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February 3, 2023

Multnomah County Planning Commission  
Multnomah County Land Use Planning  
1600 SE 190<sup>th</sup> Avenue  
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Submitted by e-mail to:

[lup-hearings@multco.us](mailto:lup-hearings@multco.us)

Re: Testimony on the Metro North Tualatin Mountains applications

Case No. T3-2017-9165 / T4-2017-9166

Dear Chair Ingle and Planning Commissioners:

Thank you for the opportunity to provide testimony about this complicated application. I have attached to my email several documents that I reference in this letter.

I urge all of you to visit the Burlington Creek Forest site and walk the existing gravel road, if possible, before you make a recommendation about this application. The property is extremely steep.

I can't tell you how sad and discouraged I am that I need to write and submit this testimony about Metro's proposals for their Burlington Creek Forest property. I spend much of my time working as a volunteer to protect wildlife habitat and headwater streams in and around Forest Park. I have advocated to keep "Forest Park Connections" and "Upper Rock Creek" as target areas in Metro's early natural areas bond measures, and was delighted when Metro purchased these properties. It is critical that the long, narrow peninsula that is Forest Park maintains strong habitat connections to the Coast Range, Willamette River, and to Rock Creek on the Tualatin Valley side of the hills.

Metro has used their Natural Areas bond measure to protect critical habitats across the region. I support their current plans for the Ennis Creek, McCarthy Creek, and the North Abbey Creek areas. The early plans for McCarthy Creek included a problematic trail that has since been removed from their plans. I appreciate that Metro has set aside large areas on these properties that they currently plan to leave undisturbed.

I don't have a great deal of confidence, though, that those plans won't change over time to add more trails and opportunities for human access. The Pacific Greenway trail that Metro supports would run not only through the Ennis Creek property, but they expect it to connect to the gravel road through Burlington Creek Forest and then through the "Conservation Area" portion at the north end of Burlington Creek Forest. Metro trail planners are also interested in building a regional trail through the

North Abbey Creek property. So I view Metro's promises of setting aside large blocks of undisturbed habitat with some skepticism.

I will separately submit Metro's 2017 Recreation Ecology Literature Review<sup>1</sup>, which summarizes research findings related to recreation effects on wildlife and habitat as reference material. Some quotes are included in the footnote below.

Metro uses the same basic language to argue for the quality of their plan in many places in their applications. I'm not going to try to identify them all. I will focus on one key approval criteria, but these comments will apply to others.

Section 10.06 of the staff report (page 190 of the staff report PDF) assesses Approval Criteria for Community Service use:

### **§ 33.6010 APPROVAL CRITERIA**

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<sup>1</sup> Recreation Ecology Literature Review, Metro, 2017.

From pages 54 & 55: "In a central Spain experimental study, researchers simulated human disturbance (walkers) on frogs using stream banks.[261] The more a given frog was disturbed, the longer it took to recover to pre-disturbance activities. This suggests sensitization, the opposite of habituation. Flight initiation distance did not differ between low and high disturbance levels, although FID was shorter where there was higher vegetative cover, possibly either because (a) the perceived risk of predation was less because they could hide, or (b) the frogs couldn't see the approaching person until he/she was close. Frog abundance was lower in areas closer to recreational areas, suggesting population-level disturbance effects."

From page 55: "Invasive species may be an issue for some amphibian species. A study in Gresham, Oregon examined amphibian community composition and occurrence patterns in relationship to various local and landscape attributes. Three out of five native amphibian species were negatively correlated with invasive species.[393] Trails are vectors for invasive species, and such introductions could reduce breeding habitat quality for some pond-breeding amphibian species."

From page 66: "Pregnant elk or groups with young do not appear to habituate to recreational disturbance. Recreation can directly, negatively affect elk reproductive success, with potential population-scale effects. A 5-year disturbance study on elk reproductive success in Colorado found that undisturbed control sites' calf/cow proportions were similar throughout the study period.[194] In treatment sites (1 pre-disturbance year, 2 disturbance, 2 post-disturbance), productivity rebounded following release from disturbance and recovered by the second post-disturbance year, but there was no increase in productivity to make up for losses. This study demonstrates the potential for significant population effects over time in recreational areas and makes a strong argument for leaving some areas undisturbed."

From pages 70 & 71: "Animals are more alarmed when visitors behave in unpredictable ways, therefore faster approaches generally elicit a stronger antipredator response and cause longer flight distances compared to slower approaches.[19, 247, 254, 316-318] For example, several studies found that mountain bikers[260, 296, 316, 486] and joggers or trail runners[297, 316, 317] caused a greater antipredator response than hikers or equestrians."

From page 72: "Taken together, these studies suggest that:

- People with dogs may be more disturbing to wildlife than any other non-motorized recreational use.
- When visitors stay on trails, mountain bikers and joggers/trail runners tend to be more alarming to wildlife than hikers because they move faster and wildlife encounters can be sudden and unpredictable.
- Off-trail hikers and perhaps any off-trail users (we did not find off-trail research for other user groups) are most alarming to wildlife, because animals do not expect to encounter people there and these users' movements are therefore unpredictable.
- Among non-motorized recreational uses, equestrians appear to have the least effect on wildlife."

**In approving a Community Service use, the approval authority shall find that the proposal meets the following approval criteria, except for radio and television transmission towers, which shall meet the approval criteria of MCC 33.6100 through 33.6125, wireless communications facilities which shall meet the approval criteria of MCC 33.6175 through 33.6188; and except for regional sanitary landfills which shall comply with MCC 33.6200 through 33.6230.**

**(B) Will not adversely affect natural resources;**

Here is Metro's response to this Approval Criteria. Because it is several pages long and I disagree with many of the arguments, I am going to embed my comments within the Metro text, using indentation and a different font so they'll be easily distinguishable.

*"The Burlington Creek Forest is one of four forested sites that are the subject of the North Tualatin Mountains Access Master Plan. That Master Plan is being considered by the County under a separate application for a County Comprehensive Plan text amendment.*

*The Master Plan is designed to provide a long-term vision and implementation strategy to guide land management and public use of the North Tualatin Mountains. The plan was developed by land and property managers, landscape architects, independent consultants, scientists, planners, naturalists, project stakeholders, and community participants.*

*Metro employs a science based approach to site management and conservation. During the master planning process, Metro scientists provided baseline information about current conditions, conservation targets and habitat restoration goals, guided by conservation biology, site knowledge, research, and by using external experts to evaluate possible impacts of potential access opportunities. Metro scientists then worked with Metro's planning team to develop access opportunities that are compatible with habitat, wildlife, and water quality goals for the natural area. The process identified suitable locations and activities for recreation while seeking to stabilize and restore diversity and the ecological health of the site.*

Metro's Site Conservation Plans (SCP) are the basis for Metro's argument that they have employed a "science based approach," thoroughly researched the habitat and wildlife needs of these sites, planned the recreational uses to minimize harm, and planned monitoring that will allow them to adjust trail use if necessary.

The SCP is Exhibit A.3.17 (in Exhibit A.3, starting on page 93 of the PDF) and Exhibit A.4. This is the all-important science Metro and the advisory committee relied on to decide how much human access, and what types of access, should be allowed on each site.

Here's what the Burlington Creek SCP says about wildlife (Exhibit A.3, page 100 of the PDF):

A thorough ecological inventory and assessment has not been done for the site. Listed and rare species, such as Chinook salmon (juvenile Chinook salmon were detected during fish surveys on Burlington Creek Forest in 2012), northern red-legged frog and others almost certainly occur in Burlington Creek Forest. Coho and winter steelhead are present in lower Burlington Creek Forest.

### Rare species known to occur at Burlington Creek Forest

	ORBIC LIST	FEDERAL STATUS	URBANIZING FLORA (2009)
<i>No documented occurrences of rare species, though species like red-legged frogs, Chinook salmon, steelhead, etc. seem likely.</i>	N/A	N/A	N/A

Similar language is used in the other SCPs for the North Tualatin Mountains properties. These plans focus on habitat and say little more than what you see above about wildlife. There are no goals or conservation targets for wildlife in any of these SCPs, so Metro can easily claim that their access plan is compatible with their (nonexistent) wildlife goals.

When Metro developed this plan, ODFW staff knew there were Northern Red Legged Frogs migrating across Burlington Creek Forest in large quantities – Metro only needed to call or email them to get information about rare and sensitive that they were missing.

How can anyone accurately assess whether opportunities for human access will be harmful to sensitive state listed species in a “science based” way if you don’t know what sensitive species are present, have at least an estimate of how many use the area and for what purposes, and what parts of the property they use?

Metro decided to allow heavy recreation use in the Burlington Creek Forest property and planned a substantial trail network before they knew of the property’s importance for Northern Red Legged Frog migration.

The SCP for Burlington Creek does discuss climate change effects (Exhibit A.3, page 104 of the PDF), several of which are understood to threaten Northern Red Legged Frogs and other amphibians including increased summer temperatures, reduced water availability in summer, increased risk of wildfire, disease introductions and/or increased vulnerability to disease.

Here’s the Monitoring Plan in the Burlington Creek Forest SCP (Exhibit A.3, page 106 of the PDF). The plan’s conservation targets are all habitat based, not about wildlife. Wildlife monitoring is described as “appropriate,” but Metro doesn’t commit to actually do any monitoring. There are no specific goals or measures, and no specific frequency for that monitoring – those are key characteristics for effective plans.

### MONITORING PLAN

Monitoring for key ecological attributes associated with the site’s conservation targets will largely be done via periodic visual assessment. In addition, periodic wildlife monitoring would be appropriate for the North Tualatin Mountains sites, focusing on long-term tracking of the avian community and periodic assessment of the terrestrial salamander population as it relates to increasing understory and large woody material improvements over time.

*The final product and public improvements contemplated are the result of over two years of significant public outreach effort – including community meetings, public open houses, surveys, and outreach. The project stakeholders were Laurel Erhardt, Skyline Ridge Neighbors; Brad Graff, Skyline Ridge Neighbors; Jerry Grossnickle, Forest Park Neighborhood Association; Andy Jansky, Northwest Trail Alliance; Shawn Looney, West Multnomah Soil and Water Conservation District; Renee Myers, Forest Park Conservancy; Travis Neumeyer, Trackers Earth; Jinnet Powell, Skyline*

*School; Emily Roth, Portland Parks & Recreation; Jim Thayer, Oregon Recreation Trails Advisory Committee; Roger Warren, Oregon Department of Forestry; and, Susan Watt, Skyline Ridge Neighbors.*

Metro traditionally included representatives of neighborhood associations whose territory included a Metro property in their advisory committees. The North Abbey Creek Forest property is within Forest Park Neighborhood, but when they built the advisory committee for this project they did not include a representative from Forest Park Neighborhood Association (FPNA). When the FPNA land use chair, Jerry Grossnickle, asked Metro about the advisory committee after learning they had held several meetings, he was invited to join the committee. Jerry asked Metro for agendas, minutes, presentations, or other materials from the meetings he missed. He was told that there weren't any. Metro had held several advisory committee meetings, but they told him that there were no materials from those meetings. We were incredulous -- a government agency was holding public advisory committee meetings with no materials or records.

During the North Tualatin Mountains planning process, I heard many stories from local residents about high-handed Metro staff and contractors who dismissed local knowledge and concerns. It was dispiriting because I admire many Metro staff members. Many locals turned up for Metro open houses to share their knowledge about local wildlife and comment on Metro's proposals, only to find the room filled with hundreds of mountain bikers from far across the region who far outnumbered them. The open houses left many locals feeling their input didn't matter. Of course the mountain bike community should have a say, but Metro could have held separate outreach events, one for locals and one for mountain bikers to avoid making local residents feel unwelcome and disrespected.

*The plan's goals include: Protecting fish and wildlife habitat and water quality while providing opportunities for meaningful experiences of nature in a safe, controlled, and sustainable manner. The visitor access and land management activities proposed for Burlington Creek Forest represent that balanced approach.*

This is accurate – the plan's goals are about protecting wildlife habitat, not wildlife.

*The design presented for land use approval:*

- *Protects and enhances natural and scenic resources by protecting large blocks of forest and core habitat;*
- *Integrates community and partner suggestions;*

The plan incorporates some community and partner suggestions, but does not comply with input from Amphibian experts.

- *Identifies and accesses the best location for day use and trail heads;*
- *Utilizes existing roads and locates new trails to avoid and minimize impacts to sensitive natural resource areas.*

This is a key point – the plan does not use the existing gravel road in the Burlington Creek Forest

site as often as it could to reduce the number of new trail creek crossings. ODFW recommended avoiding new creek crossings, as I will discuss in detail in the section below on Amphibians.

- *Employs sustainable trail construction techniques;*
- *Provides safe ingress and egress and internal movement of vehicles and pedestrians; and*
- *Is designed consistent with the surrounding landscape and uses and in a scale and character that the community supports.*

As the public testimony you have received shows, many local community members do not support this plan.

*The plan and design under consideration is the product of nearly three years of work by Metro, partnering agencies, the community, and stakeholders.*

*Generally, site rehabilitation and management of the subject property will be pursuant to a Site Conservation/Restoration Plan, produced by Metro, which continues restoration aimed to protect and enhance the forest's natural and scenic resources and to create a place for wildlife to thrive and water quality to be protected. Exhibit 1 [Exhibit A.3.17]. Metro's Site Conservation Plan identifies desired future conditions for riparian areas and the forest. See also Exhibits 5 [Exhibit A.3.22] and 10 [Exhibit A.3.27] for current cover maps and conservation targets."*

**Applicant: [Exhibit A.24, June 10, 2019]**

***"Recreation and Wildlife/Amphibian Concerns***

*Some community members have asserted that trail development will result in adverse impacts to wildlife, including red-legged frogs. The below information on wildlife and amphibian concerns and potential recreational impacts was provided by Metro's team of scientists, including Katy Weil<sup>1</sup> and Jonathan Soll<sup>2</sup>.*

The "community members" in question include ODFW and two well-known amphibian experts – Char Corkran<sup>2</sup> and Sue Bielke<sup>3</sup>, all of whom submitted written input to Metro during their comment period. I have attached all four documents to my email testimony.

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<sup>2</sup> Char Corkran is a wildlife consultant and naturalist who helped found the [Northwest Ecological Research Institute](https://www.nwparc.org/). She is the co-author of *Amphibians of Oregon, Washington, and British Columbia* with Chris Thoms.

The web site for Northwest Partners in Amphibian and Reptile Conservation at [www.nwparc.org/luminary-award](http://www.nwparc.org/luminary-award) (accessed February 3, 2023) includes this award citation, with a photo of Metro's Katy Weil presenting the award to Char Corkran:

**2017 Unsung Hero Award Recipient- Char Corkran**

Char Corkran, from Portland, Oregon, has been a passionate force for Northwestern amphibian and reptile conservation for over 30 years. As a naturalist she is unparalleled, and has worked with numerous partner groups to foster herpetofaunal inventory and monitoring trainings and programs, habitat restoration projects, and educational products. Her extensive experience and understanding of amphibians led her to write, with co-author Chris Thoms, the 1996 *Amphibians of Oregon, Washington, and British Columbia: A Field Identification Guide*, an indispensable resource. Char developed a well-known training program for identifying pond-breeding amphibians and she has similarly influenced Western pond turtle monitoring in the region. Additionally, she helped to organize a local nonprofit, the Northwest Ecological Research Institute (NERI, 1984–present), which has been and continues to be an essential mechanism for the implementation of herpetological surveys.

<sup>3</sup> Sue Bielke helped found and was a long term volunteer with the Harborton Frog Ferry project in Linnton.

*Metro's mission is to protect water quality, fish, and wildlife habitat and create opportunities to access nature close to home. Metro recognizes that creating public access can have impacts to wildlife, but it is the opportunity to experience and learn about nature that introduces kids and families to the wonders of the outdoors, creates healthy lifestyles, and develops the next generation of conservation leaders.*

### *Science-based Approach*

*During the access planning process, Metro scientists provide baseline information about current conditions, conservation targets, and habitat restoration goals. Metro scientists draw on recognized conservation biology principles, site knowledge, research, and external experts to provide a description of a natural area's natural resource values. They evaluate possible impacts of potential access opportunities and work with the planning team to develop access opportunities that are compatible with the wildlife and water quality goals for a natural area. This process to identify priority locations and activities for recreation builds on the work of Metro scientists and land managers to stabilize and restore the ecological health of the site. When acquired by Metro, the North Tualatin Mountain sites were dominated by Douglas fir tree farms, having been clear cut and restocked several times. Habitat diversity and characteristics that define a healthy forest or ecosystem were lacking. Metro's Site Conservation Plan (SCP), Exhibit 1 [Exhibit A.3.17] of our application, identifies desired future conditions for the forest and riparian areas. The desired conditions will promote native trees and shrubs; provide habitat for migrating and nesting birds, mammals, and amphibians; and protect water quality and riparian habitat while promoting cooler in and over water temperatures – none of which was a prior management objective for the site under former ownership. The SCP guides Metro's stewardship and restoration work, serving as a tool for protecting and enhancing the unique characteristics of the site while also allowing for access by the public. The SCP was developed in collaboration with Metro scientists, land managers, and planning staff. The SCP defines the key ecological attributes, conservation targets, and recreation and access objectives for the site.*

Metro here acknowledges that their SCP, which I quoted above to demonstrate how little information it includes about the Northern Red-legged frogs or other sensitive species, is the basis for their access planning.

### *Core Habitat Areas*

*Included with the NTM access master plan are recommendations to maintain the sites' ecological function while providing public access. The proposed plan preserves over 1,000 acres of protected core habitat at the four sites. This includes about 125 acres at Burlington, 350 acres at Ennis Creek Forest, 320 acres at McCarthy Creek Forest, and 210 acres at North Abbey Creek Forest.*

*Out of an existing 1,300 acres, Metro's plan preserves over three-fourths of the total acreage of the NTM sites.*

Unfortunately, the preserved habitat on the other Metro properties can't substitute for the Red-legged frog migration pathway through the Burlington Creek Forest. These frogs spend most of the year in upland forests and migrate to ponds to breed. In this area, Burlington Bottoms provides the only available breeding ponds (fortunately they are ample and high quality ponds). To get to those ponds from the Tualatin Mountains most frogs (which can migrate up to 4km)

will cross Metro's Burlington Creek property. These frogs typically return to the pond where they hatched and move along a point-to-point path, not seeking out streams. I have included a crude mark-up of a Metro aerial photo and graphic of the North Tualatin Mountains properties at the end of this testimony<sup>i</sup> showing the location of the breeding ponds and how the frogs will move across Burlington Creek Forest to get to the ponds and to get back again. British Columbia has an excellent Management Plan for Red-legged Frogs with good basic information about these frogs, which I will submit in a separate email due to its size.

### *Amphibians*

*Red-legged frogs have been highlighted as a concern by some community members and are noteworthy for several reasons. Red-legged frogs are designated a conservation strategy species by ODFW and considered declining and vulnerable. Although U.S. Highway 30 poses a significant barrier, some amphibians successfully migrate between Burlington Creek and Ennis Creek forests and breeding habitat on the east side of Highway 30. A group of volunteers (Harborton Frog Rescue) catches and transports frogs across Highway 30 at designated locations during late winter and early spring when they migrate to local wetlands to breed and then to return to upland forests. Metro's conservation science team, in addition to knowledge gained through decades of experience and study, conducted a thorough review of red-legged frog literature. That together with basic conservation biology theory and common sense indicates that impacts from trail development will be minimal and be far surpassed by the benefits of Metro's restoration work. Specific noteworthy points include:*

Declining and vulnerable. The ODFW documents attached to my testimony show that large numbers of Red-legged frogs cross Highway 30 every year – their February 2016 letter to Metro documented 140 moving across the Highway on a single night. Happily, Highway 30 will soon be less of a barrier for migrating amphibians. Multnomah County recently approved a permit for CREST (Columbia River Estuary Study Task Force) to build an undercrossing with lighting and fencing that will serve amphibians moving from Burlington Creek Forest to Burlington Bottoms. This work was done on CREST's initiative and funded by BPA, as far as I can tell from the information I received from CREST, Metro played no role in this project. I will attach the county's Notice of Decision T2-2022-15746 NOD 10282022, which includes a map showing the location of the undercrossing near the middle of Burlington Creek Forest. CREST studied the most effective location for this new structure.

The ODFW 2016 letter to Metro is explicit about their concerns (which I will discuss in more detail below), they are not confident that Metro's many beneficial habitat improvements will offset the harm from the proposed new trails, and they ask Metro not to build new trails and take other steps to reduce the harm resulting from the additional recreational use. "While ODFW expects wildlife in general to benefit over the long-term from Metro's planned forest management prescriptions aimed at increasing tree growth and developing mature/late-successional conifer forest characteristics (e.g., multi-layer tree canopy, snags and down wood), we are unsure if these actions will off-set negative effects likely to result from trail development (e.g. habitat fragmentation) and resulting increased human presence (e.g., disturbance)."

- *Frogs move during rain events and at night times. The Nature Park is not open for public use after sunset. Park use would be less during rain events. Thus, conflicts are more than likely not to occur.*



- *Animals that are capable of travelling ½ mile or more between breeding ponds and non-breeding habitat, including crossing major highways, railroad tracks, residential streets and driveways, hardscapes, development, and intensively managed landscapes are not going to be adversely impacted by narrow, soil surface trails in the forest.*

Apparently, Metro now sees these vulnerable little frogs as little M-1 Abrams tanks. While Red-legged frogs are compelled by their biology to migrate on a straight path through many impediments and hazards, this is a brief (but perilous) portion of their life. The rest of their time they spend in upland forests. The many documented impacts (see the letters from Char Corkran, Sue Bielke, and the two ODFW documents) of even narrow soft-surface trails are likely to affect the frogs during this time in upland forest habitat.

- *Because red-legged frogs have an extensive range, comprehensive monitoring would not lead to increased protection.*
- *Metro has already begun monitoring for direct mortality on the forest road system – which is currently used by maintenance vehicles and recreationalists. To date, no mortality has been observed on the gravel roads. Metro will continue to monitor the road system and trails after they are constructed.*

I have attached the official Metro monitoring plan for these properties. Here's what it says about their Red-legged frog mortality surveys:

Amphibian mortality  
survey on roads

Burlington

2018

- January
- 1 day by Metro staff, post initial scouting site visit
- No road mortality observed within Metro property as well as local access
- High mortality observed on Hwy 30 near the area.
- Walked roads and lower trail alignment
- 2019: Both early morning and evening (approximately 2100 hrs)

#### **Amphibian road mortality surveys**

In anticipation of increased public access at Burlington Creek Forest Metro began conducting amphibian road mortality surveys at Burlington Creek Forest in 2018. This monitoring will continue and add a trail component through access development and after the site has been officially opened to the public. This will allow Metro to document pre and post construction mortality of amphibians and document and respond to any changes. The monitoring consists of trained volunteers walking the existing road system to look for evidence of any amphibian

mortality during migration. The surveys are conducted both early in the morning and in the evening to coincide with typical amphibian movement times and to ensure that mortality that did occur is still visible prior to scavenging by other animals. The first surveys were conducted in the winter of 2018 and no mortality was observed.

The Harborton Frog Ferry volunteer team spends many cold nights in the rain looking for, capturing, and transporting Red-legged frogs and other amphibians from areas around Harborton (well south of Burlington Creek) across Highway 30 and down to a breeding pond in Linnton and then back again. They tell me that in our area, Red-legged frogs (adult and juvenile) migrate between upland habitat and breeding ponds from November through April when:

- It is night.
- It is raining.
- Temperatures are above about 45 degrees F, warmer is better.
- Even when these conditions are met, frogs may not migrate.

Metro admits in above that these surveys are unlikely to find dead frogs: *“Frogs move during rain events and at night times. The Nature Park is not open for public use after sunset. Park use would be less during rain events. Thus, conflicts are more than likely not to occur.”*

Metro is only looking for dead frogs on one day a year. They are looking in the morning and evening, in the belief that those are the most likely frog movement times, but this is wrong – these frogs move during the night. Even if they are looking on a day when the night conditions are suitable, there’s a good chance that frogs won’t be migrating. But the Metro monitoring plan makes no mention of checking to see if the conditions are suitable for frog migration, so there is a good chance they are doing their surveys on days that aren’t suitable. Some scavengers are active overnight, so dead frogs could be eaten between their surveys.

Just as important, though – what use could be made of a single day’s count each year without baseline population counts. Imagine that you have frog counts of 0, 0, 0, 0 each year then a count of 5 dead frogs the 5<sup>th</sup> year. What have you learned?

- Maybe frogs weren’t moving on the one survey day the first 4 years, but they were moving on that day the 5<sup>th</sup> year.
- Maybe the frogs were all eaten overnight by scavengers those zero count years.
- Maybe a crowd of cyclists violated the night-closure (night cycling is popular on trails in Forest Park) on the night of the 5<sup>th</sup> year survey and ran over 5 frogs.
- Maybe the higher count is good news because the frog population increased.
- Maybe the higher count is bad news because more frogs were killed.

With all due respect, I don’t understand how this single day data could be useful by itself. Even with baseline population counts I’m not sure it would be of any use. We know there are a significant number of frogs migrating through this area. Metro has done these surveys since 2018 and not counted any dead frogs – the problem appears to be in the design of the monitoring plan. Frog mortality is only one of several harms that new trails will bring, others are not monitored in any way.

And if Metro did detect a large number of dead frogs, what action could or would they take?

Some have suggested that trails in BCF could be closed during amphibian migration to limit risk of direct mortality. But most frogs move at night, so unless there is illicit nighttime trail use (which is reasonably likely) direct mortality probably isn't going to be the biggest problem. Temporary trail closure would not address habitat fragmentation, reduce creek crossings, or address the loss of micro-habitats and increased predation resulting from construction of new trails.

I am also skeptical that trail closures would be respected by users. Bob McCoy, the Portland Parks & Recreation (PP&R) Ranger who patrols the Forest Park told me that when the Maple Creek Trail was closed in Forest Park due to a broken bridge that a pedestrian had fallen through, they initially installed a tape barrier and trail closed sign, but it was quickly removed. PP&R then installed a more substantial barrier, which was also quickly removed. A subsequent third heavy barrier was not only removed, but dragged much further into the forest. Unfortunately, many trail users are not deterred by trail closure signs and barriers, so unless Metro decommissions a trail I doubt a temporary closure will be respected unless the barriers are monitored 24 hours a day.

I appreciate that Metro is attempting to monitor Red-legged frogs, but they need to follow ODFW's recommendation that they work with a team of outside experts to design an effective and meaningful plan, which should include specific goals. The outside experts should approve the plan, not just contribute comments to Metro. I also note that many wildlife studies are now done using motion sensitive wildlife cameras that work in the dark -- these which seem like a much cheaper and more effective way to monitor frog migration if they're placed in the right locations.

- *The proposed trails will not meaningfully affect microclimate because they are narrow, soft-surface trails and will not adversely affect canopy cover.*

Red-legged frogs use shrub cover and woody debris. Neither are present on a trail. Trails don't just affect their direct surface area, they also have an edge-effect that extends beyond the trail surface itself. I think we should trust the amphibian experts who are not trying to justify a trail plan -- they say that trails have edge effects and do affect microclimates for Red-legged frogs.

Letters to Metro from amphibian experts (see attached letters from ODFW, Char Corkran, and Sue Beilke) make it clear that direct mortality is only one of many possible harms resulting from trail construction and use. Here are the risks to red-legged frogs and other amphibians from trails mentioned in their letters:

- Habitat loss, degradation, and fragmentation
- Invasive species
- Degradation of water quality
- Barriers to movement
- Anthropogenic caused disturbances and hazards, such as increased noise
- Increasing stress/reducing fitness
- Disrupting breeding and foraging
- Direct mortality from trail use

- Illegal collection
- Changes in micro-habitat conditions
- Getting trapped in ruts created by off-road bike tire tracks (making them more vulnerable to direct mortality, predation, and illegal collection)
- Direct mortality due to project construction
- Increased predator access
- Increased vulnerability to the effects of climate change and emerging infectious diseases

• *Metro has addressed guidance provided by ODFW including: utilizing existing roads for visitor use and reduced habitat fragmentation; providing a buffer between trails and infrastructure from streams; minimizing impacts to streams by using bridges that do not constrain the stream channel; improving existing stream crossings to improve/protect stream flow and riparian area function, water quality and habitat, trail and road decommissioning; designing trails to minimize erosion and rutting; and surveying wildlife presence.*

I hope you will read the 2016 ODFW letter and 2017 ODFW Agency review, which I have attached. They contain important information about Red-legged frogs.

Yes, Metro has taken some good steps to comply with guidance from ODFW, but they could have done more to comply with several key recommendations, including these four from ODFW's 2016 comments. Additional recommendations and comments from ODFW have been pasted in below this discussion:

1. Avoid/Minimize construction of new trails and other infrastructure, especially in areas of high quality habitat. Utilize existing roads, trails and other right-of-ways (e.g., power-line corridors) whenever possible to reduce additional habitat fragmentation. Minimize the extent (length and width) of new trail and road.
2. Site new trails and other infrastructure away from streams, including headwater streams (perennial or intermittent). Recommended buffer widths are to be developed on a site specific basis and depend upon site characteristics (e.g., soil, topography), but generally ODFW recommends trails be sited at least 100 m from the 100-year OHW mark of streams, including intermittent and non-fish bearing streams.
3. Avoid / Minimize stream crossings by trails and roads. When crossing streams, use bridges or other designs that do not constrain the stream channel or impede fish and wildlife movement. Consider climate change in crossing designs.
7. Survey / Monitor wildlife presence and habitat use patterns to inform trail siting, habitat management practices, and management of public access (e.g., possible seasonal trail closures).

I believe that Metro could make several trail changes to reduce the number of creek crossings and eliminate trails in at least one key migration area. I am going to use the trail and crossing numbers from the map of the Proposed Trail System at Burlington Creek Forest on page 5 of the staff report.

1. The best approach would be to eliminate all new trails in BCF, because new trails will inevitably adversely affect an important natural resource – red legged frogs. Just keep the existing gravel road.

2. Given the low odds that Metro's current amphibian monitoring in Burlington Creek Forest will yield useful information, approval of this application should be conditioned on Metro developing and implementing a new RLF population monitoring plan using the method in the ODFW report – a plan must be developed and approved by a team of outside amphibian experts working with Metro, not just written by Metro. We now have motion sensitive wildlife cameras that can capture frogs migrating at night which could be used to collect more useful data for less expense than walking trails to count dead frogs one day a year. If the county can't require this monitoring plan be developed and implemented as an approval condition, the construction of any new trails in BCF should be forbidden until Metro develops and implements a new plan approved by outside experts, and has some monitoring data to use in assessing potential harm from proposed trails.
3. If trails must be added in BCF, make these changes to better comply with ODFW recommendations (these comments use the trail and crossing numbering scheme on the map of the Proposed Trail System at Burlington Creek Forest on page 5 of the staff report):
  - a. Eliminate the .1 mile long Trail C, which in its .1 miles requires a creek crossing (#4) and then dead ends at the edge of the Ancient Forest Preserve. Dead end trails invite people to build informal trails, and a .1 mile dead end trail with a creek crossing is of little value relative to the harm it will cause. It is not shown ending at a viewpoint – I have no idea why this trail is in the plan.
  - b. Eliminate Trail AA, which places many close switchbacks in an important frog migration area, as documented in ODFW comments from 2017.
  - c. Eliminate 3 creek crossings by moving short mountain bike trail sections onto the gravel road – Crossings 7, 6, 5, and possibly 8 could be eliminated this way. To visualize how this would work, look at the trail map and visualize the box with the crossing number being dragged upstream along that creek to the gravel road, so the gravel road's existing creek crossing is used instead of adding a new crossing. Crossings 7 and 8 appear to be within only about 200' of the gravel road. This change would add small additional trail segments but reduce creek crossing impacts.
  - d. Shift the new trails into the powerline corridor wherever possible (see Trails D and F) – that corridor will always be lower quality habitat.

Comments and Recommendations from the 2017 ODFW review (these were pasted in from the PDF, so they look a little funny):

**Comment #4:** ODFW is concerned about development of new recreation trails and their potential impacts to wildlife habitat. Impacts from recreational trails, though not as well studied as roads, are known to adversely impact fish and wildlife, both directly and indirectly. The proposed project has the potential for adverse impacts to a variety of wildlife species, but of particular concern are migratory birds and amphibians. Anticipated adverse impacts to birds from increased habitat fragmentation and human presence include reduced nest success, reduced fitness, and increased competition for resources in adjacent suitable habitats. Proposed trails may also adversely affect amphibian movement patterns and behavior through habitat fragmentation and changes in micro-habitat conditions. In addition, there may be direct impacts associated with mortality of amphibians attempting to cross the trails that become entrapped in bike ruts. There may also be increased risk of illegal collection.

The risk for these potential adverse impacts are greatest where trail development is densest (e.g., areas of multiple switchbacks) and at lower elevations where terrestrial amphibian movements are likely more concentrated seasonally due to closer proximity to breeding habitat. Though data on dispersal and overland excursions is limited for still-water breeding amphibians, existing information including field observations indicate that terrestrial movements are typically point-to-point in nature versus along specific habitat corridors (e.g., stream channel, elevational gradient). Seasonal movements to and from breeding sites primarily occur during nighttime hours while foraging occurs in both the daytime and nighttime.

While these impacts are anticipated for all native amphibians known/suspected to occur at the Burlington Creek Forest (BCF) site, of particular concern is northern red-legged frog, a protected State Sensitive Species and a Species of Greatest Conservation Need in the Oregon Conservation Strategy. A population of red-legged frog has been documented moving between the BCF site and ODFW's Palensky Wildlife Area (Burlington Bottoms). Movements are seasonal in nature with frogs moving from the moist forested habitat of the BCF tract (and possibly the greater North Tualatin Mountains area) to wetland habitats at Palensky in the late fall/early for breeding/egg-laying, and then from Palensky back to BCF in late winter/early spring. Timing and patterns of overland movements are related to and affected by environmental conditions (e.g., air temperature, precipitation events). The BCF tract and greater North Tualatin Mountains area also provides important foraging habitat for red-legged frogs. ODFW staff managing Palensky Wildlife Area have observed numerous red-legged frogs and other native amphibians moving throughout the BCF site and all along the northern boundary of the tract near Highway 30, including the area where Shared Trail AA is proposed.

Please see ODFW's letter to Metro dated February 26, 2016 (attached) for more information about the importance of the project area to northern red-legged frog.

**Comment #5:** ODFW is concerned about the potential for increased erosion / sedimentation resulting from proposed trail development on steep slopes and resulting trail use. If an issue, impacts from reduced water quality would extend downstream to the Palensky Wildlife Area, potentially affecting a variety of fish and wildlife.

**Comment #6:** ODFW appreciates Metro's mission to try to balance protection and improvement of habitat conservation values and provision of public access to nature and outdoor recreational opportunities. We offer the following recommendations to further mitigate for the above described anticipated adverse impacts to wildlife and their habitats. These recommendations are intended to supplement the environmental commitments and mitigation measures (n = 19) already included by Metro in Part V of OPRD's RTP Environmental Screening Form for the proposed project.

Avoidance / Minimization

- A. ODFW recommends reducing the amount (length) of proposed new trail development to prevent / reduce impacts to wildlife from habitat loss/fragmentation and human presence. Priority areas to target for avoid placement of new trail would be lower elevation areas where amphibians are likely more concentrated during their active season, unless amphibian monitoring data indicates otherwise.
- B. ODFW recommends strategically placing woody material in locations that direct amphibians away from trails and toward more intact habitat and stream/drainage crossings, further preventing / minimizing risk of direct mortality of amphibians inadvertently caused by trail users and providing suitable micro-habitat elements.
- C. ODFW recommends reducing the number of vehicle parking spaces at the proposed Trailhead, reducing the corresponding number of cars on Highway 30 and decreasing the number of trail users anticipated, this in turn reducing negative impacts to wildlife caused by human presence.

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- C. ODFW recommends reducing the number of vehicle parking spaces at the proposed Trailhead, reducing the corresponding number of cars on Highway 30 and decreasing the number of trail users anticipated, this in turn reducing negative impacts to wildlife caused by human presence.
- D. To achieve #19 (*"Avoid and minimize direct mortality of fish and wildlife species present at the time of construction"*) in Part V of the OPRD Screening Form, obtain a Wildlife Capture, Holding, Transport, and Relocation Permit from ODFW. There is no ODFW fee associated with this permit.

### Compensatory Mitigation (for unavoidable adverse impacts anticipated by ODFW)

- A. Per the ODFW Fish and Wildlife Mitigation Policy, the Burlington Creek Forest tract is categorized as "Habitat Category 3" (see Comment 3, above). The mitigation goal for Habitat Category 3 is no net loss of either habitat quantity or quality. In order to achieve this goal of no net loss, ODFW recommends Metro consider decommissioning existing trails and restoring wildlife habitat. For example, one option Metro may consider is to decommission two miles of existing shared use trail in addition to the three miles of gravel road Metro plans to decommission at their North Tualatin Mountains properties. The habitat restoration for the decommissioned trail should support in-kind habitat types and in-proximity to the proposed BCF project to meet the goal of ODFW's Habitat Mitigation Policy.
- B. ODFW recommends incorporating large / coarse wood structures throughout the project site to offset temporary and permanent changes in forest canopy and micro-habitat conditions resulting from the proposed project, including forest thinning actions aimed at improving long-term habitat conditions.
- C. ODFW recommends Metro coordinate with ODFW, amphibian conservation partners, and academia to design and sponsor an amphibian movement study at the BCF site and/or other Metro properties to better understand local amphibian movement patterns, impacts of trail development on amphibians, and methods to mitigate impacts to amphibians.



- *Metro is committed to trail monitoring to detect and quickly repair any erosion near stream crossings.*

### *Monitoring*

*Terrestrial salamander surveys were conducted by Metro staff with community science volunteers in early spring 2015 at North Abbey Creek Natural Area, 2016 at Burlington Creek Forest, and 2012 and 2017 at McCarthy Creek Natural Area. This was done in anticipation of culvert removal at McCarthy, and general interest for the other sites. These are conducted in the later spring, as these salamanders are moving from wintering areas. These were presence surveys only, with Pacific giant salamander larvae detected at McCarthy Creek, and Western red-backed salamander, Dunn's salamander, and *Ensatina*, as the predominant species detected at the other sites. For each site only one survey was done within each location as to minimize disturbance. Presence of these species notes supportive, moist, mixed conifer and deciduous forest habitat.*

*Metro conducts amphibian egg mass monitoring to assess representative lentic habitat within seasonally inundated wetlands and the effects of Metro's restoration projects. Target amphibian populations include the Northern red-legged frog, Pacific chorus frog, Northwestern salamander, and the long-toed salamander. Target habitats are emergent wetlands, shrublands, and seasonally-inundated ponds. Adjacent upland habitat for metamorphosed individuals is a required element for thriving pond-breeding amphibian species. The NTM sites generally lack ponds. At North Abbey Creek, however, an old cistern serves as a small breeding pond for Northern red-legged frogs. In 2017 five egg masses were found in the cistern, while in 2018 one egg mass was found.*

*In anticipation of increased public access, Metro began conducting amphibian road mortality surveys at Burlington Creek Forest in 2018. This monitoring will continue and add a trail component through access development. This will allow Metro to document pre and post construction mortality of amphibians and document and respond to any changes. The monitoring consists of trained volunteers walking the existing road system to look for evidence of any amphibian mortality during migration. The surveys are conducted both early in the morning and in the evening to coincide with typical amphibian movement times and to ensure that mortality that did occur is still visible prior to scavenging by other animals. The first surveys were conducted in the winter of 2018 and no mortality was observed.*

### *Adaptive Management*

*Once this project is implemented, improvements will be monitored to make sure they function as intended. In the future, as we learn more, plans will be adjusted to accommodate lessons learned. Trail or trail alignment modifications, seasonal or permanent trail closures, and adjustments to parking areas will be considered as need arises.*

*As I discuss above starting on page 5, the current monitoring plan appears inadequate to provide useful monitoring data. A new plan needs to be developed with outside experts.*

*<sup>1</sup> Katy Weil has worked in wildlife conservation and environmental public policy for 37 years. She currently serves as a senior science analyst within Metro's Parks and Nature Conservation Program. She has been with Metro since 1998, and before that was the Oregon/Washington Coordinator for Partners in Flight, program director for the Audubon Society of Portland, and consultant for the*

*United Nations Environment Programme, working with the Terrestrial Ecosystem and Programme Coordination Units, as well as working previously with the US Fish and Wildlife Service in the northeast. Katy has a background in wildlife biology, particularly effectiveness monitoring and management, and applies this within a restoration context. She is currently the senior co-chair of NW PARC. This working group consists of the western states and western Canada, and consists of scientists, academics, and land managers all working in reptile and amphibian research and conservation. Katy has a graduate certificate in international wildlife study from the UNGCP - United Nations Graduate Certificate Program through Long Island University and biology degree. She has completed amphibian monitoring techniques courses, and organized, presented, and moderated amphibian research talks at numerous conferences.*

*2 Jonathan Soll has been the Science Division Manager for Metro since 2009. He leads a team of natural resources scientists responsible for setting natural area acquisition and restoration priorities and for implementing and tracking restoration projects on Metro's portfolio of nearly 17,000 acres. Jonathan and his team are also responsible for representing Metro regionally on conservation science issues and working with partners on conservation oriented projects throughout the region. Jonathan's training includes a biology degree from Reed College with thesis work in Evolutionary Biology; and a Master's degree in Forest Ecosystem Analysis from the University of Washington, College of Forest Resources. He has since spent over 25 years doing practical conservation biology and natural resources management in the Pacific Northwest. Jonathan's conservation work has focused on three main tracks: restoration ecology, especially controlling invasive species to restore high quality habitat; conservation planning and monitoring for enhancing management effectiveness; and, developing conservation priorities for large landscapes. Before joining Metro in 2009, Jonathan worked for the Nature Conservancy in Oregon and Washington for 16 years. He served as Field Ecologist (OR), Shrub-steppe Project Manager (WA), Portland Area Preserves Manager (OR) and Willamette Basin Conservation Director (OR)."*

## **Summary**

I do not believe that Metro satisfies this Approval Criteria for Community Service Use with their application:

### **§ 33.6010 APPROVAL CRITERIA**

**In approving a Community Service use, the approval authority shall find that the proposal meets the following approval criteria, except for radio and television transmission towers, which shall meet the approval criteria of MCC 33.6100 through 33.6125, wireless communications facilities which shall meet the approval criteria of MCC 33.6175 through 33.6188; and except for regional sanitary landfills which shall comply with MCC 33.6200 through 33.6230.**

**(B) Will not adversely affect natural resources;**

I believe these modifications to the Burlington Creek Forest plans would allow the application to satisfy this Approval Criteria:

1. The best approach would be to eliminate all new trails in BCF, because new trails will inevitably adversely affect an important natural resource – red legged frogs. Just keep the existing gravel road.
2. Given the low odds that Metro's current amphibian monitoring in Burlington Creek Forest will yield useful information, approval of this application should be conditioned on Metro developing and implementing a new RLF population monitoring plan using the method in the ODFW report – a plan must be developed and approved by a team of outside amphibian experts working with Metro, not just written by Metro. We now have motion sensitive wildlife cameras that can capture frogs migrating at night which could be used to collect more useful data for less expense than walking trails to count dead frogs one day a year. If the county can't require this monitoring plan be developed and implemented as an approval condition, the construction of any new trails in BCF should be forbidden until Metro develops and implements a new plan approved by outside experts, and has some monitoring data to use in assessing potential harm from proposed trails.
3. If trails must be added in BCF, make these changes to better comply with ODFW recommendations (these comments use the trail and crossing numbering scheme on the map of the Proposed Trail System at Burlington Creek Forest on page 5 of the staff report):
  - e. Eliminate the .1 mile long Trail C, which in its .1 miles requires a creek crossing (#4) and then dead ends at the edge of the Ancient Forest Preserve. Dead end trails invite people to build informal trails, and a .1 mile dead end trail with a creek crossing is of little value relative to the harm it will cause. It is not shown ending at a viewpoint – I have no idea why this trail is in the plan.
  - f. Eliminate Trail AA, which places many close switchbacks in an important frog migration area, as documented in ODFW comments from 2017.
  - g. Eliminate 3 creek crossings by moving short mountain bike trail sections onto the gravel road – Crossings 7, 6, 5, and possibly 8 could be eliminated this way. To visualize how this would work, look at the trail map and visualize the box with the crossing number being dragged upstream along that creek to the gravel road, so the gravel road's existing creek crossing is used instead of adding a new crossing. Crossings 7 and 8 appear to be within only about 200' of the gravel road. This change would add small additional trail segments but reduce creek crossing impacts.
  - h. Shift the new trails into the powerline corridor wherever possible (see Trails D and F) – that corridor will always be lower quality habitat.

Thank you for your consideration,

Carol Chesarek

### Other helpful reference material:

The Amphibians section in the Intertwine's Biodiversity Guide for the Greater Portland-Vancouver Region<sup>4</sup> documents threats to local amphibians:

"Amphibians are facing unprecedented threats at local, regional, and global levels. Worldwide, 200 amphibian species may now be extinct, and one-third of the remaining amphibian species are threatened. Of the 19 species found in the greater Portland-Vancouver region, 12 are considered federal species of concern and/or are state listed as sensitive species in Oregon or Washington. [...]"

Research is linking global amphibian losses to habitat destruction and fragmentation, diseases, non-native species, global climate change, pesticides and other pollutants, and poaching for the pet trade. Amphibians in the greater Portland-Vancouver region are affected by most of these factors, but the most significant conservation issue is loss and degradation of habitat." (p. 88, or p. of the PDF)

"Predicted climate changes include warming temperatures, erratic weather patterns, and earlier summer drying of ponds and streams. These impacts are likely to disrupt breeding cycles for many amphibians. Stream-breeding amphibians and the Cascades frog, which is limited to high-elevation wetlands, may be the most sensitive, although the temperature requirements of northern red-legged frog eggs make this species vulnerable, too. The limited mobility of amphibians also is a challenge because it makes it difficult for them to shift their range in the face of climate change." (p. 89)

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<sup>4</sup> [https://www.theintertwine.org/sites/default/files/Biodiversity%20Guide%20for%20the%20Greater%20Portland-Vancouver%20Region\\_0.pdf](https://www.theintertwine.org/sites/default/files/Biodiversity%20Guide%20for%20the%20Greater%20Portland-Vancouver%20Region_0.pdf) (accessed February 3, 2023)

<sup>i</sup> My crude markup of a Metro Exhibit showing the Burlington Bottoms breeding ponds, rough frog migration route, and Burlington Creek Forest.

Exhibit A to Resolution No 16-4679

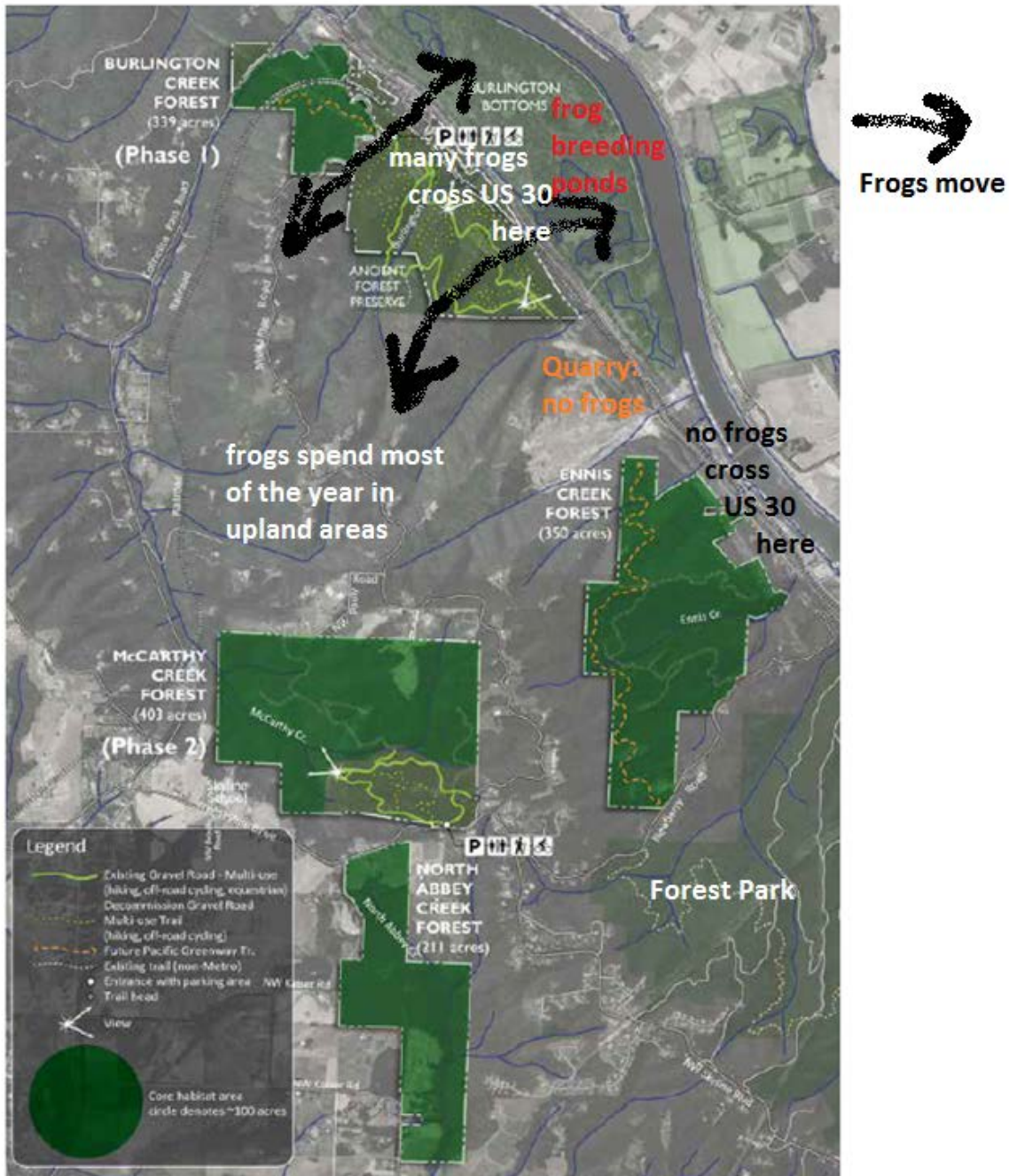


Figure 4.1: Master Plan Recommendation