the northwest portion of the property. This area is recommended for protection because it will afford connectivity from Latah Creek- and the associated protected RHA- to the protected forested areas to the east. There is current wildlife movement through this area evidenced by noticeable game trails. A vegetation enhancement area will provide increased cover and staging areas for wildlife.

Enhancements

Vegetation Enhancement- An area was identified (see attached site plan) for vegetation enhancement that would improve upon habitat conditions of the wildlife migration corridor and the Latah shoreline area-all within the Latah riparian corridor. The existing pine tree habitat would be extended in a northerly direction with pine tree, snowberry (*Symphoricarpos albus*) and wild rose (*Rosa spp.*) plantings and the riparian area will be improved with the addition of aspen trees (*Populus tremuloides*), black cottonwood (*Populus balsamifera var. trichocarpa*), and hawthorn (*Crataegus douglasii*). The increased habitat will provide for cover and increase the value of the area as a wildlife migration corridor.

| Common Name | Scientific Name | Quantity | Size |
|------------------|---|----------|--------------|
| Hawthorn | (<i>Crataegus douglasii</i>) | 10 | 5 gallon min |
| Wild Rose | (<i>Rosa spp.</i>) | 20 | 5 gallon min |
| Pine Tree | (<i>Pinus ponderosa</i>) | 10 | 5 gallon min |
| Snowberry | (<i>Symphoricarpos albus</i>) | 20 | 5 gallon min |
| Black Cottonwood | (<i>Populus balsamifera var. trichocarpa</i>) | 5 | Burlap Ball |
| Aspen | (<i>Populus tremuloides</i>) | 10 | Burlap Ball |

Vegetation Installation-

Shrubs and trees shall consist of a five gallon minimum- commercially obtained nursery stock. The plan recommends larger black cottonwood and aspen trees for the enhancement area. If however, five gallon black cottonwood and aspen trees are planted- the quantity will double. All plants will be laid out in their designated areas. Holes should be dug in a square shape that measures twice the size of the container of the plant. The sides of the hole must be scored so that the roots have an increased chance of traveling outside of the hole. The roots of the plants should be loosened slightly, and then placed in the hole in an upright position that is level with the ground surface. A fertilizer packet should then be applied to each root ball. It is highly recommended that

plant stock of mature size be obtained, where feasible, to maximize the survivability of the transplant. Each area must have a minimum of two inches of water applied directly after planting is complete. It is recommended that the restoration planting be scheduled between October and November.

Vegetation Maintenance-

The vegetation will be watered throughout the dry periods of the growing season either through hand watering (water truck or ATV water tank) or preferably a drip irrigation system. The site will require monitoring for noxious weeds for five years. All noxious weeds need to be removed immediately. Dead plants should be replaced and maintained for a period of five years to ensure their survival through time.

Monitoring-

The restoration area must be monitored year round, with an annual report submitted to the City of Spokane Planning office by October 31 of each year. The report must contain condition of plants (living or replaced) and a photo inventory of the restoration area. The report should be completed for the first three years after plant installation.

Fencing Removal- The property contains various fencing from historic agricultural practices. These fences will be removed to improve habitat conditions associated with the protected RHA. The elimination of fencing will allow for increased wildlife movement throughout the available habitat.

Protection Signage- Signage will be provided to establish the RHA protection boundaries and educate the human population to the value of the protected area. Signage will be positioned to maximize visibility.

Viewing Area/Trail System- A viewing area will be established in close proximity to the vegetation enhancement area. The shoreline and viewing area will be accessible to the public by a designed trail system (see attached Trail System drawing). The area will allow people to enjoy the view of Latah Creek and the protected RHA area.

Shoreline Protection

An area was identified on the right bank of Latah Creek (see attached site plan) that has potential for shoreline stabilization through establishment of vegetation. Protection of existing vegetation (which will establish itself over time) and additional plantings of willow, alder and hawthorn is recommended for this area. The stabilization will improve upon riparian habitat conditions and provide further channel migration containment.