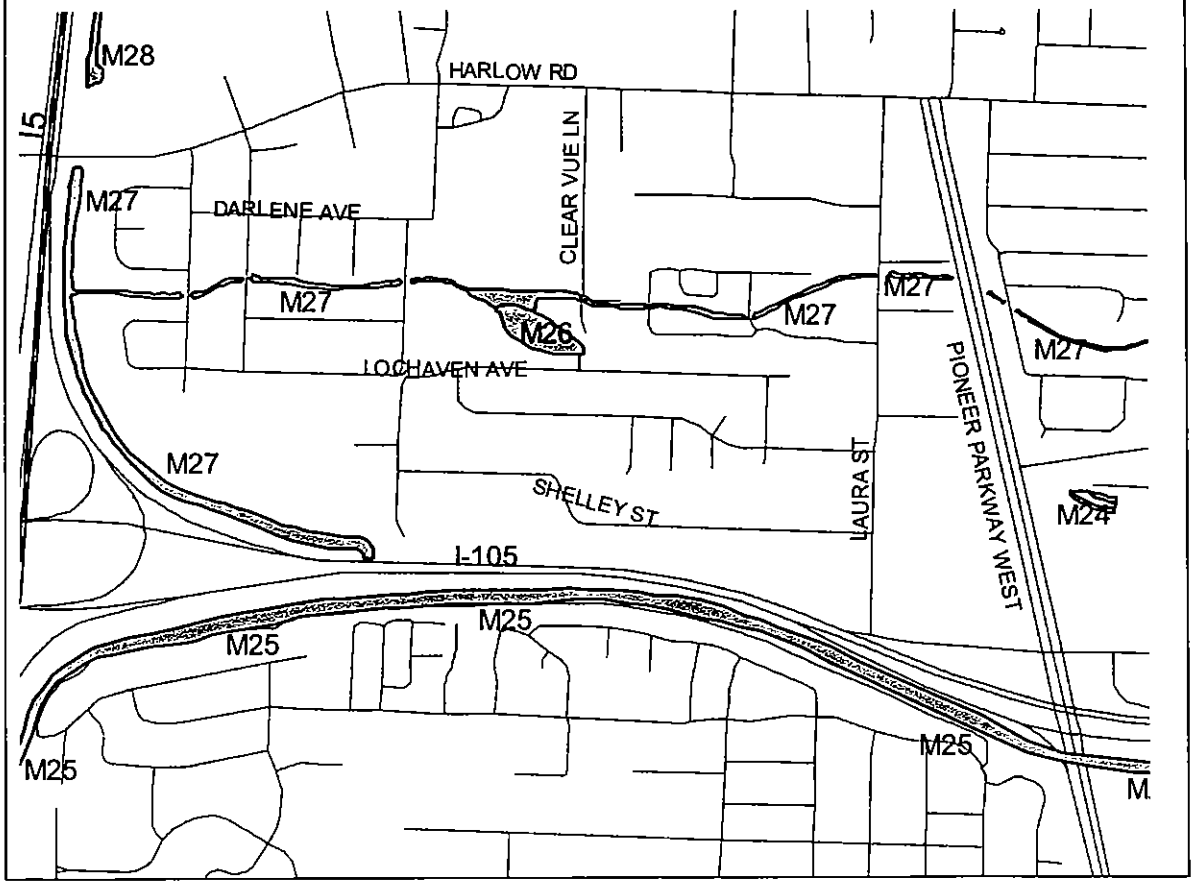
Site:	Acres:	OFWAM:	Springfield Waterways Channel Assessment:
M26 **Guy Lee**	1.82 Type: PFO, PEM, PSS	Provides diverse wildlife habitat; Wetland provides educational and recreational opportunities and is aesthetically pleasing. **High Quality Wetlands**	Not Assessed Inventoried Riparian Resource? Yes: S14 WHA Score: 35 Moderate Quality Resource

Goal 5 Recommendation: Limit conflicting uses that may impact the wetland. Maintain an average 25-foot development setback from the wetland. Allow development within the 150-foot impact area using low impact development practices that are appropriate for the soil, water table and other site characteristics.



Description:

Wetland M26 is 1.82 acres and classified as PFO/PEM/PSS. The wetland is located mostly in a park, adjacent to Guy Lee School. The site is also listed as S14 on the Springfield Inventory of Natural Resource Sites. Hydrology was directly observed in May, 1993. Soils were dark in color.

Dominant overstory species was Oregon ash. Understory dominant species include Douglas spirea, Indian plum *(Oemleria cerasiformis) and* rose *(Rosa* sp.). Herbaceous dominants include reed canarygrass, soft rush, Dewey's sedge *(Carex deweyana)*, cleavers *(Galium aparine),* common horsetail and Canada thistle. Wetland/upland boundaries were determined where the vegetation changed and there were no indicators of hydrology.

Wetland and Impact Area Summary

Wetland Acreage	1.82
Impact Area Acreage	5.16
Combined Wetland and Impact Area	6.98
Vacant Acres within the Combined Area	4.49
Number of Parcels Affected	30
Combined Parcel Acreage	16.63

Conflicting Uses by Acre and Zoning District

SITE ID	LDR	PLO	TOTAL ACRES
M-26	.97	.85	1.82
M-26 Impact Area	3.05	2.11	5.16
Total	4.02	2.96	6.98

Conflicting Uses by Vacant Acre and Zoning District

SITE ID	LDR	PLO	TOTAL ACRES
M-26	.77	.85	1.62
M-26 Impact Area	1.2	1.67	2.87
Total	1.97	2.52	4.49

Existing Protections

Is the site protected by minimum development setbacks and site plan review standards described in 31.240 of the Springfield Development Code? **No**

Site Specific ESEE Analysis for M-26

This section discusses ESEE impacts that are specific to this particular site. For a broader discussion of the ESEE consequences of allowing, limiting or prohibiting conflicting uses on wetlands, see the General ESEE Analysis found in Section 8 of this report.

Environmental Consequences

While M-26 is a moderate quality wetlands and resource site, it provides diverse wildlife habitat. Fully allowing conflicting uses would mean the loss of this habitat function. Limiting conflicting uses could preserve the habitat while allowing continued public use and access.

Social Consequences

The location of the site near the school provides both recreational and educational opportunities. The site is shown on the Willamalane Parks and Recreation District Comprehensive Plan as a proposed School/Park project. The site is aesthetically pleasing. Fully allowing conflicting uses would mean the loss of these resource values.

Economic Consequences

Fully protecting S-14 would affect 4.49 acres of combined resource and impact area acreage that is zoned for residential and public use. About 2.52 acres of the vacant land is in public ownership by School District 19. About 1.97 acres of privately owned vacant residential acreage falls within the combined resource and impact area acreage.

Limiting conflicting uses could preserve the public uses of the site while allowing private development to occur.

Energy Consequences

None of note.

Recommended Program for Protection

The educational and aesthetic value of the site warrants some protection. The site has enhancement and restoration potential. The channel could be widened to allow a wetland marsh to develop. Human intrusion into the ash grove should be managed to limit the damage that foot traffic and litter has caused to plant and animal life. Construction of a boardwalk and educational and interpretive signs could help address these problems.

Limit conflicting uses that may impact the wetland. Maintain an average 25-foot development setback from the wetland. Allow development within the 150-foot impact area using low impact development practices that are appropriate for the soil, water table and other site characteristics.

Impact of Protection Measures on Vacant Acreage and Buildable Land Inventory

Impact on Vacant Acreage by Zoning District

SITE ID	LDR	PLO	TOTAL ACRES
M-26	.77	.85	1.62
M-26 25-ft. Setback	.21	.31	.52
Total	.98	1.16	2.14

About 1.62 acres of M-26 is classified as vacant by the Lane County Assessor's Office. The vacant acreage includes portions of 2 lots. Limiting conflicting uses would allow some development to occur within the wetland area where the developer could show how the essential functions of the wetland could be preserved or enhanced. A 25-foot development setback is recommended.

A 25-foot setback would affect .21 acres of vacant residential land. The affect of the setback on buildable land could be reduced by aligning development such that back yards and other open space that is within the setback. Stormwater management facilities required for development can be placed within the setback under Article 31.240.

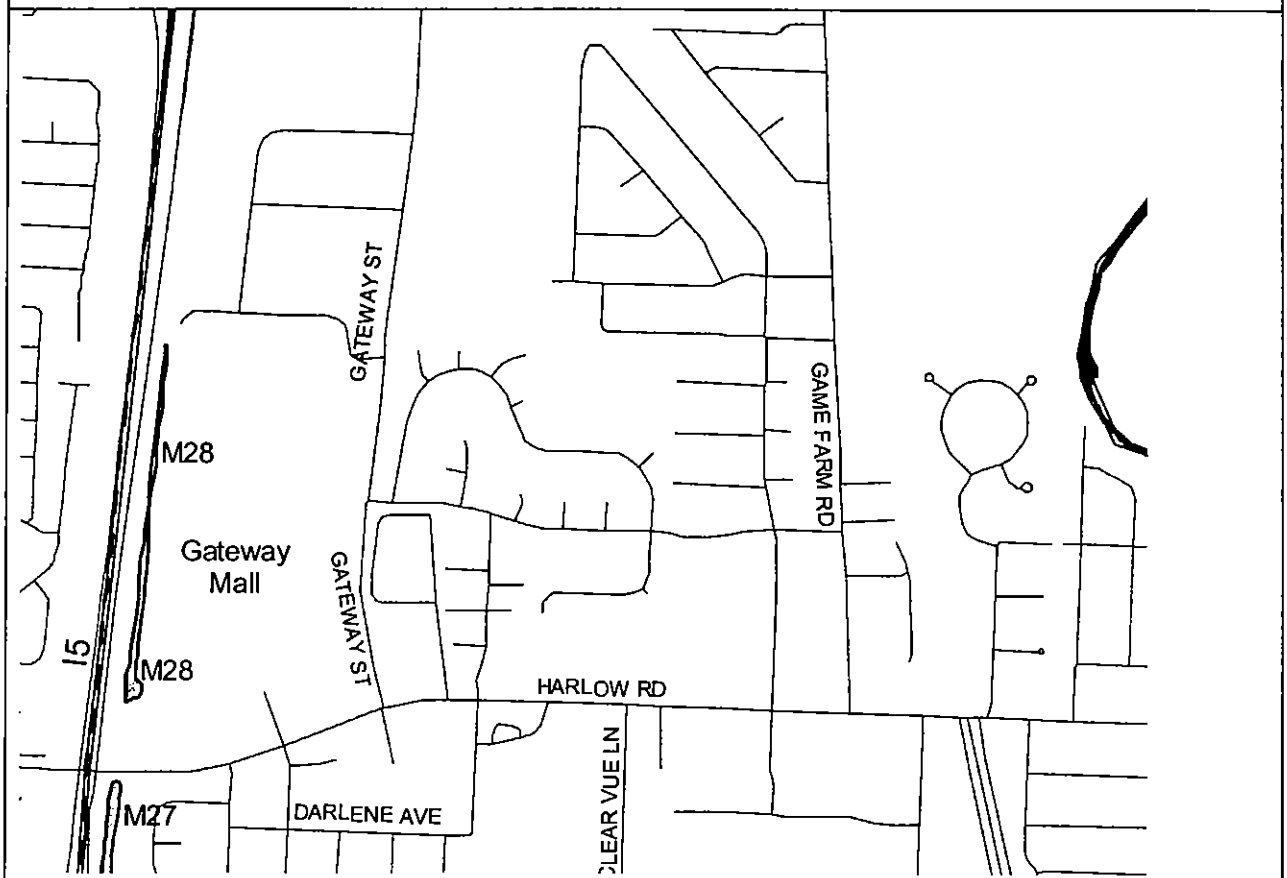
Employing low impact development practices within 150 feet of the wetland could reduce the impact of nearby development on the resource. Some low impact development practices are already incorporated into the stormwater quality protection standards found in Article 31.

Reduction in the Buildable Land Inventory:

M-26 was not counted in the inventory of buildable lands by the Eugene-Springfield Metropolitan Area Residential Land and Housing Study. Therefore the fully protecting the wetland acreage would not reduce the inventory. As mentioned above, the 25-foot development setback may affect about .21 acres, however this area can be incorporated into the overall development without a significant loss of buildable area.

Site:	Acres:	OFWAM:	Springfield Waterways Channel Assessment:
M28 **Gateway Channel**	1.50	Special Interest for Protection (mitigation site)	I-5 Gateway Channel 5.1 (Poor)
	Type: PEM	Moderate Quality Wetlands	Inventoried Riparian Resource? No

Goal 5 Recommendation: Fully protect the site from conflicting uses. Maintain an average 25-foot development setback from the wetland.



Description:

Wetland M28 is 1.50 acres and classified as PEM. The wetland is the Corps of Engineers' wetland mitigation project for the Gateway Mall . Ponding was present in the ditch from commercial and highway runoff. No overstory or understory was present. Herbaceous dominants were Canada thistle, reed canarygrass, common cattail and velvet-grass. Wetland/upland boundary delineations were made by topographic and vegetation characteristics.

The impact area adjacent to the wetland site has been completely developed. On west side of the wetland is I-5. On the east side is the Gateway Mall.

Additional information from the *Inventory and Channel Assessment for Springfield Waterways*

I-5 Gateway Channel

Riparian Profile Details

- Plant community is mostly mixed with one hardwood, one grass/field and one dominated by invasive species.
- Dominant invasive plant species: *Phalaris arundinacea* (Reed Canary-grass) and *Rubus armeniacus* (Armenian Blackberry).
- Co-dominant invasive plant species: *Rubus armeniacus* (Armenian Blackberry), *Phalaris arundinacea* (Reed Canary-grass), and *Holcus lanatus* (Velvet Grass).
- Invasive plant species listed as present: *Holcus lanatus* (Velvet Grass), *Rubus armeniacus* (Armenian Blackberry), *Phalaris arundinacea* (Reed Canary-grass), *Solanum dulcamara* (Nightshade), *Dipsacus fullonum* (Teasel), and *Mentha pulegium* (Penny Royal).
- Others invasive plant species observed in the system: *Cytisus scoparius* (Scotch Broom), *Phalaris aquatica* (Harding grass), and *Iris pseudacorus* (Yellow flag Iris).
- Nutria was recorded as invasive animals/amphibian observed.
- Tunneling, eating and stripping of vegetation, and undercutting of banks are the types of damage by invasive animals/amphibian recorded.
- Wildlife observed was nutria, Great Blue Herons, Mallards, Killdeer, and a Green Heron.
- Nutria scat, animal paths and animal tracks were recorded as wildlife evidence observed.
- *Myosotis laxa* (Small-flowered forget-me-not), and *Sparganium emersum* (Simple-stem bur-reed) were recorded for seed collection.
- Riparian buffer enhancement was recorded for project opportunities.

Channel Assessment Scoring and Overall Health Rating Details

Averages for the system are listed below. Criteria averages were derived by adding each criteria score together and dividing it by the number of reaches. Overall health rating averages were derived by adding the health ratings for all reaches together then dividing by the number of reaches.

Scored Criteria	Criteria Averages on a Scale of 1 to 10
Channel Condition	1.7
Water Appearance	2.3
Nutrient Enrichment	2.0
Bank Stability	8.0

Canopy Density/Cover	2.9
Invasive Damage – P	5.0
Invasive Damage – A/A	7.6
Waste Presence	7.9
Barriers to Fish (SBW)	0 N/A
Insect/Invert Habitat (SBW)	0 N/A
In-stream Fish Cover (SBW)	0 N/A
Average Overall Health Rating	5.1= Poor

Wetland and Impact Area Summary

Wetland Acreage	1.50
Impact Area Acreage	8.52
Combined Wetland and Impact Area	10.02
Vacant Acres within the Combined Area	.87
Number of Parcels Affected	7
Combined Parcel Acreage	60.34

Conflicting Uses by Acre and Zoning District

SITE ID	CC	TOTAL ACRES
M-28*	1.50	1.50
M-28 Impact Area	8.52	8.52
Total	10.02	10.02

Conflicting Uses by Vacant Acre and Zoning District

SITE ID	CC	TOTAL ACRES
M-28*	.04	.04
M-28 Impact Area	.83	.83
Total	.87	.87

Existing Protections

Is the site protected by minimum development setbacks and site plan review standards described in 31.240 of the Springfield Development Code? **No**

Site Specific ESEE Analysis for M-28

This section discusses ESEE impacts that are specific to this particular site. For a broader discussion of the ESEE consequences of allowing, limiting or prohibiting conflicting uses on wetlands, see the General ESEE Analysis found in Section 8 of this report.

Environmental Consequences

M-28 is provides wildlife habitat for some species. The wetland's water-quality and hydrologic control functions have been impacted. The site qualifies as a "wetland of special interest for protection" as a mitigation site. Fully allowing conflicting uses would mean the loss of the mitigation use that was intended by the US Army Corps of Engineers when the wetland was created.

Social Consequences

M-28 was not judged to be appropriate for educational or recreational uses by the OFWAM analysis. The site is not aesthetically pleasing.

Economic Consequences

M-28 was created as a mitigation site for the wetlands that were filled for the construction of the Gateway Mall. Fully allowing conflicting uses would require the replacement of the site at significant expense.

Energy Consequences

None of note.

Recommended Program for Protection

Fully protect the site from conflicting uses. Maintain an average 25-foot development setback from the wetland.

Impact of Protection Measures on Vacant Acreage and Buildable Land Inventory

Impact on Vacant Acreage by Zoning District

SITE ID	CC	TOTAL ACRES
M-28	1.50	1.50
M-28 25-ft. Setback	1.47	1.47
Total	2.97	2.97

About 1.50 acres of M-28 is classified as vacant by the Lane County Assessor's Office. The vacant acreage includes portions of 5 lots. Limiting conflicting uses would allow some development to occur within the wetland area where the developer could show how the essential functions of the wetland could be preserved or enhanced. A 25-foot development setback is recommended.

A 25-foot setback would affect 1.47 acres of vacant commercial land. The affect of the setback on buildable land could be reduced by aligning development such that back yards and other open space is within the setback. Stormwater management facilities required for development can be placed within the setback under Article 31.240.

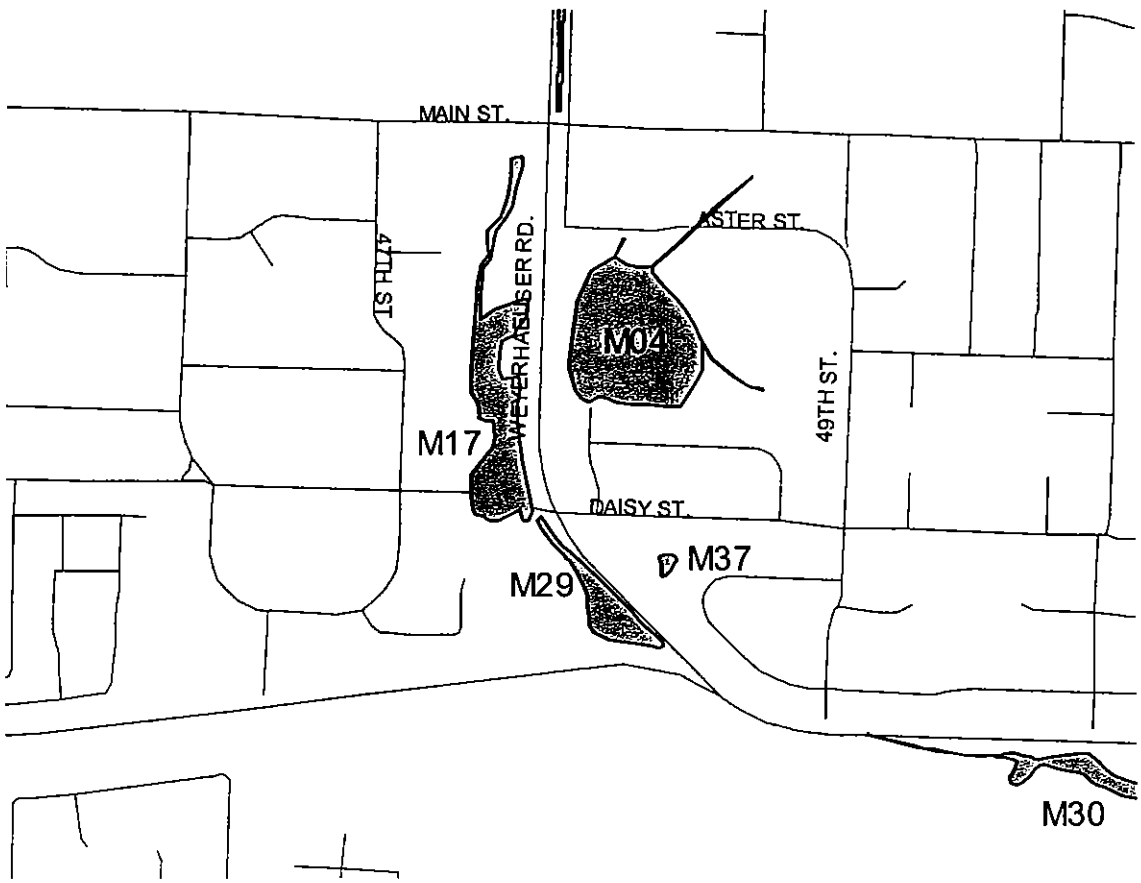
Employing low impact development practices within 150 feet of the wetland could reduce the impact of nearby development on the resource. Some low impact development practices are already incorporated into the stormwater quality protection standards found in Article 31.

Reduction in the Buildable Land Inventory:

M-28 was not counted in the inventory of buildable lands by the Eugene-Springfield Metropolitan Area Residential Land and Housing Study. Therefore the fully protecting the wetland acreage would not reduce the inventory. As mentioned above, the 25-foot development setback may affect about 1.47 acres; however this area can be incorporated into the overall development without a significant loss of buildable area.

Site: **M29** **Daisy St. and Haul Rd.**	Acres: 1.08	OFWAM: Special Interest for Protection: wetland is inhabited by a federally listed species. **High Quality Wetlands**	Springfield Waterways Channel Assessment: Not Assessed
	Type: PFO, PEM		Inventoried Riparian Resource? No

Goal 5 Recommendation: Fully protect the wetland from conflicting uses. Maintain an average 25-foot development setback from the wetland. Allow development within the 150-foot impact area using low impact development practices that are appropriate for the soil, water table and other site characteristics. The documented presence of a state and federally listed specie within the general vicinity requires coordination with the Oregon Department of Fish and Wildlife to determine what (if any) additional measures may be needed.



Description:

Wetland M29 is 1.08 acres and classified as PFO/PEM. The wetland is located north of Booth Kelly Road. Run-off is impounded onto the site by Booth Kelly Road. Hydrology was directly observed and soils were dark in color. The overstory consisted of willows and Oregon ash and the understory was dominated by Himalayan blackberry. The ground was covered with red fescue. Wetland/upland boundaries were determined where the vegetation changed and there were no indicators of hydrology.

Wetland and Impact Area Summary

Wetland Acreage	1.08
Impact Area Acreage	6.29
Combined Wetland and Impact Area	7.37
Vacant Acres within the Combined Area	3.41
Number of Parcels Affected	15
Combined Parcel Acreage	242

Conflicting Uses by Acre and Zoning District

SITE ID	LDR	MDR	HI	PLO	TOTAL ACRES
M-29*	.64	0	.44	0	1.08
M-29 Impact Area	3.71	.45	1.72	.41	6.29
Total	4.35	.45	2.16	.41	7.37

Conflicting Uses by Vacant Acre and Zoning District

SITE ID	LDR	MDR	HI	PLO	TOTAL ACRES
M-29*	.64	0	0	0	0
M-29 Impact Area	2.77	0	0	0	0
Total	3.41	0	0	0	3.41

Existing Protections

Is the site protected by minimum development setbacks and site plan review standards described in 31.240 of the Springfield Development Code? **No**

Site Specific ESEE Analysis for M-29

This section discusses ESEE impacts that are specific to this particular site. For a broader discussion of the ESEE consequences of allowing, limiting or prohibiting conflicting uses on wetlands, see the General ESEE Analysis found in Section 8 of this report.

Environmental Consequences

The wetland provides habitat for some wildlife species. The water-quality and hydrologic control functions have been impacted. The site is inhabited by a species that is listed by state and federal agencies as endangered.

Social Consequences

The wetland as judged not to be appropriate for educational or recreational uses by the OFWAM analysis. The site is not aesthetically pleasing.

Economic Consequences

Fully protecting the site would mean the loss of 3.41 acres of vacant residential land within the combined wetland and impact area boundaries.

Energy Consequences

None of note.

Recommended Program for Protection

Fully protect the wetland from conflicting uses. Maintain an average 25-foot development setback from the wetland. Allow development within the 150-foot impact area using low impact development practices that are appropriate for the soil, water table and other site characteristics. The documented presence of a state and federally listed specie on the site requires coordination with the appropriate agencies to determine what (if any) additional measures may be needed.

Impact of Protection Measures on Vacant Acreage and Buildable Land Inventory

Impact on Vacant Acreage by Zoning District

SITE ID	LDR	TOTAL ACRES
M-29	.64	.64
M-29 25-ft. Setback	.44	.44
Total	1.08	1.08

About .64 acres of M-29 is classified as vacant by the Lane County Assessor's Office. The vacant acreage includes a portion of 1 lot. Limiting conflicting uses would allow some development to occur within the wetland area where the developer could show how the essential functions of the wetland could be preserved or enhanced. A 25-foot development setback is recommended.

A 25-foot setback would affect .44 acres of vacant residential land. The affect of the setback on buildable land could be reduced by aligning development such that yards and other open space is within the setback. Stormwater management facilities required for development can be placed within the setback under Article 31.240.

Employing low impact development practices within 150 feet of the wetland could reduce the impact of nearby development on the resource. Some low impact development practices are already incorporated into the stormwater quality protection standards found in Article 31.

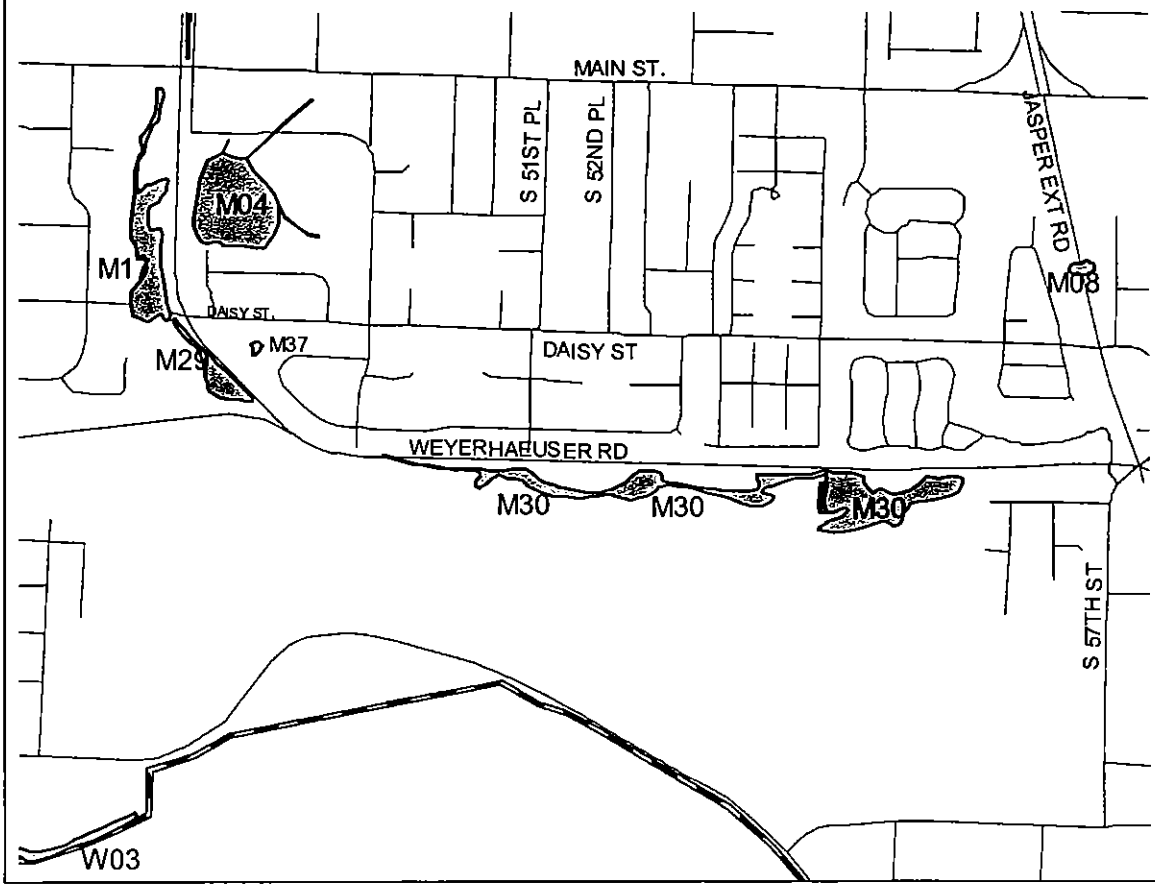
Reduction in the Buildable Land Inventory:

M-29 was not counted in the inventory of buildable lands by the Eugene-Springfield Metropolitan Area Residential Land and Housing Study. Therefore the fully protecting the wetland acreage would not reduce the inventory. As mentioned above, the 25-foot development setback may affect about .44 acres, however this area can be incorporated into the overall development without a significant loss of buildable area.

Site: **M30** **48th Street / Haul Rd.**	Acres: 6.48	OFWAM: Water Quality Function is intact	Springfield Waterways Channel Assessment: 48th St. Haul Rd. 4.6 (Poor)
	Type: PFO, PEM, POW	Moderate Quality Wetland	Inventoried Riparian Resource? No

Goal 5 Recommendation: Limit conflicting uses that may impact the resource. Allow development within the 150-foot impact area using low impact development practices that are appropriate for the soil, water table and other site characteristics. The proximity of this site to the documented presence of a federally listed specie at M-29 and M-04 warrants a survey for the specie at this location.

M30 is part of the 48th Street Channel. The channel is a tributary to a water quality limited watercourse and is protected by a 50-foot setback and a site plan review requirement. No additional setback is necessary.



Description:

Wetland M30 is mapped at 6.49 acres in size and is classified as PFO/PEM/POW. The wetland is located west of Potato Hill, running along the south side of the Weyerhaeuser Haul Rd., roughly between 48th and 58th Streets. The wetland is predominantly forested on the east side and a pasture containing a ditch and farm pond is on the west side. Hydrology was directly observed in the farm pond and in the forested area by a spring on the hillside. Water coming out of the spring flows downhill into a forested wetland shelf. Soils were dark in color with mottles. Overstory dominant specie was Oregon ash. There was a sparse understory, but a thick ground cover of meadow foxtail, velvet-grass, red fescue, slough sedge and stinging nettle *(Urtica dioica).* An abundance of Camas (*Camassia quamash*) was also observed by DSL and City staff. Wetland/upland boundaries were determined where the vegetation changed and there were no indicators of hydrology.

Additional information from the Inventory and Channel Report for Springfield Waterways

48th St. Haul Rd. Pond Channel

Riparian Profile Details

- Plant community is grass/field with one hardwood reach.
- No dominant invasive plant species was listed.
- No co-dominant invasive plant species was recorded.
- Invasive plant species listed as present: *Mentha pulegium* (Penny Royal), *Rubus armeniacus* (Armenian Blackberry), *Holcus lanatus* (Velvet Grass), and *Rubus laciniatus* (Evergreen Blackberry).
- Others invasive plant species observed in the system: *Parentucellia viscosa* (Parentucellia) and *Phalaris aquatica* (Harding grass).
- Bullfrogs were observed as the invasive animals/amphibian.
- No damage by invasive animals/amphibian was recorded.
- Wildlife observed was a Green Heron and a Great Blue Heron.
- No wildlife evidence recorded.
- No plant species were identified for seed collection.
- Riparian buffer enhancement was recorded for project opportunities.

Channel Assessment Scoring and Overall Health Rating Details

Averages for the system are listed below. Criteria averages were derived by adding each criteria score together and dividing it by the number of reaches. Overall health rating averages were derived by adding each health rating for each reach together then dividing it by the number of reaches.

Scored Criteria	Criteria Averages on a Scale of 1 to 10
Channel Condition	1.3
Water Appearance	0 dry

Nutrient Enrichment	0 dry
Bank Stability	2.8
Canopy Density/Cover	2.8
Invasive Damage – P	8.0
Invasive Damage – A/A	9.7
Waste Presence	1.0
Barriers to Fish (SBW)	9.5
Insect/Invert Habitat (SBW)	6.0
In-stream Fish Cover (SBW)	2.0
Average Overall Health Rating	4.6 = Poor

Wetland and Impact Area Summary

Wetland Acreage	6.48
Impact Area Acreage	28.21
Combined Wetland and Impact Area	34.69
Vacant Acres within the Combined Area	30.59
Number of Parcels Affected	39
Combined Parcel Acreage	153.05

Conflicting Uses by Acre and Zoning District

SITE ID	LDR	PLO	TOTAL ACRES
M30	6.37	.11	6.48
M30 Impact Area	27.3	.91	28.21
Total	33.67	1.02	34.69

Conflicting Uses by Vacant Acre and Zoning District

SITE ID	LDR	PLO	TOTAL ACRES
M30	6.37	.11	6.48
M30 Impact Area	23.20	.91	24.11
Total	29.57	1.02	30.59

Existing Protections

Is the site protected by minimum development setbacks and site plan review standards described in 31.240 of the Springfield Development Code? **Yes.**

M30 is associated with the 48th Street Channel. The channel is a tributary to a water quality limited watercourse and is protected by a 50-foot setback and a site plan review requirement.

Site Specific ESEE Analysis for M-30

This section discusses ESEE impacts that are specific to this particular site. For a broader discussion of the ESEE consequences of allowing, limiting or prohibiting conflicting uses on wetlands, see the General ESEE Analysis found in Section 8 of this report.

Environmental Consequences

The wetland provides habitat for some wildlife species. The water quality function of the wetland is intact, but the hydrologic control function has been impacted. Nearby wetland sites (M29 and M-04) are documented as hosting state and federally listed plant species.

Fully allowing conflicting uses would mean the loss of the wildlife habitat and water quality functions of the site, and possibly habitat for listed plant species.

Social Consequences

The site is aesthetically pleasing. It was judged not to be appropriate for educational or recreational uses by the OFWAM analysis, although the Weyerhaeuser Haul Rd. (a gated private road) is often used by citizens in the neighborhood as a walking/biking path. The Willamalane Parks and Recreation District Comprehensive Plan and the Springfield Bike Plan show the Weyerhaeuser Haul Rd. as a planned bike route. Fully allowing conflicting uses would mean the loss of this site as a natural amenity near the road.

Economic Consequences

Fully protecting the resource would mean the loss of 30.59 acres of vacant residential and public land within the combined wetland and impact area boundaries. Limiting conflicting uses could allow development to occur while preserving the natural functions of the site if that development employed low impact development design standards.

Energy Consequences

None of note.

Recommended Program for Protection

Limit conflicting uses that may impact the resource. Allow development within the 150-foot impact area using low impact development practices that are appropriate for the soil, water table and other site characteristics. The proximity of this site to the documented presence of a federally listed specie at M-29 and M-04 warrants a survey for the specie at this location.

M30 is part of the 48th Street Channel. The channel is a tributary to a water quality limited watercourse and is protected by a 50-foot setback and a site plan review requirement. No additional setback is necessary.

Impact of Protection Measures on Vacant Acreage and Buildable Land Inventory

Impact on Vacant Acreage by Zoning District

SITE ID	CI	TOTAL ACRES
M-30	.35	.35
M-30 50-ft. Setback	1.28	1.28
Total	1.63	1.63

About .35 acres of M-30 is classified as vacant by the Lane County Assessor's Office. The vacant acreage includes portions of 2 lots. Limiting conflicting uses would allow some development to occur within the wetland area where the developer could show how the essential functions of the wetland could be preserved or enhanced. A 50-foot development setback is already required for the wetland under Article. No additional setback is proposed.

A 50-foot setback would affect 1.28 acres of vacant industrial land. The affect of the setback on buildable land could be reduced by aligning development such that yards and other open space are within the setback. Stormwater management facilities required for development can be placed within the setback under Article 31.240.

Employing low impact development practices within 150 feet of the wetland could reduce the impact of nearby development on the resource. Some low impact development practices are already incorporated into the stormwater quality protection standards found in Article 31.

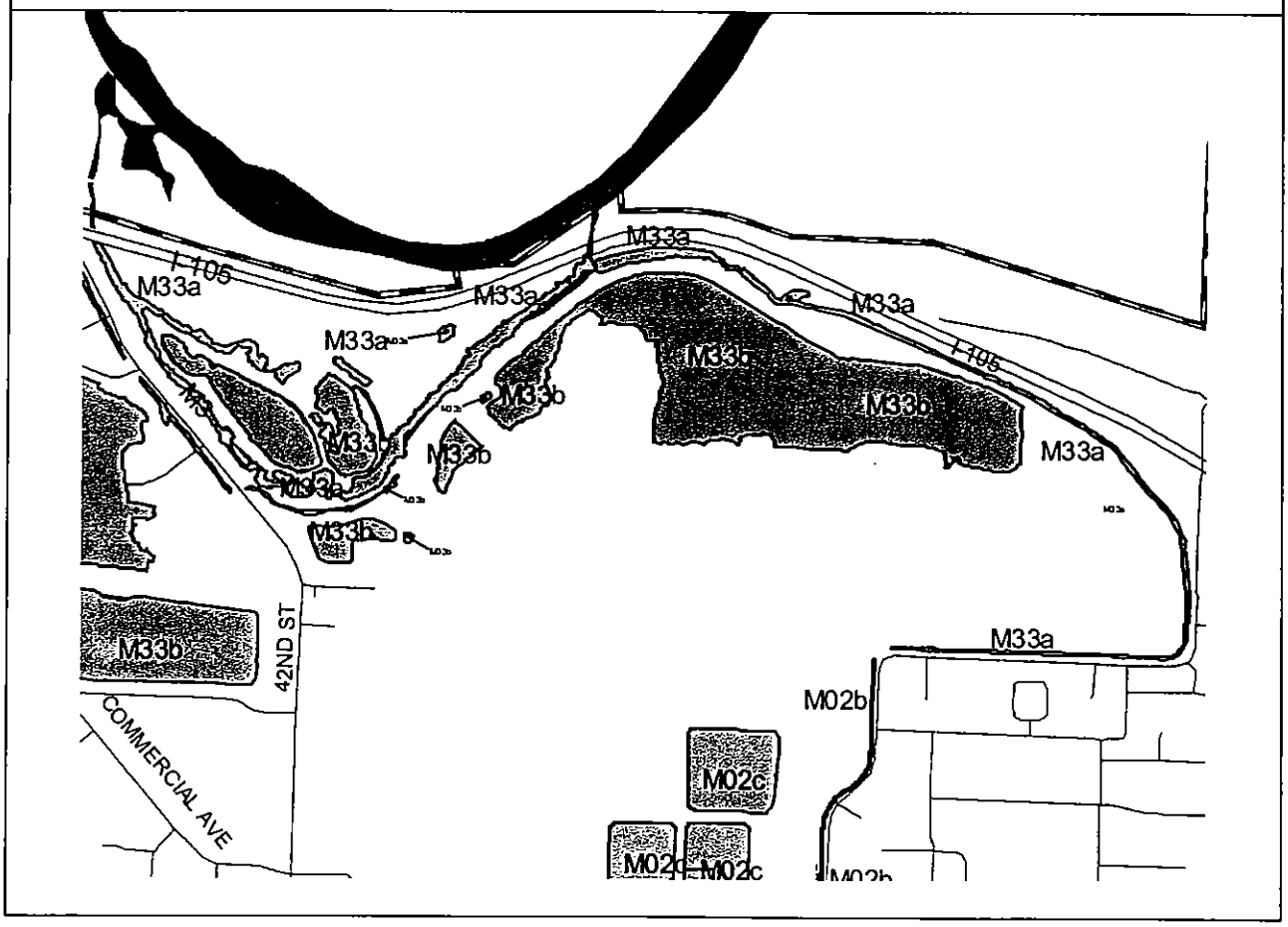
Reduction in the Buildable Land Inventory:

M-30 was not counted in the inventory of buildable lands by the Eugene-Springfield Metropolitan Area Residential Land and Housing Study. Therefore the fully protecting the wetland acreage would not reduce the inventory. A 50-foot development setback is required under stormwater provisions of the Springfield Development Code, and thus the 1.28 acre impact of the setback is not attributed to this report.

Site: **M33a** **48th St. and WeyCo Channel**	Acres: 12.07 Type: POW, PSS, RLP	OFWAM: Provides divers wildlife habitat; Hydrologic control function is intact. **High Quality Wetlands**	Springfield Waterways Channel Assessment: 48th St. Channel 6.0 (Poor) Inventoried Riparian Resource? Yes: S09 WHA Score: 50 **High Quality Resource**

Goal 5 Recommendation: Limit conflicting uses that may impact the resource. Allow development within the 150-foot impact area using low impact development practices that are appropriate for the soil, water table and other site characteristics. The documented presence of a state and federally listed specie within the general vicinity requires coordination with the Oregon Department of Fish and Wildlife to determine what (if any) additional measures may be needed.

M33a is part of the 48th Street Channel. The channel is a tributary to a water quality limited watercourse (McKenzie River) and is already protected by a 50-foot setback and a site plan review requirement. No additional setbacks are necessary.



Description:

Wetland M33 is 139.83 acres and is classified as POW/PSS/RLP. The wetland is located south of Highway 126 and north of the Weyerhaeuser warehouse. This is a composite wetland that includes the Weyerhaeuser log ponds. These are well-incised ponds that are vegetated with blackberries and horsetail along the banks. The ponds are not considered wetlands, but are "other waters". They are connected to the McKenzie River via a slough. Only the slough, M33a, qualifies as wetland. The slough is 12.07 acres. Wetland boundary determinations were made at the top-of-bank.

Additional information from the *Inventory and Channel Report for Springfield Waterways*

48th Street Channel
Riparian Profile Details

- Plant community differs throughout the system ranging between grass/field, hardwoods, mixed, and dominated by invasive species.
- Dominant invasive plant species: *Rubus armeniacus* (Armenian Blackberry), *Phalaris arundinacea* (Reed Canary-grass), and *Holcus lanatus* (Velvet Grass).
- Co-dominant invasive plant species: *Dipsacus fullonum* (Teasel), *Phalaris arundinacea* (Reed Canary-grass), *Solanum dulcamara* (Nightshade), and *Rubus armeniacus* (Armenian Blackberry).
- Invasive plant species listed as present: *Rubus armeniacus* (Armenian Blackberry), *Dipsacus fullonum* (Teasel), *Solanum dulcamara* (Nightshade), *Phalaris arundinacea* (Reed Canary-grass), and *Holcus lanatus* (Velvet Grass).
- Others invasive plant species observed in the system: *Cytisus scoparius* (Scotch Broom) and *Mentha pulegium* (Penny royal).
- No invasive animals/amphibian was recorded.
- No damage by invasive animals/amphibian was recorded.
- Wildlife observed was Green Heron, Lesser Gold Finch, minnows, and frogs.
- No wildlife evidence recorded.
- No plant species were identified for seed collection.
- Riparian buffer enhancement and neighborhood education were recorded the most for project opportunities. One reach listed bank stabilization as a project opportunity.

Channel Assessment Scoring and Overall Health Rating Details

Averages for the system are listed below. Criteria averages were derived by adding each criteria score together and dividing it by the number of reaches. Overall health rating averages were derived by adding each health rating for each reach together then dividing it by the number of reaches.

Scored Criteria	Criteria Averages on a Scale of 1 to 10
Channel Condition	1.1
Water Appearance	8.7
Nutrient Enrichment	6.8

Bank Stability	7.0
Canopy Density/Cover	3.6
Invasive Damage – P	3.6
Invasive Damage – A/A	10.0
Waste Presence	9.4
Barriers to Fish (SBW)	9.2
Insect/Invert Habitat (SBW)	4.9
In-stream Fish Cover (SBW)	3.2
Average Overall Health Rating	6.0 = Poor

Wetland and Impact Area Summary

Wetland Acreage	12.07
Impact Area Acreage	72.07
Combined Wetland and Impact Area	84.14
Vacant Acres within the Combined Area	53.41
Number of Parcels Affected	54
Combined Parcel Acreage	496.24

Conflicting Uses by Acre and Zoning District

SITE ID	LDR	HI	LM	TOTAL ACRES
M33a	0	12.07	0	12.07
M33a Impact Area	3.4	68.5	.17	72.07
Total	3.4	80.57	.17	84.14

Conflicting Uses by Vacant Acre and Zoning District

SITE ID	LRD	HI	LM	TOTAL ACRES
M33a	0	9.29	0	9.29
M33a Impact Area	0	43.95	.17	44.12
Total	0	53.24	.17	53.41

Existing Protections

Is the site protected by minimum development setbacks and site plan review standards described in 31.240 of the Springfield Development Code? **Yes.**

M33a is part of the 48th Street Channel. The channel is a tributary to a water quality limited watercourse (McKenzie River) and is protected by a 50-foot setback and a site plan review requirement.

Site Specific ESEE Analysis for M-33a

This section discusses ESEE impacts that are specific to this particular site. For a broader discussion of the ESEE consequences of allowing, limiting or prohibiting conflicting uses on wetlands, see the General ESEE Analysis found in Section 8 of this report.

Environmental Consequences

M-33a provides habitat for some wildlife species. The wetland's hydrologic control function is intact, but the water quality function has been degraded. The northern portion of the wetland is documented as habitat for a state and federally listed specie. Fully allowing conflicting uses would mean the loss of the habitat and hydrologic control functions of the site.

Social Consequences

The wetland was judged not to be appropriate for educational or recreational uses by the OFWAM analysis. The wetland is not aesthetically pleasing. The wetland is flows through land that is zoned for heavy industrial uses and is almost completely within one ownership, Weyerhaeuser. Fully allowing conflicting uses would have limited social consequences.

Economic Consequences

Fully protecting M-33a would mean the loss of 53.41 acres of vacant industrial land within the combined wetland and impact area boundaries. Limiting conflicting uses by requiring development to incorporate low impact development design elements could retain the much of the habitat function of the site while preserving the utility of the land for zoned purposes.

Energy Consequences

None of note.

Recommended Program for Protection

Limit conflicting uses that may impact the resource. M33a is part of the 48th Street Channel. The channel is a tributary to a water quality limited watercourse (McKenzie River) and is protected by a 50-foot setback and a site plan review requirement. No additional setbacks are necessary.

Allow development within the impact area using low impact development practices that are appropriate for the soil, water table and other site characteristics. The documented presence of a state and federally listed specie within the general vicinity requires coordination with the Oregon Department of Fish and Wildlife to determine what (if any) additional measures may be needed.

Impact of Protection Measures on Vacant Acreage and Buildable Land Inventory

Impact on Vacant Acreage by Zoning District

SITE ID	HI	TOTAL ACRES
M-33A	9.28	9.28
M-33A 50-ft. Setback	17.46	17.46
Total	26.74	26.74

About .9.28 acres of M-33A is classified as vacant by the Lane County Assessor's Office. The vacant acreage includes portions of 3 lots. Limiting conflicting uses would allow some development to occur within the wetland area where the developer could show how the essential functions of the wetland could be preserved or enhanced. A 50-foot development setback is already required for the wetland under Article. No additional setback is proposed.

A 50-foot setback would affect 17.46 acres of vacant industrial land. The affect of the setback on buildable land could be reduced by aligning development such that yards and other open space are within the setback. Stormwater management facilities required for development can be placed within the setback under Article 31.240.

Employing low impact development practices within 150 feet of the wetland could reduce the impact of nearby development on the resource. Some low impact development practices are already incorporated into the stormwater quality protection standards found in Article 31.

Reduction in the Buildable Land Inventory:

M-33A was not counted in the inventory of buildable lands by the Eugene-Springfield Metropolitan Area Residential Land and Housing Study. Therefore the fully protecting the wetland acreage would not reduce the inventory. A 50-foot development setback is required under stormwater provisions of the Springfield Development Code, and thus the 17.46 acre impact of the setback is not attributed to this report.

Site: **W02** **Daisy St. and 42nd**	Acres: 0.89	OFWAM: Special Interest for Protection: wetland is inhabited by species listed federally as threatened or endangered or state listed as sensitive, threatened or endangered. **High Quality Wetlands**	Springfield Waterways Channel Assessment: Not Assessed
	Type: PEM		Inventoried Riparian Resource? No

Goal 5 Recommendation: Fully protect the wetland from conflicting uses. Maintain an average 25-foot development setback from the wetland. Allow development within the 150-foot impact area using low impact development practices that are appropriate for the soil, water table and other site characteristics. The documented presence of a state and federally listed specie within the general vicinity requires coordination with the Oregon Department of Fish and Wildlife to determine what (if any) additional measures may be needed.

Description:

Wetland W-02 is 0.89 acres and classified as PEM. The site is contains a ephemeral wet area that has been partially filled. The surrounding properties have been fully developed as single family residences. The wetland has been demarked with a split rail fence. No understory or overstory

was present. Herbaceous dominant species include cattails, field mint and meadow foxtail. Soils were dark in color and mottled. Hydrology was directly observed. The wetland limits were determined where the vegetation changed and there were no longer indicators of hydrology.

Wetland and Impact Area Summary

Wetland Acreage	.89
Impact Area Acreage	3.33
Combined Wetland and Impact Area	4.22
Vacant Acres within the Combined Area	0
Number of Parcels Affected	34
Combined Parcel Acreage	6.11

Conflicting Uses by Acre

SITE ID	LD	MD	TOTAL ACRES
W-02*	.89	0	.89
W-02 Impact Area	2.47	.86	3.33
Total	3.36	.86	4.22

Conflicting Uses by Vacant Acre

SITE ID	LD	MD	TOTAL ACRES
W-02*	0	0	0
W-02 Impact Area	0	0	0
Total	0	0	0

Existing Protections

Is the site protected by minimum development setbacks and site plan review standards described in 31.240 of the Springfield Development Code? **No**

Site Specific ESEE Analysis for W-02

This section discusses ESEE impacts that are specific to this particular site. For a broader discussion of the ESEE consequences of allowing, limiting or prohibiting conflicting uses on wetlands, see the General ESEE Analysis found in Section 8 of this report.

Environmental Consequences

The wetland provides habitat for some wildlife species. The wetland's water quality and hydrologic control functions have been impacted. The wetland is documented to be inhabited by a state and federally listed specie. Fully allowing conflicting uses would mean the loss of the habitat function and would threaten the listed specie on the site.

Social Consequences

The wetland is located within a residential neighborhood. It was judged not to be appropriate for educational or recreational purposes by the OFWAM analysis. The wetland is not aesthetically pleasing, but has moderate potential for enhancement. Fully allowing conflicting uses would mean the loss of a potential natural amenity in the neighborhood. Limiting conflicting uses could allow for development to occur while protecting habitat for the listed species.

Economic Consequences

The Lane County Assessor's Property Class Codes show that the wetland and its impact area are fully developed. This does not preclude future partitioning of property for more intense development. The potential for redevelopment or for additional land divisions leading to more new development should include measures to fully protect the listed specie on the site.

Fully protecting the site will mean the loss of potentially developable residential land within the combined wetland and impact area boundaries. Allowing additional conflicting uses may destroy habitat for the listed specie.

Energy Consequences

None of note.

Recommended Program for Protection

Fully protect the wetland from conflicting uses. Maintain an average 25-foot development setback from the wetland. Allow development within the 150-foot impact area using low impact development practices that are appropriate for the soil, water table and other site characteristics. The documented presence of a state and federally listed specie within the general vicinity requires coordination with the Oregon Department of Fish and Wildlife to determine what (if any) additional measures may be needed.

Impact of Protection Measures on Vacant Acreage and Buildable Land Inventory

Impact on Vacant Acreage

SITE ID	LDR	MDR	TOTAL ACRES
W-02	.89	0	.89
W-02 25-ft. Setback	(Developed) .73	(Developed) .13	(Developed) .86
Total	1.62	.13	1.75

W-02 is .89 acres in size and is classified "010" which means the land is considered un-buildable by the Lane County Assessor's Office. The adjacent acreage is developed and includes portions of 12 lots. Prohibiting conflicting uses within the wetland area would preserve the resource and the habitat it provides for the listed specie. A 25-foot development setback is recommended.

A 25-foot setback would affect no vacant residential land. The setback could affect about .86 acres of adjacent developed property. That impact could be minimized by aligning future improvements to the properties such that yards and other open space are within the setback. Stormwater management facilities required for development can be placed within the setback under Article 31.240.

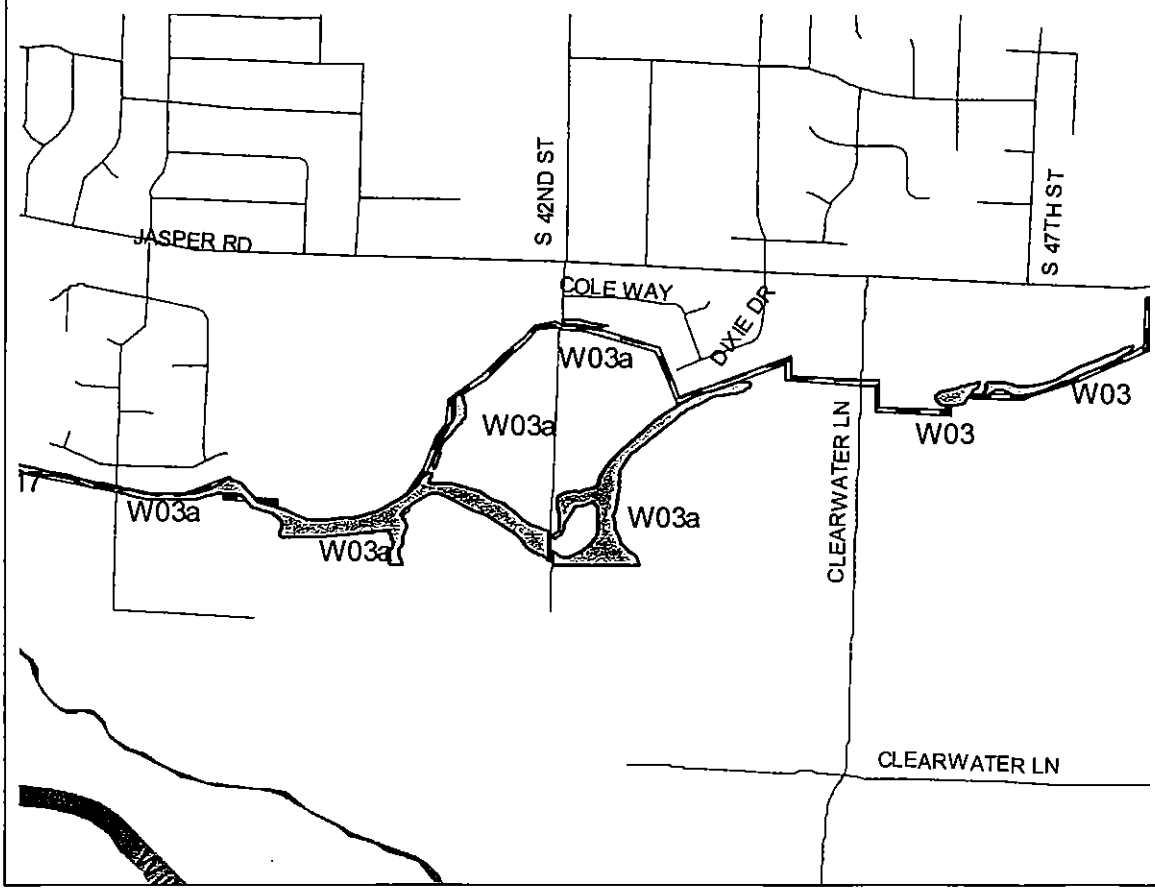
Employing low impact development practices within 150 feet of the wetland could reduce the impact of nearby development on the resource. Some low impact development practices are already incorporated into the stormwater quality protection standards found in Article 31.

Reduction in the Buildable Land Inventory:

W-02 was not counted in the inventory of buildable lands by the Eugene-Springfield Metropolitan Area Residential Land and Housing Study. Therefore the fully protecting the wetland acreage would not reduce the inventory. As mentioned above, the 25-foot development setback may affect about .86 acres, however this area can be incorporated into the overall development without a significant loss of buildable area.

Site: **W3a** **Jasper Slough**	Acres: 16.47 1.58 within the UGB Type: PFO, PEM, POW	OFWAM: Water quality function is intact. Moderate Quality Wetlands	Springfield Waterways Channel Assessment: Jasper Slough 5.8 (Poor) Inventoried Riparian Resource? Yes: S22 WHA Score: 67 **High Quality Resource**

Goal 5 Recommendation: Limit conflicting uses and employ low impact development practices when developing within 150 feet of the resource site. W3a is part of the Jasper Slough which is protected by a 50-foot development setback and site plan review standards described in 31.240 of the Springfield Development Code. No additional setbacks are necessary. The documented presence of a state and federally listed specie requires coordination with the Oregon Department of Fish and Wildlife to determine what (if any) additional measures may be needed.



Description:

Wetland W3 is 16.47 acres and classified as PFO/PEM/POW. The wetland is known as Jasper Slough. Only about 1.58 acres of the slough is located within the Springfield UGB. The remainder is in Lane County's planning jurisdiction. The overstory is dominated by Oregon ash and willow. The understory dominants include evergreen blackberry *(Rubus laciniatus)* and Douglas spirea. Herbaceous dominant species include Oregon iris *(Iris tenax)* reed canarygrass, duckweed *(Lemna minor) and* bittersweet nightshade *(Solanum dulcamara).* Soils were dark in color with mottles. Hydrology was assumed based on hydrologic indicators, soils and vegetation. Sections of the slough have been dewatered, while others are naturally perennially wet. Wetland /upland boundary delineations were made by topographic characteristics where the vegetation changed and where there were no longer indicators of hydrology.

Additional information from the *Inventory and Channel Assessment for Springfield Waterways*

Jasper Slough

Riparian Profile Details

- Plant community of hardwoods and one reach that is dominated by invasive species.
- Dominant invasive plant species: *Rubus armeniacus* (Armenian Blackberry) and *Phalaris arundinacea* (Reed Canary-grass).
- Co-dominant invasive plant species: *Rubus armeniacus* (Armenian Blackberry), *Iris pseudacorus* (Yellow Flag Iris), *Phalaris arundinacea* (Reed Canary-grass), and *Convolvulus sp.* (Morning Glory/Bindweed).
- Invasive plant species listed as present: *Iris pseudacorus* (Yellow Flag Iris), *Phalaris arundinacea* (Reed Canary-grass), *Holcus lanatus* (Velvet Grass), *Rubus armeniacus* (Armenian Blackberry), *Solanum dulcamara* (Nightshade), *Phalaris aquatica* (Harding grass), *Convolvulus sp.* (Morning Glory/Bindweed), and *Dipsacus fullonum* (Teasel).
- Others invasive plant species observed in the system: *Buddleia davidii* (Butterfly bush), *Polygonum sp.* (Knotweed), and *Mentha pulegium* (Penny Royal).
- Nutria and beaver were recorded as invasive animals/amphibian observed.
- Tunneling causing undercutting, loss of vegetation and beaver cutting were recorded as damage by invasive animals/amphibian.
- Wood Duck, Green Heron, Belted Kingfisher, Mallards, minnows, deer and Great Blue Heron were recorded as other wildlife observed.
- Nutria scat and deer scat were recorded for wildlife evidence.
- *Myostis laxa* (Small-flowered forget-me-not) were recorded for seed collection.
- Riparian buffer enhancement, neighborhood education and one culvert retrofit/replacement were recorded for project opportunities.

Channel Assessment Scoring and Overall Health Rating Details

Averages for the system are listed below. Criteria averages were derived by adding each criteria score together and dividing it by the number of reaches. Overall health rating averages were derived by adding the health ratings for all reaches together then dividing by the number of reaches.

Scored Criteria	Criteria Averages on a Scale of 1 to 10
Channel Condition	6.6
Water Appearance	6.8
Nutrient Enrichment	4.5
Bank Stability	7.0
Canopy Density/Cover	3.3
Invasive Damage – P	2.0
Invasive Damage – A/A	8.5
Waste Presence	7.5
Barriers to Fish (SBW)	7.0
Insect/Invert Habitat (SBW)	6.4
In-stream Fish Cover (SBW)	3.9
Average Overall Health Rating	5.8 = Poor

Wetland and Impact Area Summary

Wetland Acreage	1.58
Impact Area Acreage	10.29
Combined Wetland and Impact Area	11.87
Vacant Acres within the Combined Area	1.64
Number of Parcels Affected	25
Combined Parcel Acreage	36.86

Conflicting Uses by Acre and Zoning District

SITE ID	LDR	TOTAL ACRES
W03a	1.53	1.58
W03a Impact Area	10.29	10.29
Total	11.87	11.87

Conflicting Uses by Vacant Acre and Zoning District

SITE ID	LDR	TOTAL ACRES
W03a	0	0
W03a Impact Area	1.64	1.64
Total	1.64	1.64

Existing Protections

Is the site protected by minimum development setbacks and site plan review standards described in 31.240 of the Springfield Development Code? **Yes.**

W03a is associated with the Jasper Slough. The Slough is tributary to a water quality limited watercourse and is protected by a 50-foot setback and a site plan review requirement.

Site Specific ESEE Analysis for W-03a

This section discusses ESEE impacts that are specific to this particular site. For a broader discussion of the ESEE consequences of allowing, limiting or prohibiting conflicting uses on wetlands, see the General ESEE Analysis found in Section 8 of this report.

Environmental Consequences

W-03a provides habitat for some wildlife species. The site is documented as providing habitat for a state and federally listed specie. The resource's fish habitat function is degraded, as is its water quality and hydrologic control functions. Fully allowing conflicting uses would mean the loss of habitat for the listed specie that S-22 provides.

Social Consequences

The site was judged not to be appropriate for educational uses, and is not aesthetically pleasing. W-03a has high potential for enhancement. It was also judged to have potential for providing recreational opportunities, although the Willamalane Park and Recreation District Comprehensive Plan shows no proposed uses for the site.

Fully allowing conflicting uses may negate the future use of the site for recreational purposes.

Economic Consequences

Fully protecting the resource site would mean the loss of 1.64 acres of vacant residential land within the combined resource and impact area boundaries. Additional land could be lost if steps taken to protect the listed specie require additional setbacks.

Limiting conflicting uses could reduce economic impact of lost development opportunity.

Energy Consequences

None of note.

Recommended Program for Protection

Limit conflicting uses and employ low impact development practices when developing within 150 feet of the resource site. W3a is part of the Jasper Slough which is protected by a 50-foot

development setback and site plan review standards described in 31.240 of the Springfield Development Code. No additional setbacks are necessary.
The documented presence of a state and federally listed specie requires coordination with the Oregon Department of Fish and Wildlife to determine what (if any) additional measures may be needed. The riparian strips along the channel are important to maintaining water quality and bank stability. Native riparian vegetation should be protected and non-native, invasive plants should be removed. Barren areas of the bank should be replanted with native plants.

Impact of Protection Measures on Vacant Acreage and Buildable Land Inventory

Impact on Vacant Acreage by Zoning District

SITE ID	LDR	TOTAL ACRES
W-03A	0	0
W-03A 50-ft. Setback	.41	.41
Total	.41	.41

Most of W-03A is outside of the Springfield UGB. That portion that is inside the UGB is classified as developed by the Lane County Assessor's Office. Limiting conflicting uses in the future as larger lots are subdivided would allow some development to occur within the riparian resource area where the developer could show how the essential functions of the riparian corridor could be preserved or enhanced. A 50-foot development setback is already required for the riparian area under Article. No additional setback is proposed.

A 50-foot setback would affect .41 acres of vacant residential land. The affect of the setback on buildable land could be reduced by aligning development such that yards and other open space are within the setback. Stormwater management facilities required for development can be placed within the setback under Article 31.240.

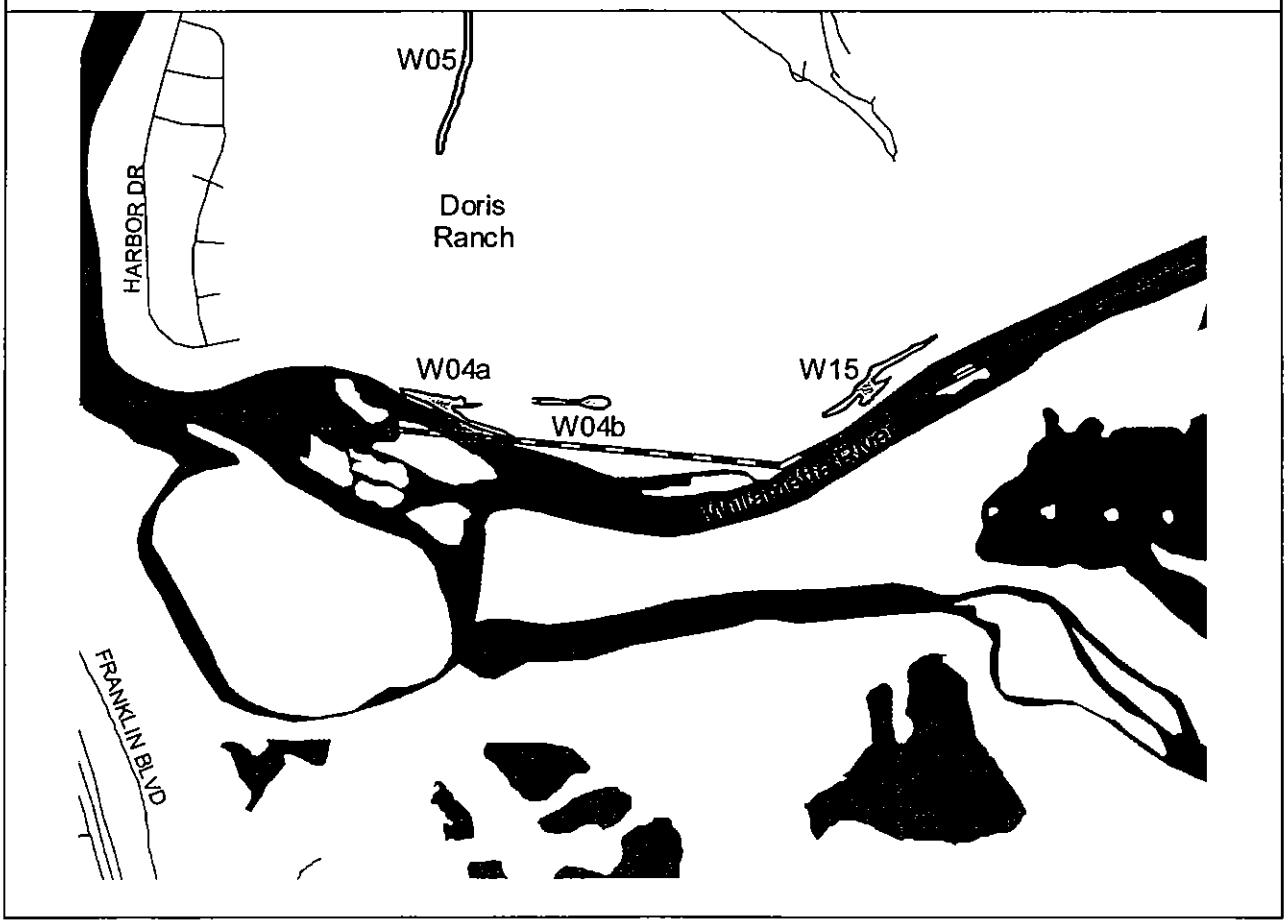
Employing low impact development practices within 150 feet of the riparian area could reduce the impact of nearby development on the resource. Some low impact development practices are already incorporated into the stormwater quality protection standards found in Article 31.

Reduction in the Buildable Land Inventory:

W-03A was <u>not</u> counted in the inventory of buildable lands by the Eugene-Springfield Metropolitan Area Residential Land and Housing Study. Therefore the fully protecting the riparian acreage would not reduce the inventory. A 50-foot development setback is required under stormwater provisions of the Springfield Development Code, and thus the 5.15 acre impact of the setback is not attributed to this report.

Site: **W04a** **South Dorris Ranch**	Acres: 0.65 Type: PFO, PEM	OFWAM : Water quality function is intact; Wetland is aesthetic and has potential for recreational and educational use. **High Quality Wetlands**	Springfield Waterways Channel Assessment: Not Assessed Inventoried Riparian Resource? Yes: WA/WB WHA Score: 72-74 **High Quality Resource**

Goal 5 Recommendation: Limit conflicting uses and employ low impact development practices when developing recreational access. W-04a associated with the Willamette River which is protected by a 75-foot development setback and site plan review standards described in 31.240 of the Springfield Development Code. No additional setbacks are necessary. The documented presence of a state and federally listed specie requires coordination with the Oregon Department of Fish and Wildlife to determine what (if any) additional measures may be needed.



Description:

Wetland W-04a is 0.97 acre and classified as PFO/PEM. About .65 acres of the wetland are within the Springfield UGB. The site is adjacent to the Middle Fork Willamette River in the southern end of Dorris Ranch. The overstory is dominated by black cottonwood. The understory

dominant species was evergreen blackberry. Herbaceous dominants include reed canarygrass, slough sedge and spike rush. Soils were dark in color with mottles. Hydrology was assumed based on hydrologic indicators, soils and vegetation. The wetland limits were determined where the vegetation changed and there were no longer indicators of hydrology.

Wetland and Impact Area Summary

Wetland Acreage	.65
Impact Area Acreage	5.45
Combined Wetland and Impact Area	6.10
Vacant Acres within the Combined Area	6.10
Number of Parcels Affected	1
Combined Parcel Acreage	75.07

Conflicting Uses by Acre and Zoning District

SITE ID	PLO	TOTAL ACRES
W-04A	.65	.65
W-04A Impact Area	5.45	5.45
Total	6.10	6.10

Conflicting Uses by Vacant Acre and Zoning District

SITE ID	PLO	TOTAL ACRES
W-04A	.65	.65
W-04A Impact Area	5.45	5.45
Total	6.10	6.10

Existing Protections

Is the site protected by minimum development setbacks and site plan review standards described in 31.240 of the Springfield Development Code? **Yes.**

W-04a is a wetland associated with the Willamette River. The Willamette River is a water quality limited watercourse and is protected by a 75-foot setback and a site plan review requirement. The same setback and site review requirements cover the wetland.

Site Specific ESEE Analysis for W-04a

This section discusses ESEE impacts that are specific to this particular site. For a broader discussion of the ESEE consequences of allowing, limiting or prohibiting conflicting uses on wetlands, see the General ESEE Analysis found in Section 8 of this report.

Environmental Consequences

W-04a provides habitat for some wildlife species. The wetland's water-quality function is intact, but its hydrologic control function has been degraded. The site is owned by Willamalane Park and Recreation District. It is zoned for park uses and is part of the Dorris Ranch park facility. Fully allowing park uses with low impact recreational access would have limited impact on the site.

Social Consequences

The wetland has high enhancement potential and has the potential to provide both educational and recreational activities. The site is considered aesthetically pleasing. The site is not proposed for development as a natural-area park in the Willamalane Parks and Recreation District Comprehensive Plan. Fully allowing public land and park uses would provide social benefits if those uses allowed limited, low-impact access.

Economic Consequences

Fully protecting the site would mean the loss of 6.1 acres of park land with enhancement potential for recreational use. Limiting conflicting park development would allow low-impact recreational uses.

Energy Consequences

None of note.

Recommended Program for Protection

Limit conflicting uses and employ low impact development practices when developing recreational access. W-04a associated with the Willamette River which is protected by a 75-foot development setback and site plan review standards described in 31.240 of the Springfield Development Code. No additional setbacks are necessary. The documented presence of a state and federally listed specie requires coordination with the Oregon Department of Fish and Wildlife to determine what (if any) additional measures may be needed.

Impact of Protection Measures on Vacant Acreage and Buildable Land Inventory

Impact on Vacant Acreage by Zoning District

SITE ID	PLO	TOTAL ACRES
W-04A	.65	.65
W-04A 75-ft. Setback	3.19	3.19
Total	3.84	3.84

About .65 acres of W-04A is classified as vacant by the Lane County Assessor's Office. The vacant acreage includes a portion of 1 lot. Limiting conflicting uses would allow some development to occur within the wetland area where the developer could show how the essential

functions of the resource area could be preserved or enhanced. A 75-foot development setback is recommended.

A 75-foot setback would affect 3.19 acres of vacant public land. The affect of the setback on buildable land could be reduced by aligning development such that recreational facilities and other open space that is within the setback. Stormwater management facilities required for development can be placed within the setback under Article 31.240.

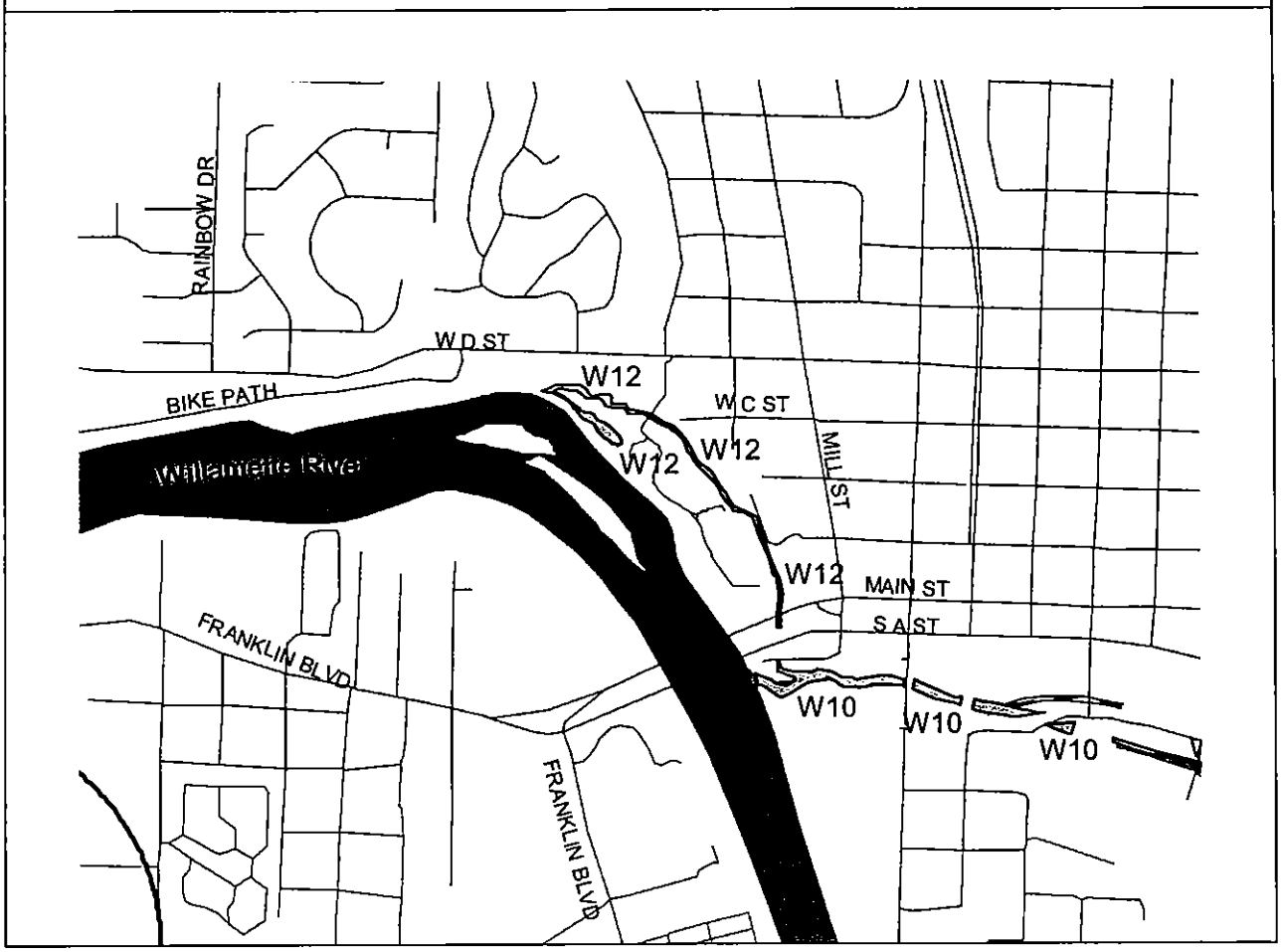
Employing low impact development practices within 150 feet of the wetland area could reduce the impact of nearby development on the resource. Some low impact development practices are already incorporated into the stormwater quality protection standards found in Article 31.

Reduction in the Buildable Land Inventory:

The resource, W-04A was not counted in the inventory of buildable lands by the Eugene-Springfield Metropolitan Area Residential Land and Housing Study. Therefore the fully protecting the wetland acreage would not reduce the inventory. As mentioned above, the 75-foot development setback may affect about 11.92 acres, however this area can be incorporated into the overall development without a significant loss of buildable area.

Site: **W12** **Island Park Slough**	Acres: 1.15 Type: PFO	OFWAM: Water quality function is intact; Hydrologic control function is intact; Wetland has potential for educational and recreational use. **High Quality Wetlands**	Springfield Waterways Channel Assessment: Island Park Slough 6.0 (Poor) Inventoried Riparian Resource? No

Goal 5 Recommendation: Limit conflicting uses and employ low impact development practices when developing recreational access. W-12 is a tributary to a water-quality limited watercourse (Willamette River) and is protected by a 50-foot development setback and site plan review standards described in 31.240 of the Springfield Development Code. No additional setbacks are necessary.



Description:

Wetland W12 is 1.15 acres and classified as PFO. This wetland is located in Island Park in a relatively undisturbed, forested area adjacent to the McKenzie River. Overstory dominant species is big leaf maple. Sword fern occurs in the understory along the forested western portion of the banks. The herbaceous layer is dominated by slough sedge. The soils were dark with

mottles and saturated. The wetland limits were determined where the vegetation changed and there were no longer indicators of hydrology.

Additional information from the *Inventory and Channel Assessment for Springfield Waterways*

Island Park Slough
Riparian Profile Details

- Plant community consisting of hardwood and mixed.
- Dominant invasive plant species: *Phalaris arundinacea* (Reed Canary-grass), and *Convolvulus sp.* (Morning Glory/Bindweed).
- Co-dominant invasive plant species: *Rubus armeniacus* (Armenian Blackberry), *Phalaris arundinacea* (Reed Canary-grass), *Hedera helix* (English Ivy), and *Convolvulus sp.* (Morning Glory/Bindweed).
- Invasive plant species listed as present: *Rubus armeniacus* (Armenian Blackberry), *Convolvulus sp.* (Morning Glory/Bindweed), *Solanum dulcamara* (Nightshade), and *Hypericum perforatum* (St John's Wort).
- Others invasive plant species seen in the system: *Holcus lanatus* (Velvet Grass), *Dipsacus fullonum* (Teasel), and *Parentucellia viscosa* (Parentucellia).
- Although nutria and beaver both have been seen numerous times in this system there were no invasive animals/amphibian recorded.
- No damage by invasive animals/amphibian was recorded.
- Osprey, Green Heron, Kingfisher, Double Crested Cormorant, Common Yellow-Throat and Mallard ducks were listed as wildlife observed.
- Although nutria, beaver, geese and ducks all have been seen numerous times in this system no wildlife evidence was recorded.
- No plant species were identified for seed collection.
- Bank stabilization, neighborhood education and riparian buffer enhancement was recorded for project opportunities.

Channel Assessment Scoring and Overall Health Rating Details

Averages for the system are listed below. Criteria averages were derived by adding each criteria score together and dividing it by the number of reaches. Overall health rating averages were derived by adding the health ratings for all reaches together then dividing by the number of reaches.

Scored Criteria	Criteria Averages on a Scale of 1 to 10
Channel Condition	7.2
Water Appearance	3.5
Nutrient Enrichment	5.4
Bank Stability	7.7
Canopy Density/Cover	3.3
Invasive Damage – P	3.0

Invasive Damage – A/A	10.0
Waste Presence	7.2
Barriers to Fish (SBW)	8.3
Insect/Invert Habitat (SBW)	7.0
In-stream Fish Cover (SBW)	4.3
Average Overall Health Rating	6.0 = Poor

Wetland and Impact Area Summary

Wetland Acreage	1.15
Impact Area Acreage	11.98
Combined Wetland and Impact Area	13.13
Vacant Acres within the Combined Area	8.87
Number of Parcels Affected	33
Combined Parcel Acreage	20.68

Conflicting Uses by Acre and Zoning District

SITE ID	CC	LD	PLO	TOTAL ACRES
W-12	.05	0	1.1	1.15
W-12 Impact Area	1.75	2.73	7.5	11.98
Total	1.80	2.73	8.6	13.13

Conflicting Uses by Vacant Acre and Zoning District

SITE ID	CC	LD	PLO	TOTAL ACRES
W-12	.01	0	1.04	1.05
W-12 Impact Area	.41	1.19	6.22	7.82
Total	.42	1.19	7.26	8.87

Existing Protections

Is the site protected by minimum development setbacks and site plan review standards described in 31.240 of the Springfield Development Code? **Yes.**

W12 is associated with the Island Park Slough. The Slough is a tributary to a water quality limited watercourse (Willamette River) and is protected by a 50-foot setback and a site plan review requirement.

Site Specific ESEE Analysis for W-12

This section discusses ESEE impacts that are specific to this particular site. For a broader discussion of the ESEE consequences of allowing, limiting or prohibiting conflicting uses on wetlands, see the General ESEE Analysis found in Section 8 of this report.

Environmental Consequences

The wetland provides habitat for some wildlife species. The fish habitat function has been degraded. W-12's water quality and hydrologic control functions are intact. The site is park of Island Park, a Willamalane facility that is highly developed for community use. Fully allowing conflicting uses could mean the loss of the habitat, water quality and hydrologic control functions provided by the resource.

Social Consequences

The wetland has high enhancement potential and is rated high for potential educational and recreational activities by the OFWAM analysis. It is considered aesthetically pleasing. Fully allowing conflicting uses may mean the loss of the functions the resource provides if those uses.

Economic Consequences

The resource is wholly owned by Willamalane Parks and Recreation District. The site is fully developed as a park. Fully protecting the site would mean the loss of the 1.19 acres of vacant land that is zoned for residential use inside the impact area. Limiting conflicting uses and pursuing enhancement of the resource may allow for additional recreational benefits while improving the habitat function.

Energy Consequences

None of note.

Recommended Program for Protection

Limit conflicting uses and employ low impact development practices when developing recreational access. W-12 is a tributary to a water-quality limited watercourse (Willamette River) and is protected by a 50-foot development setback and site plan review standards described in 31.240 of the Springfield Development Code. No additional setbacks are necessary.

Impact of Protection Measures on Vacant Acreage and Buildable Land Inventory

Impact on Vacant Acreage by Zoning District

SITE ID	CC	LDR	PLO	TOTAL ACRES
W-12	.01	0	1.04	1.05
W-12 50-ft. Setback	.11	.24	2.78	3.13
Total	.12	.24	3.82	4.18

About 1.05 acres of W-12 is classified as vacant by the Lane County Assessor's Office. The vacant acreage includes portions of 7 lots. Limiting conflicting uses would allow some development to occur within the wetland area where the developer could show how the essential

functions of the wetland could be preserved or enhanced. A 50-foot development setback is already required for the wetland under Article 31. No additional setback is proposed.

A 50-foot setback would affect 3.13 acres of vacant commercial, residential and public land. The affect of the setback on buildable land could be reduced by aligning development such that yards and other open space are within the setback. Stormwater management facilities required for development can be placed within the setback under Article 31.240.

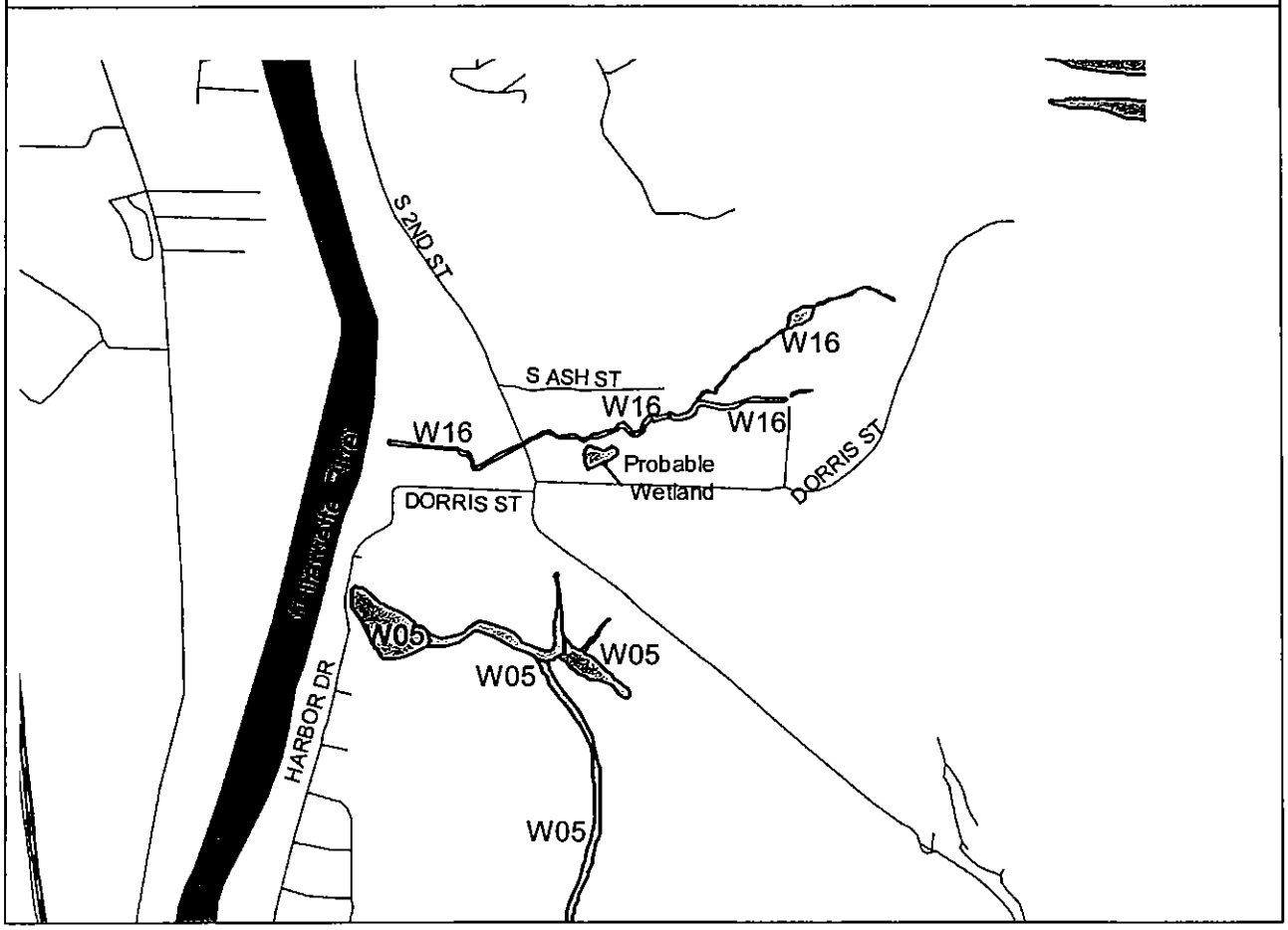
Employing low impact development practices within 150 feet of the wetland could reduce the impact of nearby development on the resource. Some low impact development practices are already incorporated into the stormwater quality protection standards found in Article 31.

Reduction in the Buildable Land Inventory:

W-12 was not counted in the inventory of buildable lands by the Eugene-Springfield Metropolitan Area Residential Land and Housing Study. Therefore the fully protecting the wetland acreage would not reduce the inventory. A 50-foot development setback is required under stormwater provisions of the Springfield Development Code, and thus the 3.13 acre impact of the setback is not attributed to this report.

Site: **W16** **Dorris Creek**	Acres: 1.71	OFWAM: Water quality function is intact; Hydrologic control function is intact.	Springfield Waterways Channel Assessment: Dorris Creek 7.3 Fair
	Type: PFO	**High Quality Wetlands**	Inventoried Riparian Resource? No

Goal 5 Recommendation: Limit conflicting uses and employ low impact development practices when developing residential lands surrounding the wetland. W-16 is a tributary to a water-quality limited watercourse (Willamette River) and is protected by a 50-foot development setback and site plan review standards described in 31.240 of the Springfield Development Code. No additional setbacks are necessary.



Description:

Wetland W16 is 1.71 acre and classified as PFO. This is a seasonal forested drainage north of Dorris Ranch, that runs along property boundaries downhill to the Willamette River. Part of the wetland limits were determined on-site and part were determined off-site using infra-red aerial photographs. The dominant vegetation along the swale was Oregon ash, rose, camas, meadow

foxtail, and red fescue. The wetland limits were determined at the boundary of the relatively incised swale where the vegetation changed and there were no longer indicators of hydrology.

Additional information from the *Inventory and Channel Assessment Report for Springfield Waterways*

Dorris Creek

Riparian Profile Details

- Plant community of mixed and one reach that is hardwood.
- Dominant invasive plant species: *Rubus armeniacus* (Armenian Blackberry) and *Phalaris arundinacea* (Reed Canary-grass).
- Co-dominant invasive plant species: *Rubus armeniacus* (Armenian Blackberry) and *Phalaris arundinacea* (Reed Canary-grass).
- Invasive plant species listed as present: *Hedera helix* (English Ivy), *Rubus armeniacus* (Armenian Blackberry), and *Holcus lanatus* (Velvet Grass).
- Others invasive plant species observed in the system: *Solanum dulcamara* (Nightshade), *Conium maculatum* (Poison hemlock), and *Dipsacus fullonum* (Teasel).
- No invasive animals/amphibian was observed.
- No damage by invasive animals/amphibian was recorded.
- A deer was recorded as wildlife observed.
- Deer scat was recorded as wildlife evidence observed.
- *Juncus patens* (Spreading rush) was recorded for seed collection.
- Neighborhood education and riparian buffer enhancement were recorded for project opportunities.

Channel Assessment Scoring and Overall Health Rating Details

Averages for the system are listed below. Criteria averages were derived by adding each criteria score together and dividing it by the number of reaches. Overall health rating averages were derived by adding each health rating for each reach together then dividing it by the number of reaches.

Scored Criteria	Criteria Averages on a Scale of 1 to 10
Channel Condition	7.8
Water Appearance	0 dry
Nutrient Enrichment	0 dry
Bank Stability	6.6
Canopy Density/Cover	8.0
Invasive Damage – P	3.8
Invasive Damage – A/A	9.4
Waste Presence	7.6
Barriers to Fish (SBW)	9.2
Insect/Invert Habitat (SBW)	8.8

In-stream Fish Cover (SBW)	4.0
Average Overall Health Rating	7.3 = Fair

Wetland and Impact Area Summary

Wetland Acreage	1.71
Impact Area Acreage	23.23
Combined Wetland and Impact Area	24.94
Vacant Acres within the Combined Area	7.60
Number of Parcels Affected	55
Combined Parcel Acreage	532.22

Conflicting Uses by Acre and Zoning District

SITE ID	LDR	PLO	QM	TOTAL ACRES
W-16	1.7	0	.01	1.71
W-16 Impact Area	20.89	.52	1.82	23.23
Total	22.59	.52	1.83	24.94

Conflicting Uses by Vacant Acre and Zoning District

SITE ID	LDR	PLO	QM	TOTAL ACRES
W-16	.69	0	0	.69
W-16 Impact Area	6.91	0	0	6.91
Total	7.60	0	0	7.60

Existing Protections

Is the site protected by minimum development setbacks and site plan review standards described in 31.240 of the Springfield Development Code? **Yes.**

W16 is associated with the Dorris Creek. The creek is a tributary to a water quality limited watercourse (Willamette River) and is protected by a 50-foot setback and a site plan review requirement.

Site Specific ESEE Analysis for W-16

This section discusses ESEE impacts that are specific to this particular site. For a broader discussion of the ESEE consequences of allowing, limiting or prohibiting conflicting uses on wetlands, see the General ESEE Analysis found in Section 8 of this report.

Environmental Consequences

W-16 is rated a "High Quality Wetlands." It provides habitat for some wildlife species. The wetland's water quality and hydrologic control functions are still intact. Fully allowing conflicting uses would mean the loss of these functions.

Social Consequences

The wetland has high enhancement potential. It was judged not to be appropriate for educational uses by the OFWAM analysis. The wetland is not aesthetically pleasing. Fully allowing conflicting uses would mean the loss of a potential neighborhood amenity if the wetland were enhanced.

Economic Consequences

Fully protecting W-16 from conflicting uses would mean the loss of 7.6 acres of vacant residential land within the combined wetland and impact area boundaries. Limiting conflicting uses could allow development to occur, tempered by low impact development practices that would conserve much of the natural function of the wetland.

Energy Consequences

None of note.

Recommended Program for Protection

Limit conflicting uses and employ low impact development practices when developing residential lands surrounding the wetland. W-16 is a tributary to a water-quality limited watercourse (Willamette River) and is protected by a 50-foot development setback and site plan review standards described in 31.240 of the Springfield Development Code. No additional setbacks are necessary.

Impact of Protection Measures on Vacant Acreage and Buildable Land Inventory

Impact on Vacant Acreage by Zoning District

SITE ID	LDR	TOTAL ACRES
W-16	.69	.69
W-16 50-ft. Setback	2.69	2.69
Total	3.38	3.38

About .69 acres of W-16 is classified as vacant by the Lane County Assessor's Office. The vacant acreage includes portions of 8 lots. Limiting conflicting uses would allow some development to occur within the wetland area where the developer could show how the essential functions of the wetland could be preserved or enhanced. A 50-foot development setback is already required for the wetland under Article 31. No additional setback is proposed.

A 50-foot setback would affect 2.69 acres of vacant commercial, residential and public land. The affect of the setback on buildable land could be reduced by aligning development such that yards and other open space are within the setback. Stormwater management facilities required for development can be placed within the setback under Article 31.240.

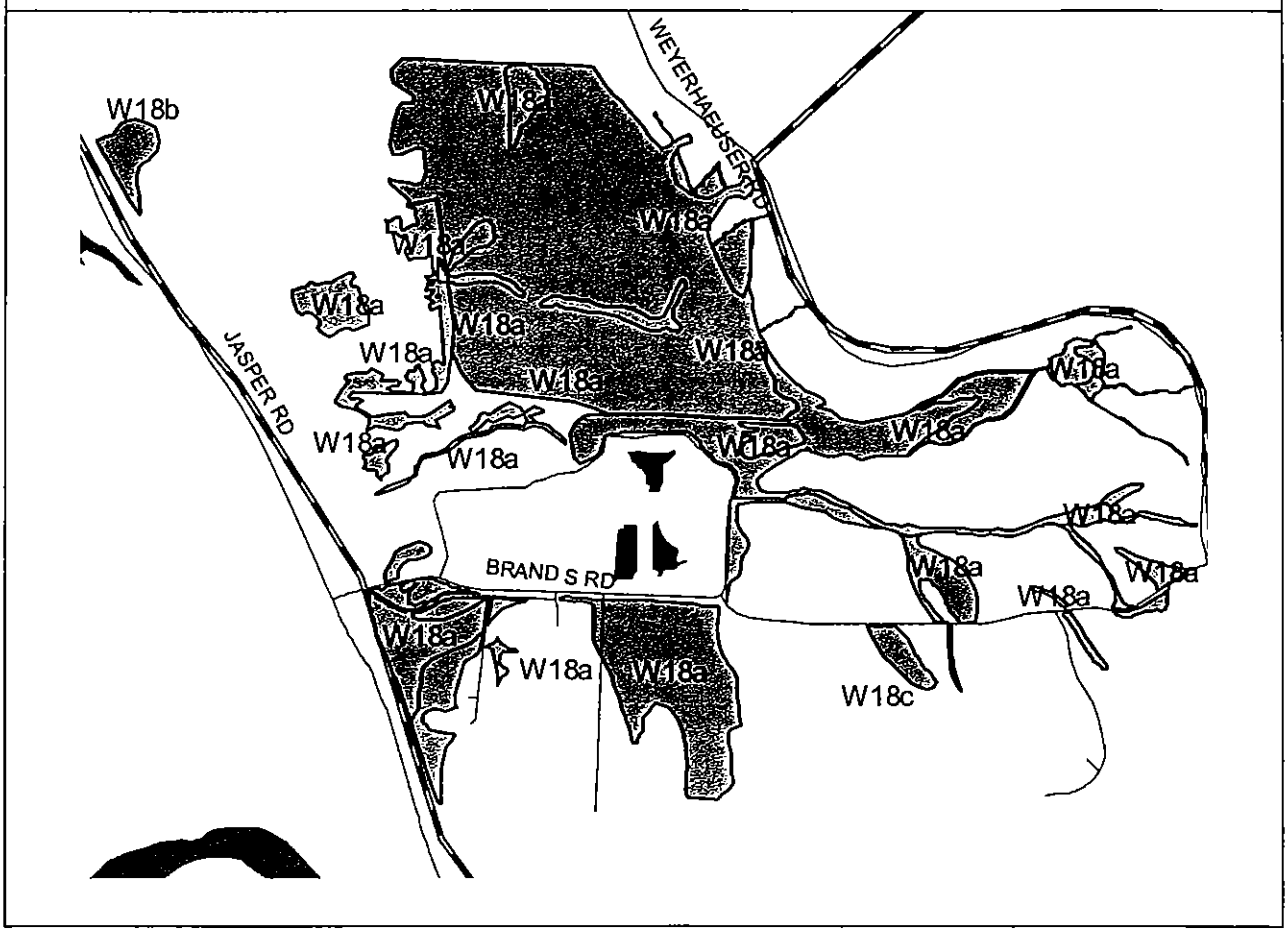
Employing low impact development practices within 150 feet of the wetland could reduce the impact of nearby development on the resource. Some low impact development practices are already incorporated into the stormwater quality protection standards found in Article 31.

Reduction in the Buildable Land Inventory:

W-16 was not counted in the inventory of buildable lands by the Eugene-Springfield Metropolitan Area Residential Land and Housing Study. Therefore the fully protecting the wetland acreage would not reduce the inventory. A 50-foot development setback is required under stormwater provisions of the Springfield Development Code, and thus the 2.69 acre impact of the setback is not attributed to this report.

Site: **W18a** **Natron**	Acres: 108.00	OFWAM: Water quality function is intact; Hydrologic function is intact. **High Quality Wetlands**	Springfield Waterways Channel Assessment: Not Assessed
	Type: PEM, PFO		Related Riparian Resource? Yes: S07 WHA Score: 34 Moderate Quality Resource

Goal 5 Recommendation: Limit conflicting uses that may impact the wetland. Maintain an average 25-foot development setback from the wetland. Allow development within the 150-foot impact area using low impact development practices that are appropriate for the soil, water table and other site characteristics.



Description:

Wetland W18a is 108 acres and classified as PEM/PFO. This is a large complex of wetlands located between hillside drainages and minor topographical folds in the Natron area, southeast of Springfield. All drainages flow in a generally southerly course into the Willamette River via culverts or as groundwater beneath the Jasper-Lowell Hwy. Dominant vegetation consisted of

Oregon ash, black cottonwood, Kentucky bluegrass, crested dogtail, common plantain, Indian plum, Siberian candyflower, piggy-back plant, tall fescue, sweet vernal grass, meadow foxtail, suckling clover and white clover. Wetland limits were determined onsite where the vegetation changed and there were no longer hydrological indicators.

Wetland and Impact Area Summary

Wetland Acreage	108.00
Impact Area Acreage	136.51
Combined Wetland and Impact Area	244.51
Vacant Acres within the Combined Area	56.20
Number of Parcels Affected	28
Combined Parcel Acreage	622.55

Conflicting Uses by Acre and Zoning District

SITE ID	CC	LDR	LM	SHI	TOTAL ACRES
W-18A	5.67	20.18	70.62	11.53	108.00
W-18A Impact Area	7.58	30.34	65.41	33.18	136.51
Total	13.25	50.52	136.03	44.71	244.51

Conflicting Uses by Vacant Acre and Zoning District

SITE ID	CC	LDR	LM	SHI	TOTAL ACRES
W-18A	0	7.35	27.21	0	34.56
W-18A Impact Area	0	4.26	17.38	0	21.64
Total	0	11.61	44.59	0	56.20

Existing Protections

Is the site protected by minimum development setbacks and site plan review standards described in 31.240 of the Springfield Development Code? **No**

The Oregon Division of State Lands and the US Army Corps of Engineers are coordinating the development of an area wide wetlands management plan for the Natron corridor which includes W18a. The planning process for that effort is related to the construction of the proposed Jasper Road Extension which will bisect the area and open it to future development. The Jasper Wetland Plan will address the cumulative impacts of the new road on the wetlands in the corridor, including the impact of future development that will be encouraged when construction is complete. Additional protections for W-18a may stem from that planning process.

Site Specific ESEE Analysis for W-18a

This section discusses ESEE impacts that are specific to this particular site. For a broader discussion of the ESEE consequences of allowing, limiting or prohibiting conflicting uses on wetlands, see the General ESEE Analysis found in Section 8 of this report.

Environmental Consequences

W-18a is a large wetland complex that is rated a "High Quality Wetlands." The wetland area has been historically disturbed by agricultural activities. Most of the wetland area currently serves as pasture for cattle grazing. The wetland's water-quality and hydrologic control functions are intact. Fully allowing conflicting residential, commercial and industrial uses would mean the loss of these functions.

Social Consequences

The OFWAM analysis indicated that the wetland is not appropriate for educational or recreational purposes, but it is considered aesthetically pleasing. The wetland has a high enhancement potential. The Willamalane Parks and Recreation District Comprehensive Plan shows this area as a location for both a proposed community park and a proposed natural-area park.

Economic Consequences

Fully protecting the wetland from conflicting uses would mean the loss of 56.20 acres of vacant industrial and residential land within the combined wetland and impact area boundaries. W-18a is part of the largest Greenfield development areas in Oregon that is within an existing Urban Growth Boundary. The development potential of the area will be dramatically increased with the completion of Phase II of the Jasper Road Extension which will bisect the area and open it to new development. Limiting conflicting uses could allow development to occur, tempered by low impact development practices that would conserve much of the natural function of the wetland.

Energy Consequences

None of note.

Recommended Program for Protection

Limit conflicting uses that may impact the wetland. Maintain an average 25-foot development setback from the wetland. Allow development within the 150-foot impact area using low impact development practices that are appropriate for the soil, water table and other site characteristics.

Impact of Protection Measures on Vacant Acreage and Buildable Land Inventory

Impact on Vacant Acreage by Zoning District

SITE ID	LDR	LMI	TOTAL ACRES
W-18A	7.35	27.21	34.56

W-18A 25-ft. Setback	.94	4.21	5.15
Total	8.29	31.42	39.71

About 34.56 acres of W-18A is classified as vacant by the Lane County Assessor's Office. The vacant acreage includes portions of 2 lots. Limiting conflicting uses would allow some development to occur within the wetland area where the developer could show how the essential functions of the wetland could be preserved or enhanced. A 25-foot development setback is recommended.

A 25-foot setback would affect 5.15 acres of vacant residential and industrial land. The affect of the setback on buildable land could be reduced by aligning development such that yards and other open space that is within the setback. Stormwater management facilities required for development can be placed within the setback under Article 31.240.

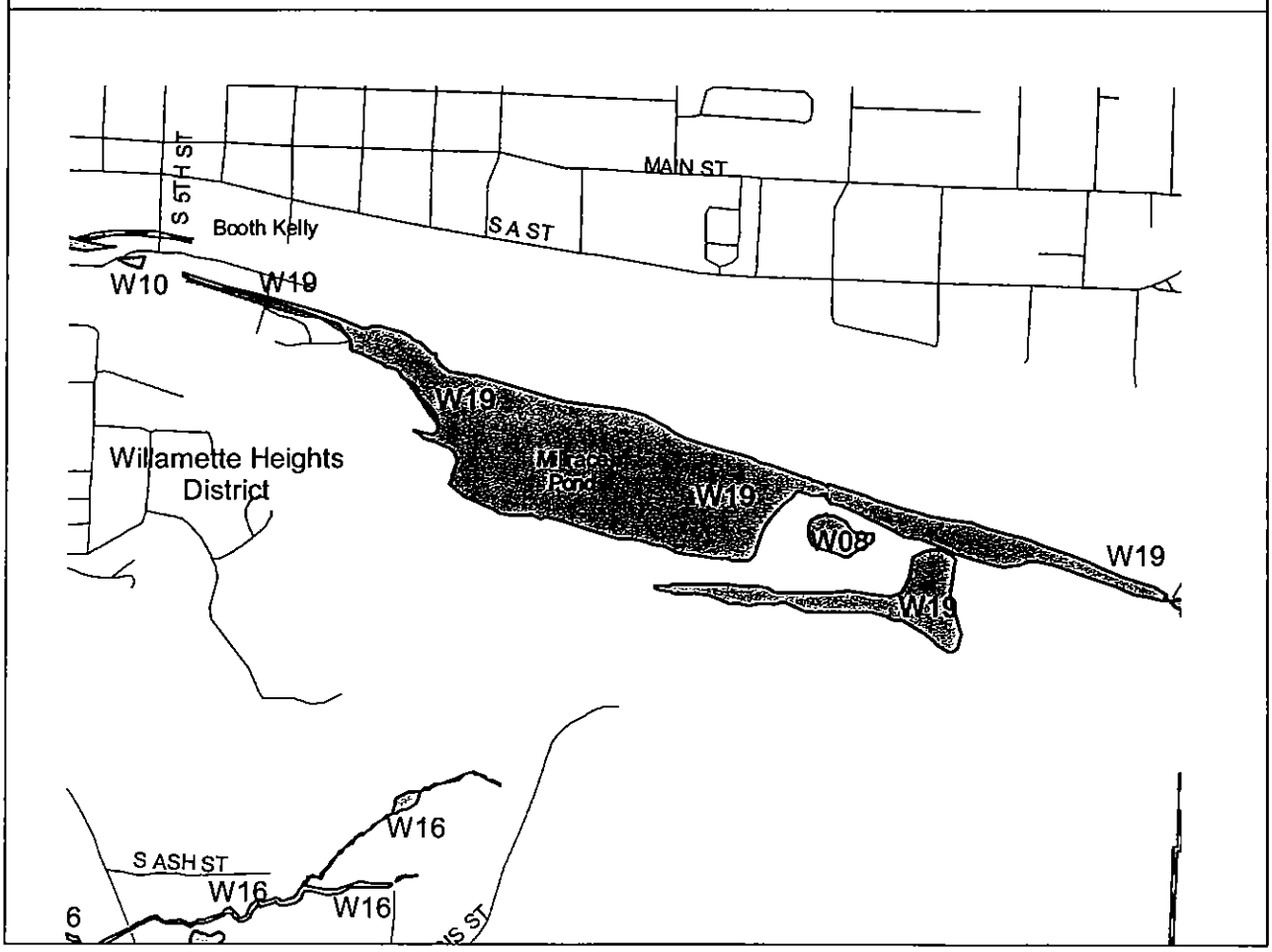
Employing low impact development practices within 150 feet of the wetland could reduce the impact of nearby development on the resource. Some low impact development practices are already incorporated into the stormwater quality protection standards found in Article 31.

Reduction in the Buildable Land Inventory:

W-18A was not counted in the inventory of buildable lands by the Eugene-Springfield Metropolitan Area Residential Land and Housing Study. Therefore the fully protecting the wetland acreage would not reduce the inventory. As mentioned above, the 25-foot development setback may affect about 5.15 acres, however this area can be incorporated into the overall development without a significant loss of buildable area.

Site: **W19** **Millrace and Pond**	Acres: 41.65 Type: POW, PFO	OFWAM: Hydrologic function is intact; Wetland has potential for enhancement. **High Quality Wetlands**	Springfield Waterways Channel Assessment: Not Assessed Inventoried Riparian Resource? Yes: S03, S04 WHA Score: S03: 61-62 Moderate Quality Resource

Goal 5 Recommendation: Limit conflicting uses and employ low impact development practices when developing within 150 feet of the watercourse. The Springfield Millrace is protected by a 50-foot development setback and site plan review standards described in 31.240 of the Springfield Development Code. No additional setbacks are necessary.



Description:

Wetland W19 is 41.65 acres and classified as POW/PFO. The wetlands were determined through on- and off-site methods. The wetlands are adjacent to the Springfield sheriff's pistol range and the portion of the Mill Race that has been widened to create a log pond for a mill. Soils were dark in color with mottles. Hydrology was indicated by the dominance of hydrophytic vegetation and presence of surface water in depressions. The wetland limits were determined where the vegetation changed and there were no longer indicators of hydrology and through use of black and white and infrared aerial photo interpretation and are limited to TOB.

Wetland and Impact Area Summary

Wetland Acreage	41.65
Impact Area Acreage	53.67
Combined Wetland and Impact Area	95.32
Vacant Acres within the Combined Area	7.01
Number of Parcels Affected	10
Combined Parcel Acreage	488.47

Conflicting Uses by Acre and Zoning District

SITE ID	BK	HI	LDR	QM	TOTAL ACRES
W-19	24.08	15.12	0	2.45	41.65
W19 Impact Area	15.83	29.9	.06	7.88	53.67
Total	39.91	45.02	.06	10.33	95.32

Conflicting Uses by Vacant Acre and Zoning District

SITE ID	BK	HI	LDR	QM	TOTAL ACRES
W-19	.13	1.0	0	0	1.13
W19 Impact Area	.99	4.83	.06	0	5.82
Total	1.12	5.83	.06	0	7.01

Existing Protections

Is the site protected by minimum development setbacks and site plan review standards described in 31.240 of the Springfield Development Code? **Yes**

W19 is associated with the Millrace and Mill Pond. The Millrace and pond are tributaries to a water quality limited watercourse (Willamette River) and is protected by a 50-foot setback and a site plan review requirement.

Site Specific ESEE Analysis for W-19

This section discusses ESEE impacts that are specific to this particular site. For a broader discussion of the ESEE consequences of allowing, limiting or prohibiting conflicting uses on wetlands, see the General ESEE Analysis found in Section 8 of this report.

Environmental Consequences

W-19 is rated a High Quality Wetlands. W-19 overlaps the riparian resource site, S-03. S-03 has a WHA score of 61-62, making it a High Quality Resource site as well. The high WHA score reflects the high habitat value of the wetland. The wetland's water quality and hydrologic control functions are intact. W-19 serves as a receiving stream for much of the storm water runoff from neighborhoods in south Springfield. Efforts are being made by the City to purchase land adjacent to the millrace as part of a long term effort to restore and enhance the millrace as wetland and riparian habitat. The US Army Corps of Engineers is also involved and may invest in future restoration efforts. Fully allowing conflicting industrial uses would mean the loss of the wetlands water-quality, hydrologic control and stormwater management functions.

Social Consequences

The Springfield Millrace, constructed in 1852, is an important historical, aesthetic, and natural feature in the City of Springfield. The Willamalane Parks and Recreation Comprehensive Plan shows the area to be a proposed location for a natural-area park. Fully allowing conflicting industrial uses surrounding the wetland would mean the loss of this important cultural resource.

Economic Consequences

Fully protecting W-19 will mean the loss of 7.01 acres of industrial and residential lands. W-19 is largely bounded by industrially zoned land that is City owned. The City has been acquiring property adjacent to the wetland as part of a long term vision for restoring and preserving the millrace as cultural and natural resource. Given that the land adjacent to the W-19 is publicly owned, the actual loss of the land for industrial use is very limited.

Energy Consequences

None of note.

Recommended Program for Protection

Limit conflicting uses and employ low impact development practices when developing within 150 feet of the watercourse. The Springfield Millrace is protected by a 50-foot development setback and site plan review standards described in 31.240 of the Springfield Development Code. No additional setbacks are necessary.

Impact of Protection Measures on Vacant Acreage and Buildable Land Inventory

Impact on Vacant Acreage by Zoning District

SITE ID	BK	HI	TOTAL ACRES
W-19	.13	1.00	1.13
W-19 50-ft. Setback	.47	1.69	2.16
Total	.6	2.69	3.29

About 1.13 acres of W-19 is classified as vacant by the Lane County Assessor's Office. The vacant acreage includes portions of 4 lots. Limiting conflicting uses would allow some development to occur within the wetland area where the developer could show how the essential functions of the wetland could be preserved or enhanced. A 50-foot development setback is already required for the wetland under Article. No additional setback is proposed.

A 50-foot setback would affect 3.29 acres of vacant industrial land. The affect of the setback on buildable land could be reduced by aligning development such that yards and other open space are within the setback. Stormwater management facilities required for development can be placed within the setback under Article 31.240.

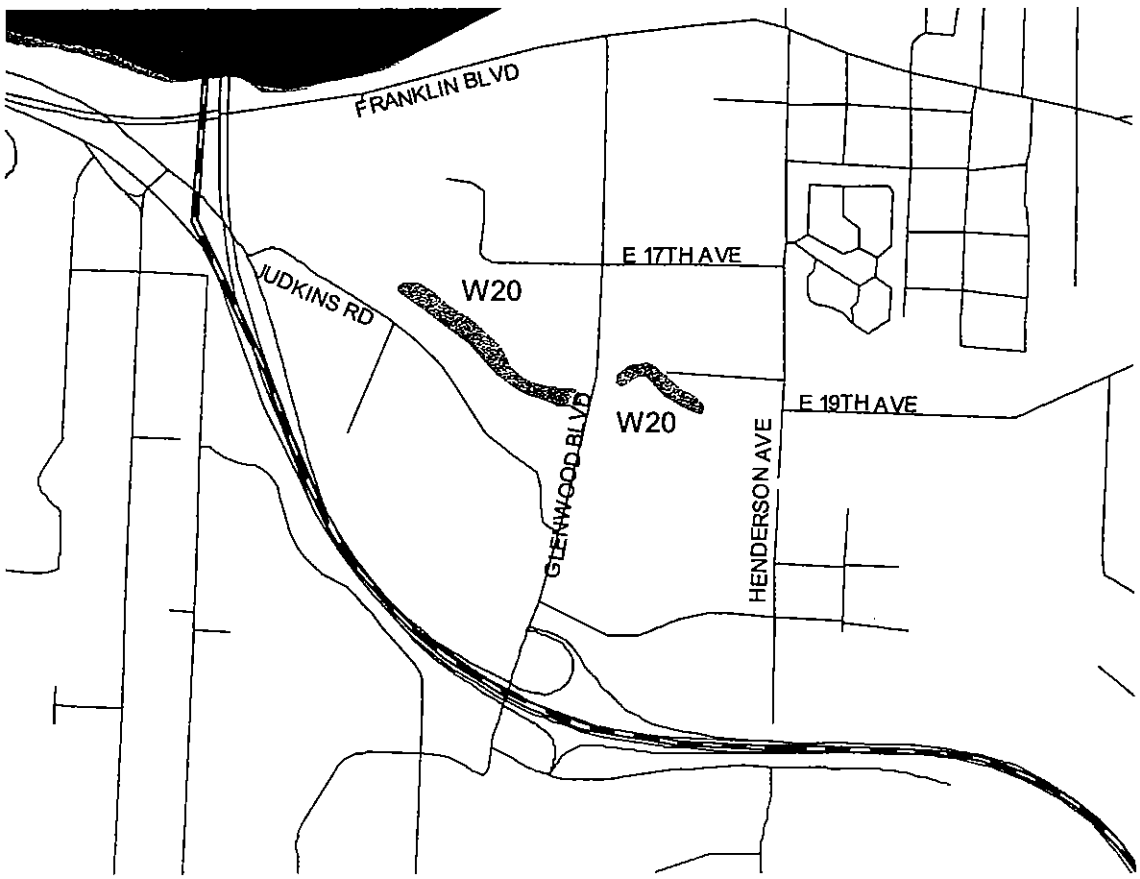
Employing low impact development practices within 150 feet of the wetland could reduce the impact of nearby development on the resource. Some low impact development practices are already incorporated into the stormwater quality protection standards found in Article 31.

Reduction in the Buildable Land Inventory:

The wetland, W-19 was not counted in the inventory of buildable lands by the Eugene-Springfield Metropolitan Area Residential Land and Housing Study. Therefore the fully protecting the wetland acreage would not reduce the inventory. A 50-foot development setback is required under stormwater provisions of the Springfield Development Code, and thus the 3.29 acre impact of the setback is not attributed to this report.

Site: **W20** **Glenwood Slough**	Acres: 3.31	OFWAM: Water quality function is intact; Hydrologic control function is intact. **High Quality Wetlands**	Springfield Waterways Channel Assessment: Glenwood Slough 5.3 (Poor)
	Type: PSS, PAB		Inventoried Riparian Resource? Yes: E39 WHA Score: 46-47 **High Quality Resource**

Goal 5 Recommendation: Limit conflicting uses and employ low impact development practices when developing within 150 feet of the watercourse. The Glenwood Slough is protected by a 50-foot development setback and site plan review standards described in 31.240 of the Springfield Development Code. No additional setbacks are necessary.



Description:

Wetland W20 is 3.31 acres and classified as PSS/PAB. The wetland is adjacent to Glenwood Slough and the railroad tracks. Overstory dominant species include Oregon ash, Oregon white oak *(Quercus garryana) and* big leaf maple. Understory dominant was willow *(Salix* sp.).

Herbaceous dominants were yellow flag iris *(Iris pseudoacorus),* spreading rush *(Juncus patens) and* marsh horsetail *(Equisetum arvense).* Soils were dark in color with mottles. Seasonal hydrology was indicated by the dominance of hydrophytic vegetation and presence of surface water in depressions. The wetland limits were determined where the vegetation changed and there were no longer indicators of hydrology.

Additional information from the *Inventory and Channel Assessment for Springfield Waterways*

Glenwood Slough

Riparian Profile Details

- Plant community mainly consisted of hardwood and brush/shrub/scrub. There was a reach of mixed conifer/hardwood and one reach dominated by invasive species.
- Dominant invasive plant species: *Rubus armeniacus* (Armenian Blackberry) and *Phalaris arundinacea* (Reed Canary-grass).
- Co-dominant invasive plant species: *Solanum dulcamara* (Nightshade) and *Rubus armeniacus* (Armenian Blackberry).
- Invasive plant species listed as present: *Phalaris arundinacea* (Reed Canary-grass), *Phalaris aquatica* (Harding grass) and *Solanum dulcamara* (Nightshade),
- Other invasive plant species observed in the system: *Cytisus scoparius* (Scotch Broom) and *Dipsacus fullonum* (Teasel).
- Bullfrogs were recorded as invasive animals/amphibian observed.
- No damage by invasive animals/amphibian was recorded.
- No wildlife, other than the invasive bullfrogs were observed.
- No wildlife evidence was recorded.
- No seed collection was recorded for this system.
- Riparian buffer enhancement was recorded for project opportunities.

Channel Assessment Scoring and Overall Health Rating Details

Averages for the system are listed below. Criteria averages were derived by adding each criteria score together and dividing it by the number of reaches. Overall health rating averages were derived by adding the health ratings for all reaches together then dividing by the number of reaches.

Scored Criteria	Criteria Averages on a Scale of 1 to 10
Channel Condition	3.2
Water Appearance	6.0
Nutrient Enrichment	3.0
Bank Stability	5.8
Canopy Density/Cover	7.2
Invasive Damage – P	3.2
Invasive Damage – A/A	9.7
Waste Presence	5.3
Barriers to Fish (SBW)	5.7

Insect/Invert Habitat (SBW)	5.5
In-stream Fish Cover (SBW)	4.7
Average Overall Health Rating	5.3 = Poor

Wetland and Impact Area Summary

Wetland Acreage	3.31
Impact Area Acreage	11.27
Combined Wetland and Impact Area	14.58
Vacant Acres within the Combined Area	3.61
Number of Parcels Affected	14
Combined Parcel Acreage	51.26

Conflicting Uses by Acre and Zoning District

SITE ID	LDR	LM	TOTAL ACRES
W20	.03	3.28	3.31
W20 Impact Area	.75	10.52	11.27
Total	.78	13.80	14.58

Conflicting Uses by Vacant Acre and Zoning District

SITE ID	LDR	LM	TOTAL ACRES
W20	0	.44	.44
W20 Impact Area	0	3.17	3.17
Total	0	3.61	3.61

Existing Protections

Is the site protected by minimum development setbacks and site plan review standards described in 31.240 of the Springfield Development Code? **Yes.**

W20 is associated with the Glenwood Slough and the 19th Street Channel. The Slough and channel are tributaries to a water quality limited watercourse (Willamette River) and is protected by a 50-foot setback and a site plan review requirement.

The Glenwood Refinement Plan includes policies that give direction for environmental design affecting E-39. The Refinement Plan states, "Significant wetland areas in Glenwood shall be protected from encroachment and degradation in order to retain their important functions and values related to fish and wildlife habitat, flood control, sediment, and erosion control, water quality control, and ground water pollution control," (Policy 1, pg. 92, Environmental Element).

Site Specific ESEE Analysis for W-20

This section discusses ESEE impacts that are specific to this particular site. For a broader discussion of the ESEE consequences of allowing, limiting or prohibiting conflicting uses on wetlands, see the General ESEE Analysis found in Section 8 of this report.

Environmental Consequences

W-20 is rated as a "High Quality Wetlands." The wetland overlaps with a riparian resource site, E-39 is rated as a "High Quality Resource" site with a WHA score of 46-47. The wetland's water quality and hydrologic control functions are intact. The resource provides habitat for some wildlife species, although the fish habitat is degraded. Fully allowing conflicting uses would mean the loss of the functions and habitat that W-20 provides.

Social Consequences

The Glenwood Slough is not aesthetically pleasing, nor is it appropriate for educational or recreational uses. The Willamalane Park and Recreation District Comprehensive Plan shows no anticipated park facilities or natural areas near the resource site. The site has moderate potential for enhancement which may make it more of a community amenity.

Economic Consequences

Fully allowing conflicting uses would mean the loss of the water quality and hydrologic control functions of the resource. These functions could be mimicked using engineered facilities at a significant cost. Fully protecting the resource site would mean the loss of 3.61 acres of vacant industrial land within the combined wetland and impact area boundaries.

Energy Consequences

None of note.

Recommended Program for Protection

Limit conflicting uses and employ low impact development practices when developing within 150 feet of the watercourse. The Glenwood Slough is protected by a 50-foot development setback and site plan review standards described in 31.240 of the Springfield Development Code. No additional setbacks are necessary.

Impact of Protection Measures on Vacant Acreage and Buildable Land Inventory

Impact on Vacant Acreage by Zoning District

SITE ID	LMI	TOTAL ACRES
W-20	.44	.44
W-20 50-ft. Setback	.82	.82
Total	1.26	1.26

About .44 acres of W-20 is classified as vacant by the Lane County Assessor's Office. The vacant acreage includes portions of 3 lots. Limiting conflicting uses would allow some development to occur within the wetland area where the developer could show how the essential functions of the wetland could be preserved or enhanced. A 50-foot development setback is already required for the wetland under Article. No additional setback is proposed.

A 50-foot setback would affect .82 acres of vacant industrial land. The affect of the setback on buildable land could be reduced by aligning development such that yards and other open space are within the setback. Stormwater management facilities required for development can be placed within the setback under Article 31.240.

Employing low impact development practices within 150 feet of the wetland could reduce the impact of nearby development on the resource. Some low impact development practices are already incorporated into the stormwater quality protection standards found in Article 31.

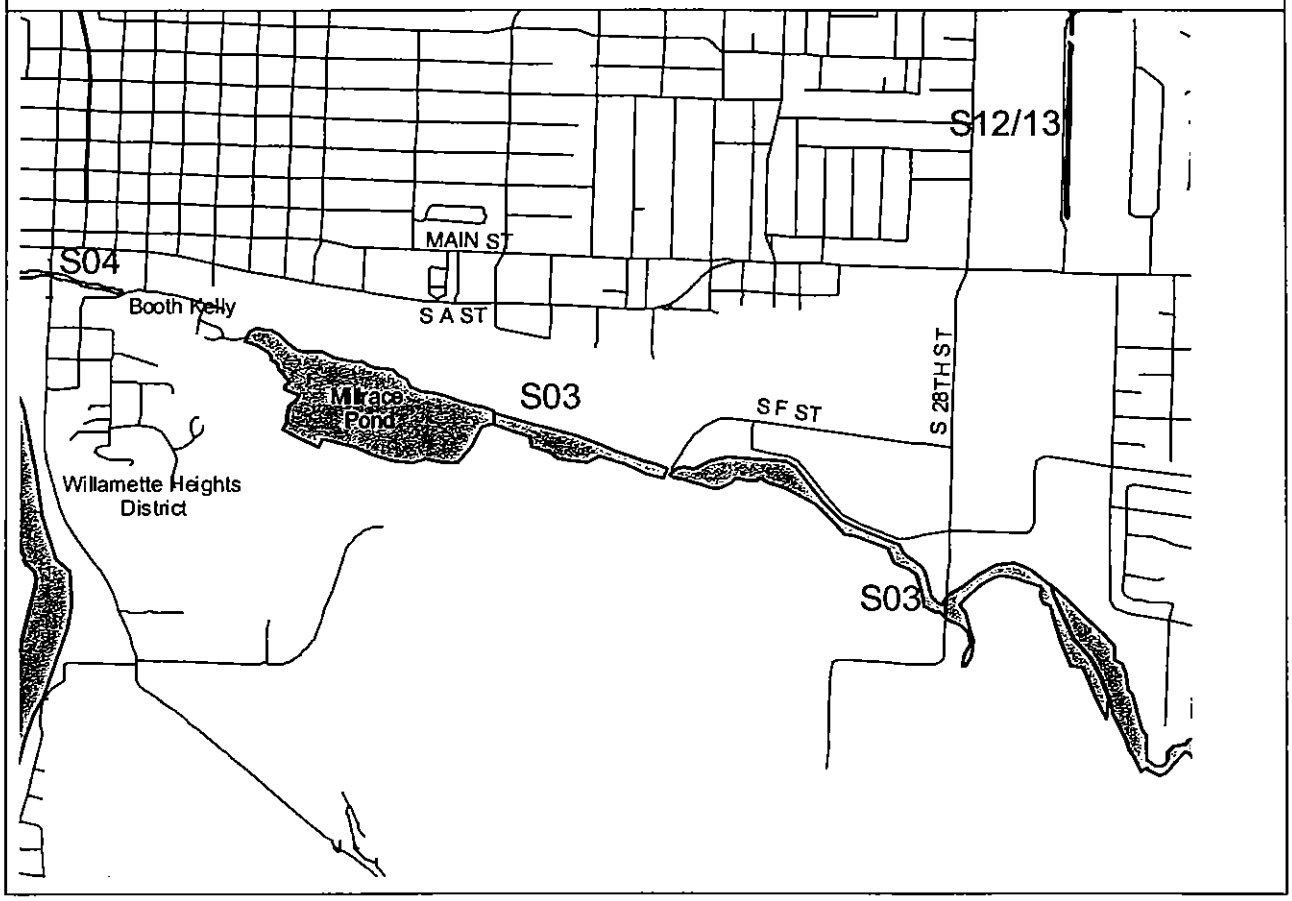
Reduction in the Buildable Land Inventory:

The wetland, W-20 was not counted in the inventory of buildable lands by the Eugene-Springfield Metropolitan Area Residential Land and Housing Study. Therefore the fully protecting the wetland acreage would not reduce the inventory. A 50-foot development setback is required under stormwater provisions of the Springfield Development Code, and thus the .82 acre impact of the setback is not attributed to this report.

9.2 Riparian Resource Sites

Site	Listed on Local Wetland Inventory?	Acres	WHA Score	Springfield Waterways Channel Assessment:
S03 **Springfield Millrace A, Natural**	Locally Significant Wetlands (W19) **High Quality Wetlands**	24.34	61-62 **High Quality Resource Site**	Not Assessed

Goal 5 Recommendation: Limit conflicting uses and employ low impact development practices when developing within 150 feet of the watercourse. The Springfield Millrace is protected by a 50-foot development setback and site plan review standards described in 31.240 of the Springfield Development Code. No additional setbacks are necessary.



Description:

This portion of the Millrace is a part of the same system as Site S04. Density, diversity, and health of riparian vegetation and adjacent land use give this section a higher wildlife habitat value. Black cottonwood, willow, hawthorne, bigleaf maple, with an understory of snowberry and rose are common vegetation along the Millrace. The Millrace functions as a wildlife travel

corridor, linking upland and wetland sites in Springfield. It also provides water for wildlife utilizing adjacent upland areas with no water.

Resource and Impact Area Summary

Resource Acreage:	25.15
Impact Area Acreage:	44.09
Combined Resource and Impact Area:	69.24
Vacant Acres within the Combined Area:	27.27
Number of Parcels Affected:	22
Combined Parcel Acreage:	134.66

Conflicting Uses by Acre by Zoning District

SITE ID	HI	LDR	MDR	PLO	QM	TOTAL ACRES
S-03	14.81	4.11	5.34	.08	0	24.34
S-03 Impact Area	25.86	7.05	12.69	1.14	1.26	48.00
Total	40.67	11.16	18.03	1.22	1.26	72.34

Conflicting Uses by Vacant Acre by Zoning District

SITE ID	HI	LDR	MDR	PLO	QM	TOTAL ACRES
S-03	9.33	2.04	0	.08	0	11.45
S-03 Impact Area	9.76	3.12	0	1.14	0	14.02
Total	19.09	5.16	0	1.22	0	25.47

Existing Protections

Is the site protected by minimum development setbacks and site plan review standards described in 31.240 of the Springfield Development Code? **Yes.**

S-03 includes the Springfield Millrace. The Millrace is a tributary to a water quality limited watercourse (Willamette River) and is protected by a 50-foot setback and a site plan review requirement.

Site Specific ESEE Analysis for S-03

This section discusses ESEE impacts that are specific to this particular site. For a broader discussion of the ESEE consequences of allowing, limiting or prohibiting conflicting uses on wetlands, see the General ESEE Analysis found in Section 8 of this report.

Environmental Consequences

S-03 includes the rural portion of the Springfield Millrace. The millrace also includes S-04, the portion of the millrace that flows through a developed industrial area and includes a large abandoned log pond. S-03 is listed as a locally significant wetland on the Springfield wetland inventory (W19). The hydrologic function of the watercourse is intact, although water flow is intermittent during the summer when the water level at the Willamette River inlet drops. The feature serves as a receiving stream for much of the storm water runoff from neighborhoods in south Springfield. Efforts are being made by the City to purchase land adjacent to the millrace as part of a long term effort to restore and enhance the millrace as wetland and riparian habitat. The US Army Corps of Engineers is also involved and may invest in future restoration efforts.

The 61-62 WHA score reflects the high habitat value that already exists. Fully allowing conflicting uses would mean the loss of a high quality wetland and a high quality resource.

Social Consequences

Willamalane Park and Recreation District's Comprehensive Plan shows two planned natural area parks and a bike path connecting Clearwater and Island Parks. One of the two natural areas is located at Stuart Agnes Middle School, where there is public access to the resource site. The bike path along the length of the Millrace is part of the Springfield Bike Plan that was adopted in 1998. Fully allowing conflicting uses could degrade the recreational and educational potential of the parks and bike path.

Economic Consequences

Fully protecting the rural element of the Millrace would affect about 11.45 acres of vacant industrial and residential land within the impact area adjacent to the watercourse. An additional 14.02 vacant acres are listed within the resource itself. Most of the watercourse itself is publicly owned. Replacement of the storm water conveyance and flood mitigation functions of the millrace would be costly.

Limiting conflicting uses near the Millrace would preserve hydrologic functions that exist today and would support efforts to restore and enhance the stream for wildlife habitat and for recreational and educational uses.

Energy Consequences

None of note.

Recommended Program for Protection

Limit conflicting uses and employ low impact development practices when developing within 150 feet of the watercourse. The Springfield Millrace is protected by a 50-foot development setback and site plan review standards described in 31.240 of the Springfield Development Code. No additional setbacks are necessary.

Impact of Protection Measures on Vacant Acreage and Buildable Land Inventory

Impact on Vacant Acreage by Zoning District

SITE ID	HI	LDR	PLO	TOTAL ACRES
S-03	9.33	2.04	.08	11.45
S-03 50-ft. Setback	3.79	1.00	.51	5.30
Total	13.12	3.04	.59	16.75

About 11.45 acres of S-03 is classified as vacant by the Lane County Assessor's Office. The vacant acreage includes portions of 10 lots. Limiting conflicting uses would allow some development to occur within the riparian resource area where the developer could show how the essential functions of the resource area could be preserved or enhanced. A 50-foot development setback is already required for the resource under Article 31. No additional setback is proposed.

A 50-foot setback would affect 5.30 acres of vacant residential, industrial and public land. The affect of the setback on buildable land could be reduced by aligning development such that yards and other open space are within the setback. Stormwater management facilities required for development can be placed within the setback under Article 31.240.

Employing low impact development practices within 150 feet of the riparian area could reduce the impact of nearby development on the resource. Some low impact development practices are already incorporated into the stormwater quality protection standards found in Article 31.

Reduction in the Buildable Land Inventory:

S-03 was not counted in the inventory of buildable lands by the Eugene-Springfield Metropolitan Area Residential Land and Housing Study. Therefore the fully protecting the riparian acreage would not reduce the inventory. A 50-foot development setback is required under stormwater provisions of the Springfield Development Code, and thus the 5.30 acre impact of the setback is not attributed to this report.

Site	Listed LWI	Acres	WHA Score	Springfield Waterways Channel Assessment:
S04 **Springfield Millrace B, Industrial, Mill Pond**	Yes	42.51	40-41 Moderate Quality Resource Site	Not Assessed

Goal 5 Recommendation: Limit conflicting uses and employ low impact development practices when developing within 150 feet of the watercourse. The Springfield Millrace is protected by a 50-foot development setback and site plan review standards described in 31.240 of the Springfield Development Code. No additional setbacks are necessary.

Description:

The Millrace runs from the Willamette River to the Mill Pond adjacent to the Booth Kelly site in Springfield. The upper stretches of the Millrace (Site S03) provide higher value wildlife habitat than the stretch within Site S04. This lower stretch of the Mill Race has a thin riparian strip with industrial and agricultural uses immediately adjacent. Noise, activity, and runoff from adjacent activities may adversely impact wildlife use of the Millrace. Water quality should be monitored.

Resource and Impact Area Summary

Resource Acreage:	42.51
Impact Area Acreage:	34.28
Combined Resource and Impact Area:	76.79
Vacant Acres within the Combined Area:	6.38
Number of Parcels Affected:	33
Combined Parcel Acreage:	485.48

Conflicting Uses by Acre and Zoning District

SITE ID	BK	CC	HI	LD	LM	PL	QM	TOTAL ACRES
S-04	29.73	0	11.13	.63	1.02	0	0	42.51
S-04 Impact Area	10.46	.44	13.36	2.0	4.92	.64	2.46	34.28
Total	40.19	.44	24.49	2.63	5.94	.64	2.46	76.79

Conflicting Uses by Vacant Acre and Zoning District

SITE ID	BK	CC	HI	LD	LM	PL	QM	TOTAL ACRES
S-04	.21			.63	0	0	0	.84
S-04 Impact Area	1.41	.19	.85	2.0	.66	.43	0	5.54
Total	1.62	.19	.85	2.63	.66	.43	0	6.38

Existing Protections

Is the site protected by minimum development setbacks and site plan review standards described in 31.240 of the Springfield Development Code? **Yes.**

S-04 is classified as a tributary to a water quality limited watercourse (Willamette River) and is protected by a 50-foot setback and a site plan review requirement.

Site Specific ESEE Analysis for S-04

This section discusses ESEE impacts that are specific to this particular site. For a broader discussion of the ESEE consequences of allowing, limiting or prohibiting conflicting uses on wetlands, see the General ESEE Analysis found in Section 8 of this report.

Environmental Consequences

S-04 includes the industrial portion of the Springfield Millrace and a large abandoned log pond. The millrace also includes S-03, the portion of the millrace that flows through a largely undeveloped rural area in south Springfield. The mill pond portion of S-04 is listed as part of a locally significant wetland on the Springfield wetland inventory (W19). The hydrologic function

of the watercourse is intact as a whole, although water flow is intermittent during the summer when the water level at the Willamette River inlet drops. The feature serves as a receiving stream for much of the storm water runoff from neighborhoods in south Springfield. Efforts are being made by the City to purchase land adjacent to the millrace as part of a long term effort to restore and enhance the millrace as wetland and riparian habitat. The US Army Corps of Engineers is also involved and may invest in future restoration efforts.

The 40-41 WHA score reflects the lower habitat value of this portion of the watercourse, compared to S-03. Fully allowing conflicting uses would mean the loss of the hydrologic and habitat functions of the watercourse.

Social Consequences

Willamalane Park and Recreation District's Comprehensive Plan shows two planned natural area parks and a bike path connecting Clearwater and Island Parks. One of the two natural areas is located at the mill pond, within S04. The bike path along the length of the Millrace is part of the Springfield Bike Plan that was adopted in 1998. Fully allowing conflicting uses could degrade the recreational and educational potential of the parks and bike path.

The Springfield Station Specific Area Plan cites the value of S-04 as a potential natural amenity for the historic Downtown, if the resource was restored and enhanced. Limiting conflicting uses and promoting restoration of S-04 could enhance the livability of the Downtown.

Economic Consequences

Fully protecting the rural element of the Millrace would affect about 5.54 acres of vacant industrial and tract and within the impact area adjacent to the watercourse. An additional .84 vacant acres are listed within the resource itself. Most of the watercourse is publicly owned. Replacement of the storm water conveyance and flood mitigation functions of the millrace would be costly.

Limiting conflicting uses near the Millrace would preserve hydrologic functions that exist today and would support efforts to restore and enhance the stream for recreational and Downtown economic recovery purposes.

Energy Consequences

None of note.

Recommended Program for Protection

Limit conflicting uses and employ low impact development practices when developing within 150 feet of the watercourse. The Springfield Millrace is protected by a 50-foot development setback and site plan review standards described in 31.240 of the Springfield Development Code. No additional setbacks are necessary.

Impact on Vacant Acreage by Zoning District

SITE ID	BK	LDR	LMI	PL	TOTAL ACRES
S-04	.21	.63	0	0	.84
S-04 50-ft. Setback	.82	.56	.16	.09	1.63
Total	1.03	1.19	.16	.09	2.47

About .84 acres of S-04 is classified as vacant by the Lane County Assessor's Office. The vacant acreage includes portions of 6 lots. Limiting conflicting uses would allow some development to occur within the riparian resource area where the developer could show how the essential functions of the riparian corridor could be preserved or enhanced. A 50-foot development setback is already required for the riparian area under Article 31. No additional setback is proposed.

A 50-foot setback would affect 1.63 acres of vacant residential, industrial and public land. The affect of the setback on buildable land could be reduced by aligning development such that yards and other open space are within the setback. Stormwater management facilities required for development can be placed within the setback under Article 31.240.

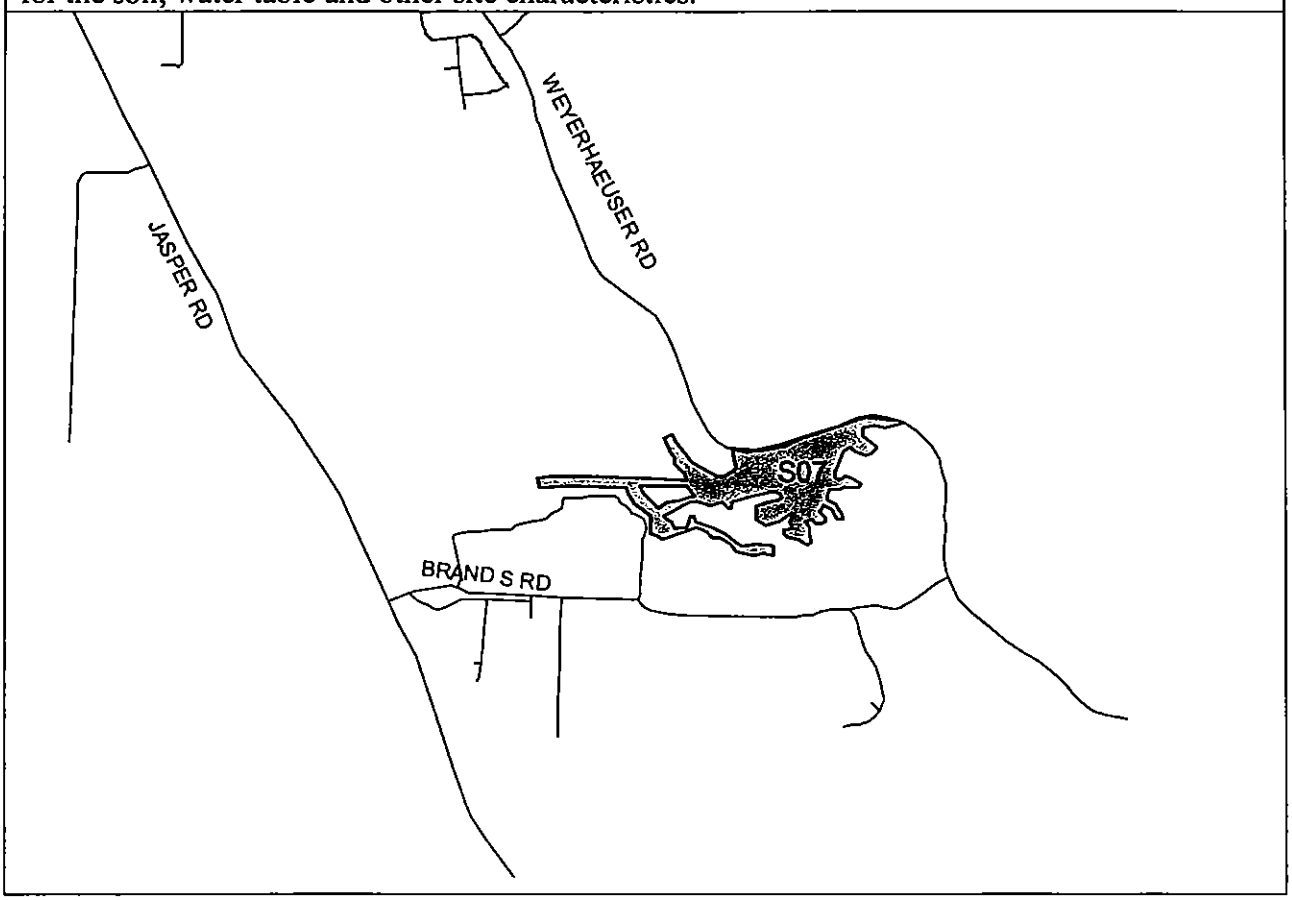
Employing low impact development practices within 150 feet of the riparian area could reduce the impact of nearby development on the resource. Some low impact development practices are already incorporated into the stormwater quality protection standards found in Article 31.

Reduction in the Buildable Land Inventory:

S-04 was not counted in the inventory of buildable lands by the Eugene-Springfield Metropolitan Area Residential Land and Housing Study. Therefore the fully protecting the riparian acreage would not reduce the inventory. A 50-foot development setback is required under stormwater provisions of the Springfield Development Code, and thus the 1.63 acre impact of the setback is not attributed to this report.

Site	Listed LWI	Acres	WHA Score	Springfield Waterways Channel Assessment:
S07 **Brand S/ Natron**	Locally Significant Wetlands (W18a) **High Quality Wetlands**	23.66	34 Moderate Quality Resource Site	Not Assessed

Goal 5 Recommendation: Limit conflicting uses that may impact the riparian resource and associated wetland. Maintain a 25-foot development setback from the wetland. Allow development within the impact area using low impact development practices that are appropriate for the soil, water table and other site characteristics.



Description:

Site S07 in east Springfield is a series of irrigation ponds and slough channels. The entire site has been altered and is highly disturbed. Riparian vegetation along the ponds where present is diverse and dense. The slough channels are vegetated with rush, sedge, spreading bentgrass, cattail, and Himalayan blackberry. The open water and adjacent riparian vegetation provide habitat for waterfowl, shorebirds, and some songbird species.

Resource and Impact Area Summary

Resource Acreage:	23.66
Impact Area Acreage:	33.10
Combined Resource and Impact Area:	56.76
Vacant Acres within the Combined Area:	22.93
Number of Parcels Affected:	6
Combined Parcel Acreage:	260.05

Conflicting Uses by Acre and Zoning District

SITE ID	LDR	LMI	SHI	TOTAL ACRES
S-07	5.88	16.3	1.48	23.66
S-07 Impact Area	9.51	19.63	3.96	33.1
Total	15.39	35.93	5.44	56.76

Conflicting Uses by Vacant Acre and Zoning District

SITE ID	LDR	LMI	SHI	TOTAL ACRES
S-07	0	10.89	0	10.89
S-07 Impact Area	0	12.04	0	12.04
Total	0	22.93	0	22.93

Existing Protections

Is the site protected by minimum development setbacks and site plan review standards described in 31.240 of the Springfield Development Code? **No.**

Site Specific ESEE Analysis for S-07

Environmental Consequences

With a WHA score of 41, S-07 is ranked as a moderate quality resource site. The site has been highly disturbed by agricultural and industrial uses. Part of S-07 overlaps with a large wetland complex (W18a) that is considered a high quality wetland. S-07 serves a hydrologic control function, slowing and storing runoff from the Thurston Hills to the north.

Fully allowing conflicting uses would mean the loss of almost 24 acres of riparian and wetland resource land as well as the loss of S-07's hydrologic functions. Limiting conflicting uses and encouraging restoration could improve the habitat value of the site while making the resource a more valuable natural amenity.

Social Consequences

The Willamalane Park and Recreation District's Comprehensive Plan shows a proposed natural area park in the vicinity of the resource. Fully allowing conflicting uses could mean the loss of this future recreational resource.

Economic Consequences

Fully protecting S-07 would mean the loss of 12.04 acres of vacant industrial land within the impact area and an additional 10.89 acres of vacant land within the resource site itself. Completion of the Jasper Road Extension will significantly increase the value of the land by providing more direct transportation connections to Hwy 126/I-105 and I-5.

The Natron corridor that will be opened to development with the completion of the Jasper Road Extension includes almost 800 acres of undeveloped land that is within the existing urban growth boundary.

Limiting conflicting uses could preserve or even enhance the resource functions, and provide a complimenting amenity for development.

Energy Consequences

None of note.

Recommended Program for Protection

Limit conflicting uses that may impact the riparian resource and associated wetland. Maintain a 25-foot development setback from the wetland. Allow development within the impact area using low impact development practices that are appropriate for the soil, water table and other site characteristics.

Impact of Protection Measures on Vacant Acreage and Buildable Land Inventory

Impact on Vacant Acreage by Zoning District

SITE ID	LMI	TOTAL ACRES
S-07	10.89	10.89
S-07 25-ft. Setback	2.05	2.05
Total	12.94	12.94

About 10.89 acres of S-07 is classified as vacant by the Lane County Assessor's Office. The vacant acreage includes a portion of 1 lot. Limiting conflicting uses would allow some development to occur within the riparian resource area where the developer could show how the essential functions of the resource area could be preserved or enhanced. A 25-foot development setback is recommended.

A 25-foot setback would affect 2.05 acres of vacant industrial land. The affect of the setback on buildable land could be reduced by aligning development such that yards and other open space