

Winter Lake Phase III Team
Response to Coos County Development
Staff Report on File # ACU-23-074/FP-23-012
Directly in Regard to the Impacts Analysis Findings

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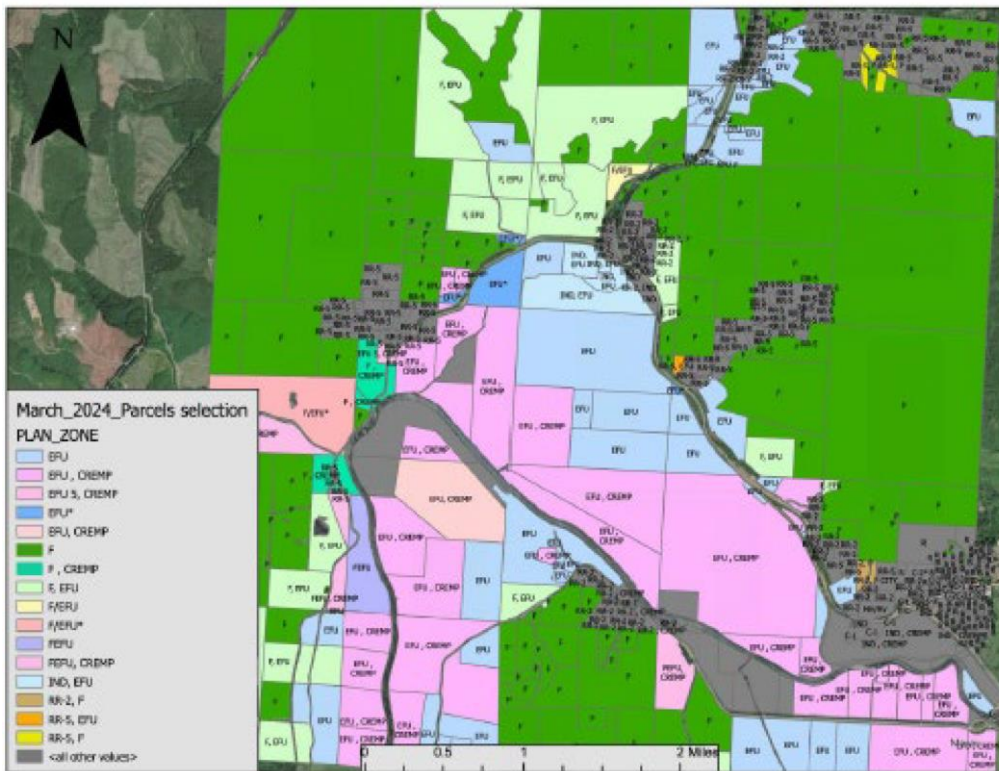
County Planning Finding in 03/21/24 Staff Report

FINDING: The applicant is required to do an impacts analysis showing that the proposed use will not force a significant change in accepted farm or forest practices on surrounding properties zoned and devoted to farm or forest. The applicant shall address how the proposal will not increase the cost of accepted farm or forest practices on lands devoted to farm or forest use. The analysis is required to define the study area, look at current practices within that area and then make a determination if the current proposal will significantly force a change in accepted farm and forest practices and if it would increase the cost of accepted farm or forest practices. The applicant submitted this information on March 19, 2024. The full results of the study are found at Attachment A, Application Submittal.

The methodology used by the applicant is as follows:

The Geographic Scope of this analysis includes all parcels within an approximate 1-mile radius of the project area. For this analysis, only lands zoned for farm and/or forestry practices were considered. Properties with industrial, commercial, rural residential, or other zoning were not evaluated for impacts unless combined with a farm or forest plan zoning. It should be noted here that most of the Garden Valley area parcels are zoned RR-5 and were not analyzed according to the selected evaluation criteria.

The results provided a total of 234 parcels for consideration, 15 of which are already included in the proposed project area. Project Area parcels were evaluated separately (see applicants Appendix A. Winter Lake Phase III Project Area and Surrounding Lands Impacts Analysis Tables 1. And 2.) as well as in combination with surrounding land parcels.



Based on the provided details of this enhancement project within the Beaver Slough Drainage District and the Coaledo Drainage District, here are the anticipated significant changes in accepted farm or forest practices and associated costs for adjacent landowners that have been raised:

- 1. Altered Drainage Patterns and Loss of Water Sources: The replacement and consolidation of pasture culverts, installation of new drainage channels, and repair of failing berms may alter the drainage patterns within the affected areas. This could impact the way adjacent landowners manage water on their properties, potentially requiring adjustments to irrigation systems, drainage infrastructure, water sources or land grading practices. Landowners may need to invest in new equipment or infrastructure to adapt to the changed drainage conditions.**

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The project is specifically designed to establish more natural pathways of drainage in the low-lying elevations. This process incorporated using LiDAR and contracted engineering in the ground surveys. The new and reconstructed channel density will be roughly 2x the existing density per acre over the current and with extended distribution in order to both deliver water during irrigation effectively, however, more importantly to provide for greatly improved drainout in spring and following rainfall or irrigation. These advancements in the channel layout will have strongly positive effects for water management and pasture irrigation on the action area lands. Adjacent lands are not affected by the Phase III actions. The Winter Lake C3P main tidegate controls water delivery to the project area in the Beaver Slough Drainage District (BSDD) and the Coaledo Tidegate serves as the control in the Coaledo Drainage District (CDD). The proposed Phase III work is subservient to the main tidegates and the 39 culverts that will be installed serve internal pastures, not main delivery routes to adjacent properties. The pastures served by the Phase III culverts and tidegates are within pastures with berms. Surrounding lands of pastures within the project area are largely upslope (above elevation 8.0ft) or not directly connected hydrologically in a manner where project actions have potential to cause water delivery effects. Berm repairs are aligned along interior project land parcels. These repairs are not boundary berms between adjacent lands and thus are only control features for irrigation and floodwater controls on the project area.

Through the past 25+yrs no channel cleaning has occurred in the action area. This has resulted in filling of channels through time. The pasture areas have become very difficult to drain in some locations with strong increases in non-palatable pasture plants. Without reestablishing the drainage within the project area EFU pasture operations are economically decreasing in productive capacity. The continued inability to implement Phase III proposed actions will incur an undue forced economic decline on the project area ranchers. All landowners within the project area are ground level advocates for the actions that will provide for improved water management.

The drainage networks that will be reconstructed through Phase III are not directly connected to adjacent lands. The project will install 9 new watering locations for livestock in the project area that has 4 watering locations currently, thus an overall increase. Water delivery to other off-project lands for livestock is not hydrologically connected at the summer elevations and thus unaffected. Irrigation on the project lands are through passive tidal inflow. Neighboring off-project area lands do not irrigate currently or where it does occur are not using either the Coaledo or BSDD C3P tidegate. No new infrastructure will be necessary for off-site landowners related to current and future actions within the Phase III project area.

- 2. Increased Maintenance Responsibilities: The installation of new infrastructure, such as tidedgates, drainage channels, and watering site troughs, may require ongoing maintenance by adjacent landowners. This could involve tasks such as cleaning debris from channels, inspecting and repairing tidedgates, or managing vegetation around watering sites. Landowners may need to allocate resources for regular maintenance activities and potentially invest in equipment or labor to ensure the proper functioning of the infrastructure.**

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The Phase III project will install advanced culverts with new long-life HDPE materials (as noted in the 404 Fill and Removal permit application). These culverts have a 50yr lifespan, which is 100% longer than any existing steel culverts on site and roughly 40% longer than the ADP culverts in use currently. The new side-hinged aluminum tidedgates are aircraft grade aluminum with a 50yr life expectancy. As is shown in the image on the cover sheet of this document, the existing wooden infrastructure is undersized and largely wooden tidedgate materials with a lifespan of 10-12yrs maximum. The project is anticipated to result in a greatly reduced maintenance effort on the project area.

The existing channel networks on the project area are largely linear and do not follow the low-lying topography alignment with acuity. This results in areas following rainfall, irrigation, or flooding where fish can become stranded and water stagnate unmoving with potential for mosquito production. Sticklebacks, mosquitofish, and juvenile coho all eat mosquito larvae. However, with the current channel networks largely filled with years of sediment and failing to follow topography, fish instinctively will not leave canals where they reside continuously and travel long distances to interior pasture locations. Additionally, the low-lying areas where water ponds currently, are not connected to main and secondary interior channels with fish present. The deteriorating infrastructure on the project area (channels filled with sediment/vegetation, failing tidedgates, degrading berms) are all components that are not providing adequate water management for agricultural actions on the project land area. A notable number of the interior culverts are perched, which does not allow for the current channel networks to be on-grade with the low point at the downstream delivery to main canals. Accordingly, there is greatly reduced ability to provide for both drainout and delivery of irrigation waters. These perched pipes also reduce the time period for fish passage during tidal and flooding cycles. All culverts on site are currently undersized for the hydrology. Without addressing these issues economic output for the landholders will continue to be damaged and in decline. The new/reconstructed channel networks are designed with on-grade slope from interior locations to the main canals. This was not the original construction design in 1908. The on-grade designs will allow for transport of sediment that accumulates to prevent premature clogging of channels.

The project lands are installing internal infrastructure that is within bermed topography. No actions through Phase III will occur at the BSDD C3P main tidedgate or the Coaledo tidedgate. Winter flooding eliminates all controls as berms are overtopped and thus the 39 culverts/tidedgates are irrelevant with flooding above elevation 5.0ft. The infrastructure that will be installed in the project area serves internal pastures of project area lands and these channels do not serve as through pathway infrastructure to other adjacent lands. Thus no costs are maintenance changes are possible for adjacent lands through Phase III actions. There are no tidedgates within the Winter Lake Phase III interior pasture network culverts or tidedgates that are not being replaced through the project. Few if any tidedgates are presently in operation on any adjacent lands. No allocation need for additional maintenance on adjacent lands infrastructure will be incurred by Phase III.

- 3. Potential Pest and Invasive Plant Management: Wetlands can serve as breeding grounds for mosquitoes and other pests, which may pose a nuisance to adjacent landowners, particularly during certain times of the year. The change the land may also bring in invasive plants and that can spread to adjacent properties. Landowners may need to implement pest and/or invasive plan management strategies to mitigate the impact of increased pest or plant populations on their farming or forestry activities. This could involve measures such as insecticide application, pesticide applications, habitat modification, or the installation of mosquito control devices, which may entail additional costs.**

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Many tidal wetlands inherently do not produce many mosquitoes. This is due to the factors needed to produce mosquitoes. In order for a water feature to provide habitat suitable for mosquito production three factors are necessary:

- a). Water must remain non-moving in a stagnant state during warmer months for the life-cycle of larvae.*
- b). The location where larvae are hatched must remain fishless until pupae transform into adults after stage-5, otherwise they will be predated on as mosquito larvae are a high value food item for fish;*
- c). The water must not dry up or soak into the ground prior to fly-off following stage-5. This is a minimum 7-8 days and at a maximum under cooler conditions 14-20 days;*

If any of the conditions are not met, larvae may hatch, however, then be consumed by fish or the habitat will dry up prior to sufficient time for them to become adults or moving water will reduce algae/food production or egg hatching. The Winter Lake Phase III project will address all three factors linked to mosquito production. The extended and on-grade channel networks will prevent ponding of rainwater/floodwater/irrigation water in locations where currently there are ponding conditions. The new and reconstructed channel networks will provide for movement of water, which will disrupt the life-cycle. The project is also designed to allow for much greater distribution of native three-spined sticklebacks and non-native mosquitofish to potential locations where mosquitoes might hatch and then be consumed. The Winter Lake Phase III project is directly engineered to address mosquito production habitats eliminating the need for direct chemical pest management actions. Overall, the Winter Lake Phase III project will directly improve conditions for pasture grass production, which is benefitted by actions that reduce ponded water areas where mosquitoes are able to be successful.

*It has been noted that other invasive species such as Brazilian Water-Milfoil, a.k.a. parrot feather (*Myriophyllum aquaticum*), may colonize the Winter Lake project area. None of the project actions will enhance the ability for this plant or other non-native invasive plant. Parrot feather has been present in the Coquille Valley since at least 2009 in a lake in the lower Coquille River. Likely released as from a home aquarium. In the Coquille River basin it has been noted as heavily established in Johnson Mill pond. Photos from 2002 identified Milfoil sp. in mid-winter in Johnson Mill pond with stem features typical of parrot feather during winter (Figure 1), however, positive I.D. was not made at the time. Brazilian Water-Milfoil is known to be heavily present in Johnson Mill Pond currently (Figure 2). Brazilian Milfoil is spread only by vegetative reproduction when a portion of stem is broken, such as during floodwaters and transported to a new location where it roots. The population of Brazilian Milfoil in Johnson Mill Pond is located where floodwaters are able to carry broken stems to all lands downstream of that location that are connected to the main Coquille River.*



Figure 1. Milfoil sp. in Johnson Mill Pond, image taken December of 2002.



Figure 2. Brazilian Water-Milfoil in late winter emergent stage. Johnson Mill Pond, March 23, 2024.

- 4. Loss of Agricultural Lands: The project could contribute to the ongoing loss of agricultural lands due to various factors. Firstly, the installation of new infrastructure and drainage systems may require the conversion of agricultural land into construction sites or water management areas, directly reducing the available acreage for farming activities. Additionally, alterations in drainage patterns and the introduction of wetlands as part of the project may render certain portions of agricultural land less suitable for cultivation, further diminishing the overall area available for farming. Furthermore, the potential increase in maintenance responsibilities for adjacent landowners could divert resources and attention away from agricultural activities, leading to reduced productivity or abandonment of agricultural land.**

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The Winter Lake Phase III project has been specifically designed to provide strong economic benefits for agricultural landowners within the project area and with special consideration to eliminate effects/impacts to adjacent landowners. The new channel on-grade design and installation on the landscape will provide for invigorated improvement in pasture grass production without substantive effects to total acreage of grass. Without the new channel networks and cleaning of the remainder, existing sediment filled channels will continue to fail to provide for proper drainage. Pasture grasses are struggling on large areas of the action area due to excessively wet conditions into early summer from poor transport channel capacity and connectivity to main outflow canals. The project will also provide strong access for overwintering juvenile coho into high value rearing habitat. During winter drainout is impossible due to higher river levels and thus use by fish is considered a strong and collaborative “Working Lands” benefit. Recreational fisheries are estimated to generate \$280 per adult salmon caught to the Oregon economy through angler purchase of motels, food, fuel, boats, vehicles, and fishing equipment.

The project will not implement any actions on adjacent non-participating landownerships. The action area construction sites are temporary staging areas, most of which are upland off of North Bank Lane or Highway 42, where there currently is not EFU pasture production. No long-term effects/impacts to pasture production will occur due to staging areas. Troughs installed for livestock watering will provide enhanced livestock health due to higher quality water for their consumption compared to current conditions.

The lands within the Phase III Project area are all currently classified as wetlands under the USFWS National Wetlands Inventory (<https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>) . The wetland pasture grass production from these sites is due to species of grass (bent grass and reed canary grass), predominating, which are facultative wetland plants. The project is unable to and will not create any new wetlands as the project is already wetland.

Channel networks will provide more natural hydrology similar to historical that will enhance the vigor of these wetland adapted pasture grasses. The new/reconstructed channel networks are specifically aligned in a manner different “altered drainage patterns” than existing in some locations to enhance the drainout, which will improve quantifiably the pasture grass production, while protecting ecology of the lands within the CREMP for the specified goals and values. Without this project the lands will continue to decrease in economic viability due to increased retention of water, which yields more unpalatable plant species such as smartweed and Pacific silverweed.

The project action areas are within surrounding berms to elevation 5.0ft. Culverts/tidegates/channels that will be installed are not directly connected to adjacent lands and thus will not be impacting hydrology or productive capacity of those lands. The culverts/tidegates that will be addressed with Phase III are subservient to delivery of water through the main BSDD C3P and Coaledo tidegates. No actions will occur through Phase III at those main tidegate locations.