

¹ODFW Fish Passage Rules and Statutes Frequently Asked Questions

1. Is fish passage needed for servicing non-stream human constructed canals, ditches, channels?

Oregon Fish Passage Statute (ORS 509.580 - .910) states that Fish Passage shall be addressed in waters of the state where fish are currently or were historically present. ODFW has the legal responsibility and authority to determine whether or not fish are or were historically present at a given stream or project site. ODFW District staff should be contacted to determine whether or not fish are or were historically present at any given project site. If fish are or were historically present, even if the water body is a human-made conduit, fish passage laws, regulations, and triggers may apply. However, fish passage typically is unnecessary in situations where fish reside in unwanted areas, non-natural canals, or diversion ditches, and these situations should be discussed with the appropriate ODFW District staff.

2. What if we are cleaning substrate from upstream of a tide gate, culvert, dam, or other artificial obstruction, will that trigger fish passage rules?

Cleaning out or dredging out a stream channel upstream or downstream of an artificial obstruction, such as a tide gate, dam, or culvert, is not an activity that triggers Oregon Fish Passage Laws. Other permits may apply, including relevant DSL or Army Corps of Engineers fill and removal permits, as well as adhering to the ODFW in-water work window guidelines.

3. If we replace 10-feet on the end of an 80' pipe every 15 years, does that trigger fish passage rules?

As long as the “ends” of the culvert could be replaced without reducing the flow capacity of the pipe, without excavation of material directly above the pipe, and without changing the original configuration of the pipe, this would not be a trigger to fish passage laws.

4. Do fish passage rules apply to maintenance of culverts or other structures?

Fish passage rules established in 2001 apply to all original and major construction, abandonment, structural modifications that increase storage or diversion capacity, and/or actions that result in a fundamental changes in permit status. Specific to road and stream crossings (culverts, installation or replacement of a roadbeds, culverts, or bridges) Oregon Administrative Rules (OAR 635-412-0005) have further defined what activities trigger Oregon’s Fish Passage Law. These activities include:

1. Creating a road which crosses a channel
2. Widening the road foot print within a channel
3. Filling or removing (excavate) 50% of the material directly above a culvert, unless this volume is exclusively composed of the top 1 foot of material.

¹ These questions have been gathered from public meetings and official requests from members of the public. All answers provided by the ODFW Fish Screening and Passage Program.

4. Constructing of a new culvert, overflow pipe, apron, or wingwall, within the channel
5. Widening/extending of a culvert, wingwall, apron
6. Cumulatively through time making repairs or patches to over 50% of the culvert's linear length.
7. Replacing any part of a culvert except for culvert ends that have become misaligned or eroded and which are replaced to their original configuration.
8. Any reduction to the inside perimeter of the culvert
9. Makes any replacements, modifications, patches, repairs to the existing culvert that are different to the original configuration and which reduces the level of fish passage by native migratory fish.

If your construction activity is not one of the listed activities, it should not trigger fish passage law. You are encouraged to contact the local ODFW District Fish Biologist or Statewide Fish Passage Program staff if you have any questions or are unclear on any specific activity being proposed, and whether or not the activity triggers the need to address fish passage.

5. If I replace a bridge that does not have any structures in the stream, does that trigger fish passage rules?

Fish passage laws only apply to devices placed in waters of the state, so technically replacing an existing bridge that has no elements within the active channel with a new bridge with no elements within the active channel is not a trigger. However, it may be difficult to ascertain if any bridge elements are within (or out of) the active channel. Bridge elements include anything from pilings, rip rap scour protection, and road support materials. The appropriate ODFW district biologists or ODFW Fish Passage Program should be contacted prior to installation or replacement of any bridge, so a determination can be made if the action is a trigger, and to provide fish passage approval if necessary.

6. If I have a road over my tide control structure and I complete maintenance on the road over the tide gate, i.e. replace > 50 feet of the road, does that trigger fish passage rules?

If you are replacing just the top one foot of material above the tide gate for your road, then no, this would not be a trigger. If you are excavating greater than 50% of the material, and at least one foot of fill directly above the culvert this would be a trigger to fish passage laws. In this case fish passage would be required, and a hydraulic analysis on the structure would have to be completed to figure out **a**) hydraulic conditions within the culvert and the current level of fish passage; and **b**) conditions present at the tide gate (i.e. angle of openness, time of openness, etc.). By calculating both **a** and **b**, we would know whether or not the structure meets fish passage criteria, and if not, what the appropriate solution for fish passage would be.

7. If my stream channel has narrowed due to a human placed structure, e.g. tide gate, culvert, etc. how do I determine active channel width?

Active channel width (ACW) is the horizontal width or distance between two corresponding ordinary high water elevations taken along a transect perpendicular to the stream flow. Active channel width determinations should be made outside of the influence of any human made structures like culverts, tide gates, roads, or dams. Typically means to get an accurate reading of the active channel width a surveyor must travel far enough away from the control (up and downstream), to find a natural more representative active channel to measure. We recommend multiple measurements are collected above and below the structure and an average active channel width is developed for the project site. This average ACW should be used to size the new structure.

8. Why are tide gates an issue for fish movement, predation, and survival? Fish seem to move when tide gates are open and sense when gates will open.

Delay in fish migration is problematic and can have negative impacts on a fish health and survival. Delays to fish migration can cause increased predation, increased stress, pre-spawn mortality, and increased exposure to poor water quality. Problems can range from adult salmon trying to get upstream to spawn, juveniles attempting to move downstream to the ocean, or resident fish trying to access habitat for foraging or refuge. All of these factors may have deleterious affects on the fish's overall fitness and fish escapement and can present major challenges to fish survival and population viability.

9. Do tide gates improve freshwater rearing habitat by changing the stream flow dynamics (e.g. pooling water, changing salinity, gradients)?

Tide gates can increase the amount of freshwater habitat available. However, tide gates can inhibit the natural function of the habitat as well as limit the amount of saltwater that backwaters into the tidally influenced lower sections of freshwater streams. Typically, as juvenile fish move downstream, they gradually encounter more and more salinity on their way to the ocean. In this natural scenario, juvenile fish can inhabit these brackish waters that are prime foraging areas, and slowly mature until they are ready for their ocean life stage. This gradual increase in salinity is also called a "salt wedge," and the characteristics of the chemical changes in water quality needs to be slowly adapted to by out migrating fish. Tide gates can cause scenarios in which fish do not have access to these brackish waters. In situations where tide gates have kept the fresh and salt water from mixing, the transition between fresh and salt can be too abrupt, causing delay in migration, stress, or mortality.

10. Is a barn door tide gate as good for fish passage as other styles of tide gates (i.e. aluminum side-hinged gates)?

Assuming "barn-door" style tide gate is referring to a side hinge, then yes typically side hinge tide gates require less hydraulic head pressure to open the

gate and are more efficient and open quicker. Generally, the most optimum style tide gate structure is one that opens quickly and stays open the longest, hence maximizes the time of openness. Mass of the tide gate is another important component that determines how fish friendly a tide gate is. The lighter the structure, the quicker it opens. Tide gates built from aluminum and are of a side hinge configuration, are typically more fish friendly.

11. Are Muted Tidal Regulator (MTR) type tide gates more likely to have maintenance issues i.e. flooding issues?

MTR style tide gates do have more moving parts than traditional tide gates so there is a greater risk of more maintenance. That being said, the MTR unit as a whole is fairly simple and is not anticipated to cause greater or increased maintenance concerns for a landowner or operator. Recent discussions with a manufacture of a MTR style tide gate mentioned that it is their experience that MTR's do not require additional maintenance. As for risks to flooding, MTR tide gates actually minimize the risk for flooding because the landowner can set a desired water surface elevation for the gate to close. MTR's allows the landowner or owner/operator to set a maximum inundation elevation level and eliminate the risk of flooding caused by high tides and tidal surges. Tide gates, like all hydraulic facilities require some degree of operational maintenance. ODFW recommends you coordinate directly with a manufacturer of a MTR to answer questions regarding site specific applicability, costs and maintenance issues associated with different styles of tide gate structures.

12. How do fish passage rules deal with natural obstructions such as sediment build up in a stream channel, since this sediment may inhibit fish passage?

Sediment build-up in certain situations can be a natural phenomenon. Streams that empty into tidally influenced areas are prime examples as the sediment that is carried downstream in the high energy stream is deposited as the stream transitions from high energy into the low energy tidal zone. Historically, this situation would create large alluvial fans of sediment and braided stream channels that were constantly changing. Where trouble arises is when streams become channelized due to anthropogenic activities and this natural braiding or channel movement cannot occur. The result is situations where streams either have too much erosion (downcutting) or too much deposition (aggradation). Most likely, fish passage concerns that arise from sediment deposition will be associated with the operation of a control structure such as a dam, tide gate, or culvert. When a trigger occurs at one of these structures, the fish passage design will include iterations on how to improve the natural stream function. This is what helps us decide how large of structures to construct. For example, a 4 foot culvert in a 10 ft. channel will constrict flows and have a lot more sediment deposition upstream compared to a 10ft or larger culvert in the same channel. An adequately sized structure will relieve many of the headaches associated with long term maintenance of the structure and improve stream function.

13. Would sediment removal be mitigation?

As a program, ODFW Fish Passage Program is open to evaluating any fish passage mitigation ideas, as long as they present a net-benefit to native migratory fish. Sediment removal or other techniques to improve passage conditions should not be ruled out as potential fish passage mitigation. It is unlikely however that sediment removal would be adequate mitigation for a fish passage waiver, due to the temporary nature of sedimentation causing fish passage barriers. Each fish passage waiver request is inherently different and requires an in depth net benefit analysis.

14. Are there a number of options that will suffice as mitigation if a fish passage waiver is pursued, or only opening access to another stream?

Much like the answer above, mitigation may include any number of strategies. The simplest way and easiest to calculate a net benefit to native migratory fish, is to provide access to stream habitat that is presently blocked. As stated in Oregon Revised Statute 509.585, mitigation must provide a net benefit to native migratory fish in waters adjacent to the trigger site. Meaning, if a net benefit is achieved by methods other than providing passage elsewhere, the mitigation may be approved. Examples of mitigation could include riparian plantings, placing large woody material in streams, and other instream habitat and water quality improvements that would be a greater benefit to native migratory fish than providing fish passage at the trigger site. ORS 635-412-0040 further describes mitigation criteria.

15. Where are category I habitat types in Oregon? Where are wetlands and waterways in Oregon?

Please contact your local ODFW District Biologist to find out the location of any Category 1 habitat as well as wetlands and waterways. If you have a project and you have potential wetland or waterway issues, please contact Oregon Department of State Lands and ODFW.

16. If a landowner is in the process of moving forward with a project and a design change is needed, is it possible to make these changes to the fish passage plan without submitting a brand new plan? (Can change be made on the fly?)

For the ODFW fish passage plans, we will work with the landowner to make minor changes without having to supply a brand new plan. These types of changes are typically documented by either fish passage staff or by the ODFW fish district. Changes that alter the overall scope or intent of the project will require that additional planning materials be submitted. It is the goal of ODFW to assist landowners with the planning process in order to achieve the best fish passage possible at a given project site. In order to avoid problems, it is best to communicate with the ODFW fish district or Fish Passage Program staff as early and as often as possible so that changes to plans can be implemented without delaying the project.

17. Do tide gate owners and water districts need to be planning ahead for the future financial costs of replacing tide gates?

Tide gate technology is steadily increasing and the cost of replacing or repairing a tide gate should be considered. ODFW encourages all owner(s) of artificial obstructions (bridges, dikes, tide gates, culverts, dams) to plan ahead and be ready for the financial impacts of replacing a structure. Floods and other storm events have the potential to damage these structures at any time, and owners should be prepared for the cost of replacement should the need arise. That being said, when the need does arise there are options for funding assistance that private citizens can apply for. These may include federal funds, OWEB grants, ODFW funds (Restoration and Enhancement and fish passage and screening cost share program). Local Watershed Councils and Soil and Water Conservation Districts, as well as local ODFW district and screening & passage program staff can assist and educate landowners about funding and partnering opportunities.

18. When does the landowner compensation come in for landowners? Fish are rearing on private lands and these passage projects are on private land.

If you are a water user, you may be eligible to participate in ODFW's Fish Screening and Passage Cost Share Grant Program. In addition, if you are an Oregon taxpayer, you could also benefit from an Oregon state tax credit. This Cost Share Grant Program is designed to promote the installation of ODFW-approved fish screens and fishway by sharing the cost of the installation with the water user. Fish Screens prevent fish from entering water diversions. Fishways provided fish passage to allow migration. For additional information please see ODFW's website at [.ODFW Fish Passage - Grants.](http://www.dfw.state.or.us/fish/passage/grants.asp) which is located at the following web browser address:
<http://www.dfw.state.or.us/fish/passage/grants.asp>

19. Why should the farmer or timber landowner pay for fish passage on forest buffer strips?

Oregon fish passage laws (ORS 509.585) apply to owners or operators of artificial obstructions. If the artificial obstruction is located on forest land or forest buffer strips, the landowner is responsible to ensure fish passage is addressed when a fish passage trigger event occurs. Fish passage barriers, even on private property, can block native fish from accessing habitats that are vital to complete their life history needs. These cumulative impacts can be felt at the population scale impacting fish numbers, recreation, and local economies that depend on fishing (tourism/recreational or commercial) can be negatively impacted.

20. If you have a stream that breaks through a berm and fish passage is impacted do you need a permit to rebuild the berm?

Berms and dikes are included as artificial obstructions in Oregon Administrative Rule. Therefore, if a stream breaks through a dike or a berm, rebuilding the berm would trigger fish passage laws at that site. This could

entail just a review of fish passage at the berm and it is possible that no further actions would need to be taken. If fish passage at the berm did not meet criteria, additional measures would need to be taken. Other appropriate fill and removal permits from DSL and the ACOE would apply when applicable. If the break in the berm created an emergency situation, where life and property were at risk, no fish passage plan approval would be needed before reconstruction of the berm (the trigger event). However, once safety has been established the landowner would enter into an agreement with ODFW to remedy any fish passage problem if they exist at the berm. It's always best and we encourage coordination with ODFW local district staff if there is ample time.

21. Can public meetings be better advertised in order for people to be better able to attend?

Yes. Meetings are often advertised in local media and through word of mouth. It is our intention at any public meeting, to involve as many people that are interested as possible. The ODFW wants to keep landowners and all members of the public involved and aware of agency rules and regulation, policy, and other programs as much as possible.

22. When you have a culvert that has sediment building up above it and it is causing a fish passage issue, will ODFW come and excavate this sediment to improve fish passage?

Typically ODFW does not excavate or maintain culverts for landowners. If ODFW owns or operates a structure that is causing excess sediment build up, and thus, a passage problem, ODFW would be responsible for fixing the problem. ODFW can inspect privately owned culverts but we typically do not dig out excess sediment located upstream of these culverts. If ODFW becomes aware of a possible impediment to fish passage that can be easily fixed, we may be able to take the necessary measures to try and remedy the problem. However, if you own a culvert and notice a fish passage problem, we encourage you to notify the local ODFW district staff and keep them aware of your concerns. In situations where passage is a problem ODFW staff will actively work with the public and landowners to develop appropriate solutions. Removal of sediment may require permits from the appropriate regulatory agency(s).

23. Can local level biologists approve fish passage plans?

Yes, local level District fish biologists can and do approve fish passage plans that are considered "stream simulation." This means that any structure (i.e. culvert or bridge) that meets stream simulation guidelines can be approved by the local fish biologists. However, projects that require engineering or hydraulic analysis must be approved through the department's fish passage program. Also, local District fish biologists may at anytime request fish

passage staff from Salem to assist and provide input on any fish passage project.

24. OAR 635-412-0005(9b)(B) appears to prevent repair of existing tide gates where the repair would involve over 50% of the structure. Is this a correct interpretation?

Yes and no. A landowner is allowed to repair or even completely replace an existing tide gate if the gate's condition warrants it. However, if 50% of the tide gate is repaired, it is a trigger to ODFW fish passage requirements and fish passage would be required through an approved plan that met all fish passage criteria. This means that fish passage through the tide gate will be required to meet current ODFW fish passage criteria when the repair or replacement is complete, which may result in the installation of a new tide gate onsite. Alternatively, fish passage rules and regulations provide two other options, in lieu of meeting fish design criteria. These include fish passage waivers and exemptions. Waivers require mitigation whereas exemptions do not.

25. Could you clarify what constitutes an acceptable fish passage tide gate?

Fish passage criteria for tide gates can be found in OAR 635-412-0035 (5). Fish passage criteria states that at minimum, tide gates shall be 4' wide, aluminum, side hinged, provide fish passage for 51% of the tidal cycle, and provide hydraulics for fish passage consistent with maximum velocity and jump height, and minimum depth criteria listed in OAR 635-412-0035 (2). This criteria provides a starting point as fish passage at tide gates can be quite site specific. Generally speaking, acceptable fish passage at tide gates maximizes area of inundation upstream, time of tide gate openness (to maximize tidal exchange), and minimizes water velocity while providing adequate depth for fish passage through the tide gate/culvert.

26. Why does the Department believe it is necessary to apply these fish passage OAR's to existing tide gates that have been in place many, many years?

The first fish passage law in Oregon was established prior to statehood, enacted in the Oregon Territorial Constitution in 1848, that law stated: "The rivers and streams of water in said territory of Oregon in which salmon are found or to which they resort shall not be obstructed by dam or otherwise, unless such dams or obstructions are so constructed to allow salmon to pass freely up and down such rivers and streams." So, fish passage has been required for many years. However, for many years this law was not fully followed, resulting in a state with tens of thousands of obstructions that do not provide adequate fish passage. In an effort to slowly but systematically address these historic fish passage issues, current fish passage statutes were voted into law by legislators during the 2001 legislative session. Subsequent fish passage rules (OARs) were developed in 2004, to implement fish passage laws. The current rules are in place to address both new and historic fish passage issues. If a dam, culvert, tide gate, or other artificial obstruction has been in place for many years without fish passage (even though fish passage

was required when these structures were built), State statutes (ORS 509.580 – 509.910) mandate that passage be provided when construction, a fundamental change in permit status, or abandonment occurs. These “trigger” actions are further defined in rule, and for tide gates, “construction” means new construction (new tide gate)n, or replacement of over 50% of an existing tide gate’s structure. The intent of the rules is to upgrade facilities to provide fish passage when major investments, replacements, and actions are being performed at the facility. Essentially, if the artificial obstruction is being upgraded, replaced, etc., the fish passage needs to be upgraded to current criteria as well along with the structure. Again, there are fish passage waiver and exemption alternatives if appropriate and the owner-operator of the facility chooses to not provide passage.

27. Has the Department performed any studies on the cost of conventional tide gate repairs such as tub and gate replacement compared to the costs of what is referred to as acceptable fish passage structure?

The Department has not performed any studies comparing the costs of tide gates with acceptable fish passage, and tide gates without. I am not familiar with the term “tub and gate” but costs vary depending on many factors at a given site. Yes, a tide gate with acceptable fish passage can be larger, can contain mitigation devices to help keep the gate open for longer, and therefore may be more costly. However, these details are highly site specific. ODFW and OWEB are two agencies that have cost share/granting programs that may be available to help landowners offset the costs of new tide gates with fish passage. I encourage any landowner wanting to upgrade a tide gate to contact the local ODFW office, whose staff could help direct them to funding sources and help with the process.

28. What are the estimate costs that the Department determined for construction of a fish passage tide gate?

The Department cannot provide accurate cost estimates for tide gate replacement as tide gate projects are very site specific. Projects rely on site specific information to help determine size of the tide gates and other key factors that impact cost. Generally, the larger the area of inundation/water upstream of the tide gate is (the more water that needs to move through the gate), the larger and more expensive the project.

29. With regard to dike maintenance (OAR 635-412-0005); Why has the department included dikes in the Fish Passage OAR? I would think that dikes are not actually related to fish passage in streams and rivers.

Dikes are generally not fish passage issues in the traditional sense, and indeed I have only dealt directly with a dike as an “artificial obstruction” a few times. There are situations, where dikes have been installed across drainages that historically provided valuable habitat for native migratory fish. In those instances, the dike itself is the obstruction to fish passage. These instances are very rare, and generally a dike in this situation would have an associated

culvert to help drain said drainage, but not always. Therefore, dikes were included in the list of artificial obstructions that would require fish passage when maintenance occurs. Dikes were also included on this list to ensure that any new dikes built across fish bearing waterbodies would be required to provide fish passage for native migratory fish. Dikes do, in many cases, block off floodplains and habitats that would have been historically inundated and highly valuable for native migratory fish.

30. With regard to Fish Passage Waivers and Exemptions (OAR 635-412-0025); Why must a waiver from installing fish passage require that the mitigation to receive a waiver have a greater benefit to fish than would be provided by a fish passage?

The policy in the State of Oregon is for fish passage to be provided at artificial obstructions. However, the state recognizes the unique challenges that any given site may present, and offers fish passage waivers as another potential option to legally comply with fish passage law. Requiring a greater benefit from the mitigation as opposed to passage at the trigger site, ensures that we will achieve the best possible outcome for fish. We can't require less than a "net" benefit as this would de-incentivize doing the best thing for fish passage at any given site and would generate a net loss under a passage waiver scenario.

31. With regard to Fish Passage Criteria (OAR 635-412-0035); What was the basis or scientific criteria that tide gates and associated fish passage structure shall be a minimum of 4 feet wide and shall meet the requirements of OAR 635-41,2-0035(2)? Tide gates are generally located on drainage ditches, not streams.

Tide gates are located throughout Coastal Oregon on a variety of different water bodies: sloughs, drainage ditches, small streams, large streams, bays, and more. Many drainage ditches are waterbodies that historically would have provided valuable habitat for native migratory fish and may still, if fish are provided access. A lot is still unknown in regards to tide gate performance and how fish use them, however minimum criteria that a tide gate is 4 foot wide and side hinged relates to hydraulic performance of the structure. If a fish bearing waterbody is located upstream of a tide gate it likely has a significant volume of water that must exit through the gate in one 6 hour tidal cycle. A 4 foot minimum gate ensures that velocities are kept low as compared to smaller installations. Similarly, side hinged apparatuses require much less hydraulic force to open as compared to top hinged tide gates, which improves open time, drainage, velocity, and the amount of time a fish will be able to pass through the gate. Fish passage criteria listed in OAR 635-412-0035 (2) are the basic hydraulic fish passage criteria for velocities, depths, and jump heights. These criteria are based directly on swimming performance of native migratory fish, particularly juvenile salmonids, which tend to be the "weakest" native migratory fish at a given site. All of these criteria, including the tide gate minimum criteria are highly site specific, and any given site may require more restrictive (or less restrictive) criteria, particularly when it comes to sizing the tide gate for adequate fish passage.

32. With regard to Mitigation Criteria (OAR 635-412-0040); What does the Department consider as appropriate mitigation for dike repairs?

If dike repairs result in a trigger to fish passage regulations (fish passage is required), and the owner/operator of the dike decides that a fish passage waiver (mitigation) is the best solution to meet fish passage requirements, the mitigation will need to provide a net benefit (greater benefit) as compared to fish passage at the dike location. A benefit analysis would need to be performed at the dike site to determine what the benefits would be for native migratory fish if passage was provided. This analysis would include an evaluation of the habitat quality and quantity upstream, fish species present, and level of passage currently being provided at the dike. All of these factors would be considered, and would set the base level of mitigation that would be required. The higher the benefit for fish at any given site, the higher the minimum mitigation requirement. In cases where there is more than one mile of habitat (including tributaries), the Oregon Fish and Wildlife Commission approves fish passage waiver requests.

33. What does the Department consider as appropriate mitigation for tide gate repairs? Tide gates after all drain drainage ditches, not flowing streams.

See above comment on appropriate mitigation for dikes. Mitigation is based on site specific circumstances so it all depends on what benefits for native migratory fish would result from fish passage at the tide gate. This is a site specific exercise. There are hundreds, if not thousands, of tide gates in Coastal Oregon that are located on fish bearing waterbodies such as streams, sloughs, estuaries, and other tidal areas. If a tide gate were situated on a drainage ditch that does not currently or did not historically have fish and or the habitat quality was degraded and not functional, then fish passage would not need to be considered. ODFW fish passage rules and regulations only apply to waterbodies that currently contain, or historically contained, native migratory fish. This determination is based on coordination with the local ODFW fisheries biologist.