

Fishways and Screening Code Rules - Draft

Purpose.

The ability of salmon and steelhead to migrate to and from their traditional spawning grounds is vital to their recovery in Washington. In addition, other fish species and freshwater life stages of juvenile salmon move between different areas of the stream to find suitable habitat. Barriers that block fish from swimming upstream or fish movement instream, such as deteriorating culverts, outdated bridges, and diversion dams undermine recovery efforts. Two tools crucial to fish recovery are correcting human-made fish passage barriers and properly screening surface water diversions to enable safe upstream and downstream passage for all fish at all life stages.

This chapter establishes the rules for the department's fish passage and screening authorities (chapter 77.57 RCW).

Instructions for using Chapter 220-XXX WAC.

The technical provisions in WAC 220-xxx-xxx through 220-xxx-xxx represent common provisions for fishways and fish screens found throughout Washington for the protection of fish life. Implementing these provisions is necessary to minimize cumulative impacts to fish life and fish passage. These provisions reflect the current and best science, technology, and construction practices related to the protection of fish life. The department will incorporate new science and technology as it becomes available and will allow alternative practices that provide equal or greater protection for fish life.

In addition to the rules in this chapter, the department has developed guidance to help fishway and fish screen owners. This guidance reflects the department's experience and expertise with various types of structures and hydraulic projects. Following the guidance will help ensure that a structure will adequately protect fish life. All guidance documents are available on the department's website.

Definitions.

The following are definitions for terms used in this chapter.

"Bankfull width" means the width of the surface of the water at the point where water just begins to overflow into the active flood plain. In streams where there is no flood plain it is often the width of a stream or river at the dominant channel forming flow that reoccurs every one to two years.

"Climate adapted water crossing" means a water crossing structure for which the design has been modified to accommodate changes in steam flow or channel shape caused by future climate change.

"Commission" means the Washington state fish and wildlife commission.

"Compensatory mitigation" means the restoration, creation, enhancement, or preservation of aquatic resources to compensate for adverse impacts that remain after all appropriate and practicable avoidance and minimization has been achieved.

"Date of receipt" means:

- (a) Five business days after the date of mailing; or
- (b) The date of actual receipt, when the actual receipt date can be proven by a preponderance of the evidence, up to forty-five days from the date of mailing. A person's sworn affidavit or declaration indicating the date of receipt, which is unchallenged by the department, must constitute enough evidence of actual receipt."

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"Department" means the department of fish and wildlife.

"Director" means the director of the department of fish and wildlife.

"Ditch" means a wholly artificial watercourse or a lake, river, or stream altered by humans.

"Emergency" means an immediate threat to life, the public, property, or of environmental degradation.

"Entrained" means the entrapment of fish into a watercourse diversion that has no screen, into high velocity water along the face of an improperly designed screen, or into the vegetation cut by a mechanical harvester.

"Fish" means all fish species, including food fish, shellfish, game fish, unclassified fish species, and all stages of development of those species.

"Fish conservation bank" means a habitat creation, restoration, or enhancement project intended to provide a bank of credits to compensate for unavoidable impacts to habitat that supports fish life from future development projects. Fish conservation banks are managed to optimize desired habitat for ESA-listed and at-risk fish species.

"Fish habitat" or "habitat that supports fish life" means habitat, which is used by fish life at any life stage at any time of the year including potential habitat likely to be used by fish life, which could reasonably be recovered by restoration or management and includes off-channel habitat.

"Fish habitat improvement structures" or "stream channel improvements" means natural materials such as large wood, rock, or synthetic materials such as chain or rope placed in or next to bodies of water to improve existing conditions for fish life. Examples are engineered logjams, large woody material, and boulders.

"Fish guard" means a device installed at or near a surface water diversion head gate, or on the intake of any device used for removing water from fish-bearing waters, to prevent entrainment, injury, or death of fish life. Fish guards physically keep fish from entering the diversion or intake and do not rely on avoidance behavior.

"Fish passage improvement structure" means artificial structures that are used to provide passage through, over, and/or around artificial barriers. They provide a graduated change in gradient with refuge areas allowing fish to pass barriers.

"Fish screen" means "fish guard."

"Fishway" means a device or structure that allows fish to pass freely through or around a dam, culvert, fish ladder, bridge, or other obstruction blocking the upstream or downstream fish habitat. They are generally known as water crossing structures or fish passage improvement structures.

"Hydraulic project" means the construction or performance of work that will use, divert, obstruct, or change the natural flow or bed of any of the salt or freshwaters of the state.

"Hydraulic project approval" or "HPA" means:

(a) A written approval for a hydraulic project issued under RCW 77.55 and signed by the director of the department or the director's designee; or

(b) A verbal approval for an emergency hydraulic project issued under RCW 77.55 by the director of the department or the director's designee; or

(c) The following printed pamphlet approvals:

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(i) A "Gold and Fish" pamphlet issued under RCW 77.55 by the department, which identifies and authorizes specific minor hydraulic project activities for mineral prospecting and placer mining; or

(ii) An "Aquatic Plants and Fish" pamphlet issued under RCW 77.55 by the department, which identifies and authorizes specific aquatic plant removal and control activities.

(79) "Imminent danger" means a threat by weather, water flow, or other natural conditions that is likely to occur within sixty days of a request for a permit application

"Lake" means any natural standing fresh waters or artificially impounded natural fresh waters of the state, except impoundments of the Columbia and Snake rivers.

"Maintenance" means repairing, remodeling, or making minor alterations to a facility or project to keep the facility or project in properly functioning and safe condition.

"Mitigation" means sequentially avoiding impacts, minimizing impacts, and compensating for remaining unavoidable impacts to fish life or habitat that supports fish life.

"Mitigation bank" means a site where wetlands or other aquatic resources are restored, created, enhanced, or preserved. The bank exists expressly to provide compensatory mitigation before unavoidable impacts to wetlands or other aquatic resources occur.

"Mitigation sequence" means the successive steps that the department and the applicant must consider and implement to protect fish life when constructing or performing work. These steps must be considered and implemented in the order listed:

(a) Avoid the impact altogether by not taking a certain action or parts of an action.

(b) Minimize unavoidable impacts by limiting the degree or magnitude of the action and its implementation by using appropriate technology or by taking steps to reduce impacts.

(c) Rectify the impact by repairing, rehabilitating, or restoring the affected environment.

(d) Reduce or eliminate the impact over time.

(e) Compensate for remaining unmitigated impacts by replacing, enhancing, or providing substitute resources or environments.

(f) Monitor the impact and take appropriate corrective measures to reach the identified goal.

"Natural conditions" means environmental situations that occur or are found in nature. This does not include artificial or manufactured conditions.

"Ordinary high water line" or "OHWL" means the mark on the shores of all water that will be found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in ordinary years as to mark upon the soil or vegetation a character distinct from the abutting upland. Provided, that in any area where the ordinary high water line cannot be found, the ordinary high water line adjoining saltwater is the line of mean higher high water and the ordinary high water line adjoining freshwater is the elevation of the mean annual flood.

"Person" means an applicant, authorized agent, structure owner, permittee, or contractor. The term person includes an individual, a public or private entity, or organization.

"Protection of fish life" means avoiding, minimizing unavoidable impacts, and compensating for remaining impacts to fish life and the habitat that supports fish life through mitigation sequencing.

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"Rehabilitation" means major work required to restore the integrity of a structurally deficient or functionally obsolete structure. This can include partial replacement of a structure.

"Replacement" means the complete removal of an existing structure and construction of a substitute structure in the same general location.

"Riffle" means a short, relatively shallow, and coarse-bedded length of stream over which the stream flows at higher velocity and higher turbulence than it normally does in comparison to a pool.

"River" means "watercourse."

"Tide gate" means a one-way check valve that prevents the backflow of tidal water.

"Unimpeded fish passage" means the free movement of all fish species at any mobile life stage around or through a human-made or natural structure.

"Water crossing structures" means structures that span over, through, or under a watercourse. Examples are bridges, culverts, conduits, and fords.

"Water right" means a certificate of water right, a vested water right or a claim to a valid vested water right, or a water permit, under Title 90 RCW.

"Watercourse," "river" or "stream" means any portion of a stream or river channel, bed, bank, or bottom waterward of the ordinary high water line. Watercourse also means areas in which fish may spawn, reside, or pass, and tributary waters with defined bed or banks that influence the quality of habitat downstream. Watercourse also means waters that flow intermittently or that fluctuate in level during the year, and the term applies to the entire bed of such waters whether or not the water is at peak level. A watercourse includes all surface-water-connected wetlands that provide or maintain habitat that supports fish life. This definition does not include irrigation ditches, canals, stormwater treatment and conveyance systems, or other entirely artificial watercourses, except where they exist in a natural watercourse that has been altered by humans.

"Written notice" or "written notification" means a communication through U.S. mail or email.

Applicability of Fish Passage and Screening authority.

(1) The provisions within WAC chapters 220-xxx-xxx to 220-xx-xxx apply to the following structures and circumstances:

- (a) All fishways and fish screens connecting to a lake, stream, or river.
- (b) Protecting and ensuring that all fish species, at all life stages, can freely move through and around fishways.
- (c) Protecting and ensuring that all fish species, at all life stages are safe from water diversions that may harm or strand them.
- (d) The repair and replacement of existing non-compliant fishways and fish screens connecting to a lake, stream, or river.

(2) The provisions within WAC chapters 220-xxx do not apply to the following:

- (a) tide gates, flood gates, and associated man-made agricultural drainage facilities that were originally installed as part of an agricultural drainage system on or before May 20, 2003, or the repair, replacement, or improvement of such tide gates or flood gates.

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(b) water diversions installed prior to June 11, 1947, or otherwise lawful diversions of water from a lake, river, or stream.

Procedures.

* In the event a permit for the climate adapted water crossing structures and other elements of this rulemaking is deemed necessary.*

Fishways.

(1) Water crossing structure requirements.

Appropriate methods to design water crossing structures are available in the department's Water Crossing Design Guidelines, or other published manuals and guidelines. A list of approved manuals and guidelines is on the department's website.

This section applies only to water crossings over fish-bearing waters. Crossings on nonfish bearing streams must be designed to pass wood and sediment expected in the stream reach to reduce the risk of catastrophic failure of the crossing. Water crossing structures on nonfish bearing streams in the forest environment that are designed to pass the 100-year flood flow and debris likely to be encountered meet this standard.

(A) Description: Water crossings are structures constructed to facilitate the movement of people, animals, or materials across or over rivers and other water bodies. These structures include bridges, culverts, fords, and conduits. Generally, people use bridges to cross over larger streams and rivers, or over unstable channels; they use culverts to cross over smaller streams and they use fords when other stream crossing options would result in a greater impact to fish life and the habitat that supports fish life.

(B) Fish life concerns:

(1) A person must design water crossing structures in fish-bearing streams to allow fish to move freely through them at all flows when fish are expected to move. All water crossings must retain upstream and downstream connection to maintain expected channel processes. These processes include the movement and distribution of wood and sediment and shifting channel patterns. Water crossings that are too small in relation to the stream can block or alter these processes, although some encroachment of the flood plain and channel migration zone will be approved when it can be shown that such encroachment has minimal impacts to fish life and habitat that supports fish life.

(2) Fords have a high potential to generate and deliver sediment and may impede fish passage. However, under limited circumstances, fords are appropriate when they provide better protection to fish life and habitat that supports fish life than other water crossing structures.

(C) Permanent water crossing structures – Generally:

(1) The water crossing design must provide unimpeded passage for all species of adult and juvenile fishes. Passage is assumed when there are no barriers due to behavioral impediments, excessive water slope, drop or velocity, shallow flow, lack of surface flow, uncharacteristically coarse bed material, and other related conditions.

(2) The design of the water crossing structure must follow mitigation sequencing to prevent measurable unmitigated impacts to the expected channel functions and processes found at the site. The department will make

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an exception where there are human-made features in the flood plain that are outside the control of the applicant and they are unlikely to be removed. By complying with the provisions under subsections (D) and (F) of this section, the applicant is assumed to provide these processes and functions.

(3) If channelization, encroachment, or other human-made changes have degraded the channel in the vicinity of the crossing, the design must have a similar slope and cross section expected under common conditions in the reach.

(i) Similar slope: The slope should be that of a stable channel that would fit within the geomorphic context of the reach.

(ii) Similar cross section: The cross section under or within the water crossing must have a channel bed width, a thalweg, and any overbank area that match the expected stream measurements in order to limit main channel velocity and scour to prevailing conditions.

(4) A person may propose one of the following alternative crossing design methods instead of complying with the provisions under subsections (D) and (F) of this section:

(i) A person can design a water crossing using any design methodology approved by the department if the method specifically addresses fish passage, the protection of the habitat that supports fish life, and the maintenance of expected channel processes defined by the site conditions.

(ii) A person may use an alternative design for an individual crossing on a case-by-case basis. To be approved, the alternative plan must include: Project objectives with performance measures, inspection schedule, maintenance triggers, and a contingency plan should the project fail to meet performance measures. Inspection must include compliance monitoring of performance measures after construction with an additional inspection three years after construction. Monitoring reports are required for these two inspections. The contingency plan is activated when the project fails to meet performance measures after the three-year inspection.

(iii) Fish passage improvement structures will be approved where extreme and unusual site conditions prevent a person from complying with the provisions in this section provided associated impacts are adequately mitigated.

(5) To determine the average channel bed width for water crossing structure design, a person must use at least three typical widths (bankfull or equivalent), measured in a stream reach that is characteristic of an alluvial or self-forming stream. A person must measure widths that describe prevailing conditions at straight channel sections and outside the influence of any culvert, bridge, or other artificial or unique channel constriction.

(6) When removing an existing crossing in preparation for a new crossing, a person must remove all the existing components (such as approach fill, foundations, stringers, deck, riprap, guide walls, culverts, and aprons) likely to cause impacts to fish life and the habitat that supports fish life. The department may approve the partial removal of certain components when leaving them has been shown to have no measurable, or minor, impact.

(D) Bridge design:

(1) The bridge must pass water, ice, large wood and associated woody material, and sediment likely to move under the bridge during the 100-year flood flows or the design flood flow approved by the department.

(2) The waterward face of all bridge elements that may come in contact with a lake, river, or stream including abutments, piers, pilings, sills, foundations, aprons, wing walls, and approach fill must be landward of the

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ordinary high water line. The requirement excludes midchannel piers and protection required at the toe of embankment in confined channels.

(3) A bridge over a watercourse with an active flood plain must be designed to prevent a significant increase in the main channel average velocity (a measure of encroachment). The bridge is defined as the main bridge span(s) plus flood plain relief structures and approach road overtopping. This velocity must be determined at the 100-year flood flow or the design flood flow approved by the department. The significance threshold should be determined by considering bed coarsening, scour, backwater, flood plain flow, and related biological and geomorphological effects typically evaluated in a reach analysis.

(4) A person must design the bridge to account for the lateral migration expected to occur during the bridge's lifespan. The department will approve encroachment into the expected pathway of lateral migration if the design follows the mitigation sequence to protect fish life and the habitat that supports fish life.

(5) Where there are existing flood control levees at the bridge construction site, or other structures or improvements of value that is not the property of the bridge owner but would constrain the construction of a bridge, the department may approve a shorter bridge span than would otherwise be required to meet the requirements in this section.

(6) The design must have at least three feet of clearance between the bottom of the bridge structure and the water surface at the 100-year peak flow unless engineering justification shows a lower clearance will allow the free passage of anticipated debris.

(7) The bridge design must minimize the need for scour protection. Where midchannel piers are necessary, design them so no additional scour protection is required. If scour protection is unavoidable, the design must minimize the scour protection to the amount needed to protect piers and abutments. The design must specify the size and placement of the scour protection so it withstands expected peak flows.

(E) Bridge construction:

(1) If excavation or other construction activities take place waterward of the ordinary high water line, the work area must be isolated from the stream flow (if present) by using a cofferdam, bypass, or similar structure.

(2) A person must minimize damage to the bed and banks when placing the bridge structure.

(3) Biotechnical slope protection outside the bridge shadow is preferred.

(F) Culvert design:

(1) Stream simulation design:

(i) A stream simulation culvert must be designed and constructed to comply with the requirements of this subsection.

(ii) The width of the channel-bed inside a stream simulation culvert at the elevation of the stream bed can be determined in one of two ways:

(A) The bed width may be calculated by using any published stream simulation design methodology approved by the department.

(B) The bed width of an individual culvert may be determined on a case-by-case basis with an approved alternative plan that includes project objectives, inspection, maintenance, and contingency components. Inspection

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must include compliance monitoring after construction, and effectiveness monitoring after three years. Maintenance and contingency are triggered when project fails to meet objectives.

(iii) The stream simulation culvert must be set at the same gradient as the prevailing stream gradient unless engineering justification for an alternative slope is approved by the department.

(iv) The slope of the bed inside a stream-simulation culvert must not exceed the slope of the upstream channel by more than twenty-five percent.

(v) The stream simulation culvert must be countersunk a minimum of thirty percent and a maximum of fifty percent of the culvert rise, but not less than two feet. Alternative depths of culvert fill may be accepted with engineering justification that considers channel degradation and total scour.

(vi) The median particle size of sediment placed inside the stream-simulation culvert must be approximately twenty percent of the median particle size found in a reference reach of the same stream. The department may approve exceptions if the proposed alternative sediment is appropriate for the circumstances.

(2) No-slope design:

(i) The stream channel in which a no-slope culvert will be placed must generally have a channel bed width that is ten feet or less and a gradient less than three percent. However, in some site-specific situations the department may approve no-slope in channels with a gradient up to five percent.

(ii) The length of the culvert must not exceed seventy-five feet.

(iii) A no-slope culvert must be designed and constructed to comply with the following requirements:

(A) The culvert is installed at a zero gradient.

(B) The width of the channel-bed inside a no-slope culvert at the elevation of the stream bed must be equal to or greater than the average channel bed width.

(C) The no-slope culvert is countersunk a minimum of twenty percent of the culvert rise at the culvert outlet downstream and a maximum of forty-percent of the culvert rise at the culvert inlet upstream.

(D) Combining the requirements for culvert width and countersinking, the culvert must meet the following requirements:

(I) For a circular culvert, the minimum culvert diameter must be equal to or greater than the average channel bed width plus twenty-five percent.

(II) For a culvert with an oval cross section (elliptical, pipe arch, or "squashed" pipe) the horizontal width must be equal to or greater than the average channel bed width plus twenty-five percent.

(III) For a box or pipe arch culvert, the span must be equal to or greater than the average channel bed width.

(E) The no-slope culvert must be filled to the depth of the countersink provided in (b)(iii)(C) of this subsection with material similar to what is found in the adjacent channel stream bed, unless either of the following conditions exist:

(I) The culvert is located in a wetland or in an area where the channel-bed is predominately fine sediment and the culvert will be backwatered; or

(II) The culvert will fill quickly because of the high rate of sediment transported through the culvert and will not cause excessive cutting or slumping of the upstream channel.

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(G) Temporary culvert design requirements:

(1) The department must determine allowable placement of temporary culvert and time limitations based on the specific fish resources of concern at the proposed water crossing location.

(2) The design of the temporary crossing must maintain structural integrity at the peak flow expected to occur while the crossing is in place.

(3) Temporary culverts must provide unimpeded fish passage in locations where fish passage concerns exist. In site-specific situations, the department may approve a temporary culvert that does not meet all fish passage criteria. These situations may include streams where there is limited fish movement and presence, and where the use of a temporary culvert will result in fewer adverse impacts over the long term.

(4) A person must remove the temporary culvert and block all approaches to vehicular traffic before the HPA under RCW 77.55 expires.

(H) Emergency culvert requirements:

(1) When there is an immediate threat to life, the public, private property, or of environmental degradation, a culvert may be replaced with one that is the same size or larger than the existing one. If the emergency crossing did not have a culvert or the size is not known, the emergency culvert should be large enough to safely pass the 100-year flood event with consideration for debris and sediment. In extreme circumstances, the department may approve the use of any available culvert.

(2) Fish passage must be provided at the times of the year when fish are expected to move. If the culvert design does not provide unimpeded fish passage, a person can use fish passage improvement structure methods to pass fish until a culvert is constructed.

(I) Culvert construction:

(1) A person must establish the culvert invert elevation with reference point(s) or benchmark(s) created prior to starting work on this project. The reference point(s) must be clearly marked and preserved for post-project compliance. Prior to backfilling, the invert elevation, as stated on the plans, must be confirmed relative to the reference points with at least a construction-grade leveling device (such as an optical auto-level or laser level).

(2) A person must install the culvert in the dry or in isolation from the stream flow by using a bypass channel or culvert, or by pumping the stream flow around the work area. The department may grant exception if installing the culvert in the flowing stream reduces siltation or turbidity.

(3) A person must embed the top of footings of bottomless culverts sufficiently below potential scour depth to prevent exposure of the footing surface and undermining.

(4) The owner(s) must maintain the culvert to ensure it complies with subsection (3) of this section (general design requirement for water crossing structures).

(5) If the culvert becomes a hindrance to fish passage, the owner must obtain an HPA and provide prompt repair.

(J) Permanent ford design:

(1) A person must design and maintain a ford, so the ford does not create a channel constriction, impede fish passage, block debris passage, or degrade water quality to the detriment of fish life.

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(2) The department will authorize construction of new fords in limited situations when it is the least impacting water crossing option. The following are examples of situations where the department may authorize a ford:

(i) Where there is no maintenance access during winter months or early spring and the crossing has a high risk of failure from rain-on-snow events;

(ii) The road is seasonally inaccessible due to snow pack, weather, or other conditions that seasonally limit access to the water crossing structure;

(iii) The stream has extreme seasonal flow variations and low flows during anticipated ford use;

(iv) The channel has low bank height and low gradient approaches;

(v) The stream has dynamic flood plains, such as alluvial fans; or

(vi) The stream is subject to mass wasting events, debris transport, or extreme peak flows.

(3) Permanent fords must not impede fish passage.

(4) Fords must be located outside of all known or suspected fish spawning areas such as pool tailouts.

(5) Fords must only be used during periods of no or low stream flow (whether dry or frozen) to minimize the delivery of sediment to the stream.

(6) Vented (grade-separated) fords are preferred over at-grade fords because there is less aquatic disturbance and delivery of sediment and contaminants when traffic is separated from flowing water.

(K) Temporary ford design:

(1) The department may permit temporary fords only during the time of year that avoids high stream flows or expected fish spawning or migration.

(2) If fill is associated with the driving surface of a temporary ford, it must consist of clean washed gravel between one-quarter inch and four inches in diameter.

(3) If the natural stream bed is composed of material smaller than gravel, the temporary ford design must maintain a positive separation between the watercourse bed and all fill associated with the ford to ensure that material used in ford construction is removable.

(L) Ford construction:

(1) Fords must be constructed during periods of low or no stream flow or in isolation from flowing water.

(2) Fords must be constructed perpendicular to the stream flow, or as close to perpendicular as practicable.

(3) Fords must be constructed using material approved by the department.

(4) If the stream bed does not have a firm rock or gravel base, install clean, washed rock or gravel to reduce sedimentation. Broken concrete and pavement or other debris should not be used to construct hardened fords. Placement of material should be limited to the approaches and crossing.

(5) A person must countersink the prism of the ford below the watercourse bed. A person must design the prism to withstand overtopping flood events, and natural debris.

(6) Fill associated with the driving surface of a permanent ford must consist of material that will not attract spawning fish.

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(7) A person must protect the driving surface of ford approaches from erosion to ensure that erodible fine silt does not enter a lake, river, or stream.

(8) Fords must be regularly inspected and maintained to provide for fish passage and maintain water quality.

(M) Permanent removal of a water crossing (abandonment):

(1) When removing a water crossing without replacing it, a person must comply with the following provisions. In all instances a person must protect the job site from erosion and plant vegetation as necessary to restore the banks and other areas disturbed during construction or removal at the site.

(2) When removing temporary crossings, a person must remove the temporary culvert, bridge, ford, and any imported fill. The site must be restored to a similar width, depth, gradient, and substrate composition as the channel segments upstream and downstream from the crossing. If water-rounded granular materials were used for fill, and they are similar to those found in the existing channel bed, the department may allow the materials to remain on the site.

(3) When removing permanent crossings, a person must remove all the components of a bridge or culvert crossing (approach fill, sills, stringers, deck, riprap, guardrails, etc.). The department may approve leaving trees or other vegetation, fill materials when appropriate, or untreated log bridge stringers. The site must be restored to the original contours or a configuration approved by the department.

(2) Fish passage improvement structures requirements.

The provisions in this section apply to fish ladders, weirs constructed for fish passage management, roughened channels, trap-and-haul operations, and hydraulic design culvert retrofits.

(A) Description: Fish passage improvement structures facilitate the passage of fish through or around a barrier. They restore upstream and downstream fish access to habitats that have become isolated by human activities such as placing culverts, dams, and other artificial obstructions.

(B) Fish life concerns: Barriers can block fish from using upstream spawning and rearing habitat. The main goal is to remove fish passage barriers and ensure unimpeded passage of fish at all life stages, as well as to maintain natural channel processes and function. However, when it is not feasible to remove a barrier, a fish passage improvement structure may be an alternative mitigation measure. The department does not generally recommend using fish passage improvement structures because they can be partial barriers to fish passage and generally require maintenance. Fish passage improvement structures that mainly pass one species or class of fish may unintentionally limit the passage of other species.

(C) Fish passage improvement structure design:

(1) Fish passage improvement structures should not be used to bypass permanent natural barriers except in limited situations where they are needed to restore native fish species.

(2) A person must provide site and biological information relevant to the specific project, such as information on species present, hydrology and topography, and existing adjacent structures.

(3) The department may require compensatory mitigation if a fish passage structure cannot pass all fish species present at all mobile life stages.

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(4) The design must consider site-specific conditions that could affect the function of the fish passage improvement structure. These include meander migration or vertical change in stream bed elevation, debris and bedload movement, tampering, vandalism, and poaching.

(5) The fish passage structure design must withstand the maximum expected flow.

(6) The fish passage structure must not result in significant migratory delays as determined by the department or mortality to fish life due to disorientation, distraction, predation, stress, or injury.

(7) The fish passage structure must accommodate expected run sizes to prevent crowding and significant delay of fish migration as determined by the department.

(8) The department will determine the inspection interval depending on the type of fish passage improvement structure and watershed conditions.

(9) The department may require the installation of a temporary fish passage structure to provide passage through temporary obstructions. The department may not require a fish passage structure if a barrier exists for such short duration that the department determines that no lasting impacts to fish life will occur.

(D) Temporary fish passage improvement structures design:

(a) A person must maintain a fish passage structure in an effective condition. If the structure starts to hinder fish passage, the person must obtain an HPA and promptly repair the problem.

(b) The department may approve the installation of temporary fish passage improvement structures when permanent structures are damaged or are under construction, to conduct maintenance or repair, for enhancement projects, or for seasonal water diversion structures such as irrigation diversion dams.

(c) Temporary fish passage improvement structures must remain operational for the duration of the temporary obstruction and must be maintained and adjusted as needed to provide efficient passage of fish life.

(E) Fish ladder design:

(a) The department may authorize a fish ladder if:

(i) The fish ladder will enable fish passage at an existing barrier, but only until the existing barrier structure is replaced; or

(ii) The department determines that constructing a bridge, culvert, or roughened channel is not feasible due to the nature of the obstruction such as a flow control structure or the slope of the stream.

(b) The fish ladder design must be appropriate for the slope of the channel, water surface elevations, species present, flow regime, and conditions of the channel.

(c) The fish ladder must be designed to prevent fish from leaping out of the structure.

(d) The fish ladder pool volume must provide the hydraulic and fish capacity needed to pass all adult and juvenile fish.

(e) The fish ladder entrance (downstream end):

(i) Must provide enough streaming flow attraction during high and low flows, without excessive velocity or turbulence, to ensure fish can locate and enter the fish ladder without significant delay;

(ii) Must minimize distractions that lure fish away from the entrance to prevent fish from becoming trapped, injured, or stranded;

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(iii) Must be large enough to accommodate all expected debris and ice without damage or loss of passage efficiency;

(iv) Must provide a stable flow pattern and uniform velocity at the entrance pools and transition channels to allow fish to pass through the structure unimpeded;

(v) Must provide multiple entrances to the fish ladder if a single entrance cannot attract and provide passage to all adult and juvenile fish. If the work area has multiple zones where fish accumulate, each zone must have at least one entrance; and

(vi) May be required to have artificial light to optimize fish passage.

(f) Fish ladder auxiliary water supply system (AWS):

(i) To ensure fish are attracted to the fish ladder, an AWS may be required that supplies supplementary water.

(ii) An AWS must have a diffuser design that discourages attraction of fish life to it and protects fish from injury.

(iii) An AWS must minimize the size of spaces between the diffuser to exclude and prevent injury to the smallest fish present.

(iv) An AWS must not use an auxiliary water supply from external sources that could confuse the homing instinct of fish.

(g) To prevent harm to fish life, the department may require screening of the AWS.

(h) The department may require a trash rack at the AWS intake.

(i) Fish ladder exits must:

(i) Have a water depth that is similar to the depth inside the fish ladder;

(ii) Be located to ensure fish can safely exit the structure without susceptibility to predators, without becoming disoriented, and with the ability to continue their upstream migration; and

(iii) Be designed to protect the exit from damage by debris.

(F) Fish ladder construction: To reduce potential contact injuries, all edges and surfaces exposed to fish must be ground smooth to the touch, with all edges aligning in a single smooth plane.

(G) Fish ladder operation and maintenance:

(a) If target fish species are present and actively migrating, fish ladders with AWS must have enough water available at all stream flows to pass fish safely and efficiently through the fish ladder or the main channel without the need of a fish ladder.

(b) A person must inspect the fish ladder for proper function at a frequency determined by the department. Place wood and sediment retrieved during inspection and maintenance downstream of the fish ladder.

(c) A person operating or maintaining the fish ladder must be able to identify maintenance issues with the fish ladder and take corrective actions or notify the department if maintenance issues arise.

(d) The department may require shutdown of the fish ladder during high flows if the flow exceeds the fish passage design flow. However, a fish ladder must not be inoperable due to high flows for longer than seven days during the migration period for the target fish species. This provision applies to locations where the shutdown will not cause flooding or damage to structures, other structures of value or property.

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(H) Fish passage weir design:

(a) Design the weir to control the water surface elevation at the weir to provide fish passage over or through an obstruction.

(b) Design the weir to minimize impacts to natural channel geometry.

(c) Design the weir to ensure continued fish passage for all species present at all mobile life stages. The department may approve exceptions when it is implementing a program to restore native fish species or to protect native fish species from the introduction of nonnative fish species, and fish passage blockage is an intended component of the project.

(I) Roughened channel design:

(a) The department may authorize a person to construct a roughened channel to facilitate the passage of fish around abrupt hydraulic drops, through culverts, or at diversion sites for water withdrawal.

(b) Roughened channels must be designed by licensed professional engineers, geomorphologists, or other qualified professionals approved by the department.

(c) Where nonleaping fish are present or when other types of fish passage improvement structures would not pass fish well enough as determined by the department, a person may be required to construct a roughened channel to bypass an obstruction.

(d) Roughened channels must create an average cross-section velocity within the limits of fish-passage design criteria and the hydraulic design option.

(e) Roughened channels must minimize impact on the existing fish life and habitat that supports fish life.

(f) The size and gradation of roughened channel bed material must resist erosion at the maximum expected flow and must result in a dense structure that prevents subsurface flow.

(J) Trap-and-haul operations:

(a) The department requires an HPA under RCW 77.55 for installing, maintaining, and removing fish traps for trap-and-haul activities.

(b) The fish trap must be designed to withstand the maximum expected flow.

(c) The fish trap must be operated in a manner that prevents crowding and delaying target fish species migration as determined by the department.

(K) Hydraulic design culvert fish passage design:

(a) The department may authorize an existing hydraulic design culvert to remain in place until the end of its design life or until another more appropriate culvert design can be constructed. However, a hydraulic design culvert cannot remain in place to the end of its design life if it does not provide for passage of fish.

(b) Before obtaining a permit to retrofit a culvert or construct a fish passage improvement structure using the hydraulic design method, a person must submit appropriate hydrology data and hydraulic design documentation prepared by a licensed professional engineer that demonstrates compliance with this section.

(c) The hydraulic design fish passage structure must include consideration of flood capacity for current conditions and future changes likely to occur within the stream channel, and debris and bedload passage.

(d) Plans submitted to the department to retrofit a culvert or to construct a fish passage improvement structure using the hydraulic design method must comply with the following:

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(i) Minimum water depth at any location within a hydraulic design passage structure without a natural bed must be at least eight-tenths of a foot. The minimum depth of flow in the passage structure is determined by:

(A) The low flow design, which is the two-year seven-day low flow discharge for the subject basin; or

(B) When flow information for the site is unavailable, the department may authorize the use of calibrated flows from a comparable gauged site or the depth of the culvert when no water is flowing.

(ii) Maximum water velocity may not exceed the values in Table 1 at any point within a culvert. Measure maximum water velocity at the high fish passage design flow.

Table 1

Maximum Velocity Design Criteria for Hydraulic Design Culvert Installation

Culvert Length	Maximum Velocity
10 - 100 ft.	4.0 feet per second
100 - 200 ft.	3.0 feet per second
> 200 ft.	2.0 feet per second

(e) The hydraulic drop within the culvert or at the culvert inlet or outlet may not exceed one-half foot. When a drop has a submerged jet (the lowest part is below the downstream water surface) or is part of a natural or roughened channel design, the department may approve an exception to this drop limit.

(f) Water turbulence within the culvert must not be a barrier to passage of target fish species.

(g) The department may modify or approve design flow criteria for specific proposals as needed to address unusual fish passage requirements.

(3) Climate adapted water crossing requirements.

The provisions in this section apply to new and replacement fishways.

(A) Description: Growing evidence shows that climate change is impacting our region's ecological systems. Climate change scientists have noted changes in Pacific Northwest hydrology, including reductions in the size of glaciers, less snowpack, and earlier peak stream flow in many rivers. These trends are expected to continue, along with increasing flood size, and decreasing summer low flows. Typically, the size of water-crossing structures like culverts and bridges is based on stream width. As the size of floods increases, so will stream width. Most culverts are designed to last 50 to 100 years under current stream conditions. Designing culverts to be resilient to future changes in stream conditions will reduce the risks of fishway failure and the creation of barriers to fish moving throughout their habitat.

(B) Fish Life Concerns: Barriers can block fish from using upstream spawning and rearing habitat. A person must design fishway structures in fish-bearing streams to allow fish to move freely through them at all flows when fish are expected to move throughout the life of the structure. Fishways that are not designed to accommodate future flows can block or alter these processes, although some encroachment of the flood plain and channel migration zone will be approved when it can be shown that such encroachment has minimal impacts to fish life and habitat that supports fish life.

(C) Considerations for new or replacement fishways:

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(1) Projections of 100-year peak flows and future bank full width shall be considered in the design of fishways. To determine the future bankfull width, the owner must use the department's Culverts and Climate Change web application located on the department's website, or another method approved by the department. If the projected change in bankfull width is less than 5 percent, further consideration of future bank full width and peak flows is not required.

(2) Fishways that are sized to accommodate future bank full width and 100-year peak flows must still follow the rules provided elsewhere in this chapter. Appropriate methods to design climate-adapted water crossing structures are available in the department's Water Crossing Design Guidelines, or other published manuals and guidelines. A list of approved manuals and guidelines is on the department's website.

(D) Existing fishways:

(1) Fishways that were legally installed are not required to consider projections of future bank full width and 100-year peak flows unless being maintained, rehabilitated or replaced, so long as they pass fish freely and have not exceeded their useful life. Methods to determine if the fishway can freely pass fish can be found within the department's Fish Passage Inventory, Assessment, and Prioritization Manual.

Water Diversions and Intakes.

(1) Description: Surface water diversions are common instream features in agricultural areas where the water is used for irrigation. Throughout the state, people also divert water for other agricultural, hydropower, industrial, recreational, residential, municipal, and hatchery uses. A water right must be obtained prior to diverting water of the state. If no water right exists, the department will notify the Department of Ecology.

(2) Fish life concerns: To protect fish life, including salmon and steelhead, Washington state law (RCW 77.57.070 and 77.57.010) requires that all surface water diversions be screened to prevent fish from being drawn into the diversions where they are at risk for injury or death from entrainment. Other elements of a water diversion can result in direct and indirect sources of injury or mortality. Wing and check dams can prevent or delay upstream and downstream fish passage increasing predation, and fish may be physically injured or dewatered by active cleaning mechanisms or in bypass mechanisms.

(3) Limit of department authority over water diversions and intakes:

(a) The department cannot limit emergency water diversions during emergency fire response. When possible, a person must notify the department before the emergency diversion. When advance notification is not possible, a person must notify the department within twenty-four hours of the emergency diversion, at the twenty-four-hour hotline phone number at 360-902-2536.

(b) The department cannot apply the fishways, flows, and screening code to limit the amount or timing of water diverted under a water right, other than ensuring that there is sufficient bypass flow to return fish back to the stream of origin from a water diversion. However, the department requires the provisions within WAC 220-xxx-xxx for work that will use, divert, obstruct, or change the natural flow or bed of any of lake, river, or stream, or that will utilize any of the waters of a lake, river, or stream to divert water under a water right.

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(c) Regulating water flow from a permanent permitted irrigation structure by operating valves, or manipulating stop logs, check boards, headgates, or headboards, does not require approval under RCW 77.57 (this chapter), nor an HPA under RCW 77.55.

(d) The department must allow a person who has a gravel berm dam diversion permitted by the department before January 1994 to continue to have the dam if it complies with the provisions of the HPA under RCW 77.55. However, the department can provision the approval of gravel berms.

(4) Water diversion and intake design, construction, operation, and maintenance:

(a) A diversion structure must not hinder upstream and downstream adult and juvenile fish passage. If passage problems develop, the department may require a person to modify the check or wing dam.

(b) At pump stations, screens, and headgate areas, a person may use excavation equipment or suction dredge to remove accumulated silts and gravel from within twenty feet of the point of diversion unless otherwise permitted. Place material removed so it will not reenter a lake, river, or stream. The water diversion must be open during this work to capture disturbed sediment within the irrigation diversion and prevent loss of sediment into the stream.

(c) Equip and maintain any device used for diverting water from a fish-bearing watercourse with a fish screen approved by the department to prevent passage or impingement of fish into the diversion device. Maintain the fish screen and associated structures as necessary to achieve the approach velocity, a functional bypass, and fish protection criteria.

(d) Irrigation diversions must not create blind diversion channels leading to the fish screen. Diversions must be equipped with a fish bypass mechanism to provide opportunity for fish entrained within a delivery canal to voluntarily return to the stream.

(e) Gravity diversions.

(i) Wing and check dams.

(A) Prior to constructing a wing or check dam, contact the department for opportunity to assess the site and determine whether active spawning and incubation is occurring at the site.

(B) Maintain diversion canals to maximize hydraulic gradient in the diversion canal to minimize the need for work within the natural watercourse. Maintenance includes removing sediment and debris at the point of diversion.

(C) Unless a gravel dam is approved, temporary wing or check dams for irrigation may be constructed using a combination of jersey barriers, concrete blocks, steel posts and wood, pinned straw bales, plastic sheeting, and similar inert materials.

(D) Where gravel dams are permitted, they must be constructed with gravels available on-site waterward of the ordinary high water line, or with clean round gravel transported to the site. Limit bed disturbance to the minimum needed to achieve the provisions of the water right.

(E) Bed excavation depth to construct an irrigation diversion must not exceed eighteen inches unless otherwise approved by the department to avoid destabilizing the stream bed.

(F) Earth or dirt must not be used to seal check or wing dams. Straw, plastic sheeting, filter fabric, and similar inert materials may be used to seal wing or check dams.

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(G) Do not use logs or other woody material waterward of the ordinary high water line to construct the dam unless approved by the department. Large wood from upland locations may be used to create a wing or check dam.

(H) If logs or other large woody material block water flow into a ditch or inhibit construction, a person may relocate them within the ordinary high water line.

(I) Wing or check dams must be constructed in a manner that does not cause bank erosion.

(J) All foreign materials, except clean or native gravel, used to construct wing or check dams must be removed within seven days after the end of the irrigation season.

(ii) Diversion dams must not extend completely across the stream unless needed to seal the dam to achieve the water right.

(iii) Graveled wing dams must be removed or breached down to the natural bed elevation in at least two locations at the end of the irrigation season.

(f) Start-up and shut-down of water diversions.

(i) Clean and maintain the fish bypass mechanism prior to diverting water to ensure it is operational and will prevent injury or stranding of fish life.

(ii) Ensure that there is sufficient flow within the bypass mechanism to safely return fish life from the fish screen to state waters.

(iii) If at any point during water diversion there is insufficient instream flow to provide opportunity for fish life to migrate downstream, close the fish bypass until there is sufficient flow.

(iv) Slowly ramp down flows at the end of the irrigation season in a manner that prevents stranding or predation of fish life within a canal above the fish screens or within the fish bypass mechanism. Do not close the head gate completely until fish have either left the canal and bypass or are salvaged and returned to the stream. Head gates located downstream of the fish screen may be closed immediately at the end of the irrigation season.

Compliance with WAC 220-XXX provisions.

A fishway or fish screen owner must comply with all provisions of chapter 77.57 RCW and this chapter. If the owner, his or her agent, or the person in charge violates chapter 77.57 RCW or this chapter, the department may require maintenance, rehabilitation, or replacement of the structure.

The department is responsible to help the regulated community understand how to comply. The department achieves voluntary compliance through education and technical assistance when the department advises and consults on structures, performs on-site technical visits, or provides guidance materials written in easily understood language.

When the department cannot get voluntary compliance by issuing a correction request, the department may use a range of increasingly strict enforcement tools. This ranges from issuing notices of correction and entering an agreement for maintenance, rehabilitation, or replacement to, when appropriate, criminal prosecution.

(1) **Technical assistance program:** Under chapter [43.05](#) RCW, the department will continue to develop programs to encourage voluntary compliance by providing technical assistance consistent with chapter [43.05](#) RCW. The programs include technical assistance visits, printed information, information and assistance by

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telephone, training meetings, and other appropriate methods for the delivery of technical assistance. In addition, the department must provide, upon request, a list of organizations that provide technical assistance. This list is compiled by the department from information submitted by the organizations and does not constitute an endorsement by the department of any organization.

(a) Technical assistance is defined in chapter [43.05](#) RCW as including:

(i) Information on the laws, rules, and compliance methods and technologies applicable to the department's programs;

(ii) Information on methods to avoid compliance problems;

(iii) Assistance in applying for permits; and

(iv) Information on the mission, goals, and objectives of the program.

(b) "Technical assistance documents" means documents prepared to provide information specified in (a) of this subsection that is labeled a technical assistance document by the department. Technical assistance documents do not include correction requests or civil or criminal enforcement actions. "Correction request" means a notice of violation or a notice of correction as defined in chapter [43.05](#) RCW. Technical assistance documents do not impose mandatory obligations or serve as the basis for a citation.

(2) Technical assistance visit:

(a) Under RCW [43.05.030](#), a technical assistance visit is defined as a visit by the department to a project site or other location that:

(i) Has been requested or is voluntarily accepted; and

(ii) The department declares to be a technical assistance visit at the start of the visit.

(b) During a technical assistance visit, or within a reasonable time thereafter, the department must prepare a correction request to inform the fishway or fish screen owner of any violations of law or department rules identified by the department. "Correction request" means a notice of violation or a notice of correction as defined in chapter [43.05](#) RCW.

(c) As provided in RCW [43.05.050](#), the department may issue a civil penalty under this section without first issuing a correction request when a violation is observed during a technical assistance visit only if:

(i) The project proponent has previously been subject to an enforcement action for the same or similar type of HPA violation under RCW 77.55, or has been given previous notice for the same or similar type of HPA violation under RCW 77.55; or

(ii) The violation has a probability of causing more than minor harm to fish life.

(3) Correction request:

(a) "Correction request" means a notice of violation or a notice of correction as defined in chapter [43.05](#) RCW. A correction request is not a formal enforcement action and is not subject to appeal under state law.

(b) If during a technical assistance visit, the department discovers a violation of any provisions within chapter [77.57](#) RCW or this chapter, it must, during the visit or within a reasonable time thereafter, issue a correction request to the fishway or fish screen owner detailing steps needed to bring the structure into compliance.

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(c) Contents of a correction request: A correction request must indicate it originates from a technical assistance visit. A correction request must include:

- (i) A description of what is not in compliance with chapter 77.57 RCW or this chapter;
- (ii) The text of the specific section(s) or subsection(s) of chapter 77.57 RCW or this chapter;
- (iii) A statement of what is required to achieve compliance;
- (iv) The date by which the fishway or fish screen owner must achieve compliance;
- (v) Notice of the means to obtain technical assistance services provided by the department or others; and
- (vi) Notice of when, where, and to whom a request may be submitted to the department to extend, for good

cause, the deadline for achieving compliance with the correction request.

(d) The department must provide for a reasonable time to achieve compliance.

(e) Time extension to comply: A request for an extension of the deadline for achieving compliance with the correction request must be submitted to the department in writing within ten calendar days of receiving the correction request. The department must respond in writing to a request for extension of the deadline.

(4) Voluntary Compliance:

(a) "Voluntary compliance" means an act of following a rule or law, or of acting according to an agreement without being forced to.

(b) For the rehabilitation, replacement, or maintenance of a fishway or fish screen, the owner must obtain a construction permit called the hydraulic project approval (HPA) from the department when applicable. Procedures for an HPA can be found in [WAC 220-660-050](#).

(c) For occurrences where an HPA under RCW 77.55 does not apply, the department will create a memorandum of understanding (MOU) or compliance action plan (CAP) with the owner. The MOU or CAP must protect fish life:

- (i) Technical provisions in the MOU or CAP must fully mitigate impacts to fish life; and
- (ii) The provisions in the MOU or CAP must include a description of the proposed project, timing, invasive species control, pre- and post-construction notifications, construction materials, clean up, and other characteristics that are specific to the site and project.

(5) Noncompliance Actions:

(a) Following a technical assistance visit and correction request, if the person fails to respond by the date by which the fishway or fish screen owner must achieve compliance, the department will send a notice to comply:

(i) A notice to comply must specify the corrective action to be taken, and may also require additional action to prevent, correct, or compensate for adverse impacts to fish life caused by the failure to respond.

(ii) Contents of a notice to comply. A notice to comply must include:

- (A) A description of the condition that is not in compliance;
- (B) The text of the specific section(s) or subsection(s) of chapter 77.57 RCW or this chapter;
- (C) A statement of what is required to achieve compliance;
- (D) The date by which the department requires compliance to be achieved;
- (E) Notice of the means to contact any technical assistance services provided by the department or others;

and

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(F) Notice of when, where, and to whom a request may be submitted to the department to extend, for good cause, the deadline for achieving compliance with the order.

(iii) The department must provide for a reasonable time to achieve compliance.

(iv) Signature authority for a notice to comply: A notice to comply must be authorized by a regional habitat program manager, regional director, habitat program division manager, habitat program director, habitat program deputy director, or department director.

(v) Providing notice: Within five business days of issuing a notice to comply, the department must mail a copy of the notice to the last known address of the person, to the last known address of the owner of the land on which the fishway or fish screen is located, and to the local jurisdiction in which the fishway or fish screen is located. The department must take all reasonable measures to ensure that the project proponent receives the notice.

(b) Consequences of noncompliance: Failure to comply with a notice to comply can result in subsequent civil or criminal enforcement actions.

(i) A civil action for recovery of damages under any applicable statutory or common law theory.

(ii) An action for injunctive relief to abate a noncompliant dam or obstruction as a public nuisance.

(iii) Under Washington state law (RCW 77.57.030), dams or other obstructions shall be provided with a fishway approved by the director. Plans and specifications shall be provided to the department prior to the director's approval. The fishway shall be maintained in an effective condition and continuously supplied with sufficient water to freely pass fish.

(A) If a person fails to construct and maintain a fishway or to remove the dam or obstruction in a manner satisfactory to the director, then within thirty days after written notice to comply has been served upon the owner, his or her agent, or the person in charge, the director may construct a fishway or remove the dam or obstruction. Expenses incurred by the department constitute the value of a lien upon the dam and upon the personal property of the person owning the dam. Notice of the lien shall be filed and recorded in the office of the county auditor of the county in which the dam or obstruction is situated. The lien may be foreclosed in an action brought in the name of the state.

(B) If, within thirty days after notice to construct a fishway or remove a dam or obstruction, the owner, his or her agent, or the person in charge fails to do so, the dam or obstruction is a public nuisance and the director may take possession of the dam or obstruction and destroy it. No liability shall attach for the destruction.

(C) "Other obstruction" does not include tide gates, flood gates, and associated man-made agricultural drainage facilities that were originally installed as part of an agricultural drainage system on or before May 20, 2003, or the repair, replacement, or improvement of such tide gates or flood gates.

(c) Replacement/repair of the noncompliant fishway, or fish screen by the department:

(i) Under Washington state law (RCW 77.57.070 and 77.57.010), water diversions that are found in violation of the provisions within WAC 220-XXX, director or the director's designee may close a water diversion device and keep it closed until it is properly equipped with a fish guard, screen, or bypass.

(A) The fish screens shall be installed at places and times prescribed by the director upon thirty days' notice to the owner of the diversion device.

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(B) Each day the diversion device is not equipped with an approved fish guard is a separate offense. If within thirty days after notice to equip a diversion device the owner fails to do so, the director may take possession of the diversion device and close the device until it is properly equipped. Expenses incurred by the department constitute the value of a lien upon the diversion device and upon the real and personal property of the owner. Notice of the lien shall be filed and recorded in the office of the county auditor of the county in which the action is taken.

(ii) For fishways and water diversion devices in existence on September 1, 1963 or before, the director may authorize removal, relocation, reconstruction, or other modification of an inadequate fishway or fish screen without cost to owner. The fishway or water diversion device will be maintained at the expense of the owner.

Impractical Fishways: In the instance the director determines a fishway is impractical, the person may, at the decision of the director, consider hatchery production in lieu of providing passage.

Remedies not exclusive: The remedies under this chapter are not exclusive and do not limit or abrogate any other civil or criminal penalty, remedy, or right available in law, equity, or statute.