

New rules around structures and fish passage came into effect on 3 September 2020, as part of the *Resource Management (National Environmental Standards for Freshwater) Regulations 2020* (NES-F).

If you want to build a new structure, such as a culvert, weir, dam, ford or flap gate it is important to consider the new rules and whether you will need to apply for a resource consent.

Key points:

- *NES-F rules apply to any new structure installed after 2 September 2020.*
- *Many rules in the current Fresh Water Plan for Taranaki still apply and must be taken into account alongside the NES-F.*
- *You must advise the Taranaki Regional Council (the Council) two days before installing a new structure and provide the Council with specific information within 20 days after the installation.*
- *Rules in the Regional Fresh Water Plan for Taranaki still apply to the placement of new structures and the maintenance of existing structures.*
- *All reclamation of rivers (including piping or realignment piping or realignment) requires a resource consent, which will only be granted if there is a 'functional need' for the reclamation at that location.*
- *Contact the Council to discuss your specific circumstances and which requirements you will need to meet.*

What is the purpose of the rules?

Indigenous fish (such as tuna/eels, piharau/lamprey and inanga/whitebait) and sports fish (such as trout) need to be able to move between freshwater habitats to access feeding and spawning environments and maintain viable populations. Many freshwater fish also need access to the sea to complete their life cycle.

Structures such as culverts, dams, weirs, fords and tide gates can delay or prevent fish movement and stop them from accessing critical habitats. A single poorly designed structure has the potential to remove an entire fish community from all habitat upstream. Depending on its location, this can result in the loss of habitat for thousands of fish.

Many indigenous freshwater fish species are classified as threatened or at risk of extinction, with loss of habitat connectivity within the river system a major contributing factor. Taranaki currently faces a massive challenge when it comes to remediating thousands of historical structures that are potentially already preventing the passage of fish to some extent.

When do the new rules not apply?

The NES-F rules **do not apply to existing structures** that were in the river or connected area at the close of **2 September 2020**. This includes any later alterations or extensions of that structure.

The NES-F also do not apply if the structure is a **customary weir** used for the purpose of practising **tikanga Māori**.

Where there is conflict between the requirements of the **National Environmental Standards for Plantation Forestry** and the NES-F the National Environmental Standards for Plantation Forestry take precedence.



Lamprey/piharau

Structure definitions

Culvert

A pipe, box structure or covered or arched channel that has an inlet and outlet which is in, and connects the water or bed of, the same river or connected area.

Weir

An open-topped structure across the full width of any river or connected area that:

- alters the water level and the flow characteristics of the water; and
- allows water to flow passively through or over the top.

Dam

A structure whose purpose is to impound water behind a wall across the full width of any river or connected area.

Ford

A structure that is artificial, shallow and designed for crossing a river or connected area and is in contact with most of the width of the bed of the river or connected area.

Flap gate

A hinged gate that controls fluctuations in tidal or flood water, such as a tide gate or flood gate.

Do I need a resource consent to install a structure?

If you meet **all** of the permitted activity conditions (both the NES-F and the *Fresh Water Plan for Taranaki*) you may install a structure without a resource consent. If you do not meet them all, a resource consent will be required.

What are the rules for maintenance of structures?

Whether a structure was installed before or after 2 September 2020, **you must abide by the *Regional Fresh Water Plan for Taranaki conditions for maintenance of that structure***. You must meet all of the requirements below to undertake maintenance without a resource consent.

In addition, if your structure was built after 2 September 2020 you must meet the relevant NES-F permitted activity conditions for alteration, extension or reconstruction of that structure (see individual structure types in this factsheet).

Maintenance of structures in, on, under or over the bed of a river or lake is a permitted activity if:

- the activity is for the purpose of maintaining the structure in good repair or working order or for minor upgrading

- no contaminants shall be released to the river or lake bed from equipment being used for the activity, and no refuelling of equipment shall take place on any area of the river or lake bed
- sediment disturbance shall not give rise to a decrease in visual clarity of water on more than 50% beyond a zone of reasonable mixing that is persistent and ongoing
- there shall be no significant adverse effects on aquatic life or instream habitat
- all material removed from the structure and excess construction materials must be removed from the bed
- water diverted from the structure, for the purposes of carrying out the activity, shall be for a period of no more than 48 hours
- disturbance of the bed is the minimum necessary to carry out the required works



Information requirements for all structures (culverts, weirs, dams, fords and flap gates)

Whether or not you need a resource consent, you must **tell the Council at least two days before you commence work** that you intend to install a culvert, weir, dam, ford or flap gate (or to alter, extend or reconstruct one of these structures if they were constructed after 2 September 2020).

The following information must be collected and provided to the Council **within 20 working days after the activity is finished**, including the time and date of its collection:

- the type of structure
- the co-ordinates of the structure
- the flow of the river or connected area and if the water is tidal at the structure's location
- the width of the river or connected area at the water's surface, at the structure's location
- the width of the bed of the river or connected area, at the structure's location
- any structure improvements that mitigate the effect it may have on the passage of fish

- does the structure protect particular species, or prevent access of a species to protect another species
- will the structure impede the passage of fish
- visual evidence (photos) showing both ends of the structure, viewed upstream and downstream
- asset identification number if known
- structure ownership either by the Crown (e.g. DOC), regional council, a territorial authority, New Zealand Transport Agency, KiwiRail Holdings Limited, or held publicly by another person or organisation, held privately, or unknown.

If there is an apron on the structure the following must also be provided:

- the apron's length
- the height of the drop (if any) from the apron's downstream end
- the material from which the apron is made
- the mean depth of the water across the apron
- the mean water velocity across the apron
- the type of bed substrate that is across most of the apron

If there is a ramp on the structure the following must also be provided:

- the ramp's length
- the slope of the ramp
- the type of surface that the ramp has
- does the ramp have wetted margins



Shortjaw kōkopu

Culverts

Permitted activity conditions

For the construction, placement and use of a culvert (or to alter, extend or reconstruct a culvert if it was constructed after 2 September 2020) you do not need a resource consent so long as you can meet **all** of the following permitted activity conditions from the NES-F and the *Regional Fresh Water Plan*.

NES-F conditions

- **Passage of fish:** The culvert must provide for the same passage of fish upstream and downstream

as would exist without the culvert, except as required to carry out the works.

- **Slope:** The culvert must be laid parallel to the slope of the bed of the river or connected area.
- **Velocity:** The mean cross-sectional water velocity in the culvert cannot be greater than that in all immediately adjoining river reaches.
- **Size:** The culvert's width where it intersects with the bed of the river or connected area (s) and the width of the bed at that location (w), both measured in metres, must compare as follows:
 - where $w \leq 3$, $s \geq 1.3 \times w$
 - where $w > 3$, $s \geq (1.2 \times w) + 0.6$
- **Placement:** The culvert must be open-bottomed or its invert must be placed so that at least 25% of the culvert's diameter is below the level of the bed. The bed substrate must be present over the full length of the culvert and stable at the flow rate at or below which the water flows for 80% of the time.
- **Geomorphic process:** The culvert must provide for the continuity of movement of sediment and debris.

Fresh Water Plan for Taranaki conditions

- cross sectional area of the river bed on or over which the culvert is to be placed is no greater than 10m².
- culvert must not alter the natural course of the river nor reduce channel capacity to convey flood flows.
- no significant erosion, scour or deposition results from placement of the structure.
- excess construction materials must be removed from the bed.
- sediment disturbance shall not conspicuously change the visual clarity of the water beyond a zone of reasonable mixing.
- there shall be no significant adverse effects on aquatic life or instream habitat.
- disturbance of the bed shall be the minimum necessary to carry out the required works.
- no contaminants shall be released to the river bed from equipment being used for the activity, and no refuelling of equipment shall take place on any area of the river bed.
- between 1 May and 31 October there shall be no disturbance of any part of the bed covered by water.
- culvert is no greater than 1m diameter, with no more than 1m fill over the culvert.
- culvert is not greater than 25m in length.
- no culverts shall be constructed, placed or used within a defined urban catchment.

Specific information requirements for culverts

The following information about the placement, alteration, extension, or reconstruction of a culvert or weir in, on, over, or under the bed of any river or connected area must be collected and provided to the Council **within 20 working days after the activity is finished**, including the time and date of its collection.

- number of barrels that make up the culvert;
- Size: culvert's shape, length, diameter or width and height;
- the height of the drop (if any) from the culvert's outlet;
- the length of the undercut or erosion (if any) from the culvert's outlet;
- the material from which the culvert is made;
- the mean depth of the water through the culvert;
- the mean water velocity in the culvert;
- are there low-velocity zones downstream of the culvert;
- the type of bed substrate that is in most of the culvert;
- are there any remediation features (e.g. baffles or spat rope);
- does the culvert have wetted margins;
- the slope and alignment of the culvert;
- the numbers of each other type of structure to which this subpart applies, or of wingwalls or screens, on the culvert.



Weirs

Permitted activity conditions

For the construction, placement and use of a weir (or to alter, extend or reconstruct a weir if it was constructed after 2 September 2020) you must meet **all** of the following permitted activity conditions from the NES-F and the *Regional Fresh Water Plan* to carry out the activity without a resource consent.

NES-F conditions

- **Passage of fish:** The weir must provide for the same passage of fish upstream and downstream as would exist without the culvert, except as required to carry out the works

- **Size:** The fall height of the weir must be no more than 0.5m
- **Slope:** The slope of the weir must be no steeper than 1:30
- **Face:** The face of the weir must have roughness elements that are mixed grade rocks of 150 to 200mm diameter and irregularly spaced no more than 90mm apart to create a hydraulically diverse flow structure across the weir (including any wetted margins)
- **Lateral profile:** The weir's lateral profile must be V-shaped, sloping up at the banks, and with a low-flow channel in the centre, with the lateral cross-section slope between 5° to 10°

Fresh Water Plan for Taranaki conditions

- catchment area upstream of the structure is not more than 25ha
- structure must not impound water beyond the property of which it is built, unless agreed to in writing by any affected property owner
- no takes for domestic use, stock watering, fire fighting, or any other takes authorised by a resource consent, shall be restricted by the construction, placement and use of the structure
- structure must not alter the natural course of the river nor reduce channel capacity to convey flood flows
- no significant erosion, scour or deposition shall result from placement of the structure
- no contaminants shall be released to the river or lake bed from equipment being used for the activity, and no refuelling of equipment shall take place on any area of the river or lake bed
- excess construction materials shall be removed from the bed
- disturbance of the bed shall be the minimum necessary to carry out the required works
- between 1 May and 31 October there shall be no disturbance of any part of the bed covered by water
- sediment disturbance shall not conspicuously change the visual clarity of the water beyond a zone of reasonable mixing
- there shall be no significant adverse effects on aquatic life or instream habitat
- the Council shall be informed that the placement of the structure is to occur, at least two working days prior to the commencement of works

Specific information requirements for weirs

The following information about the placement, alteration, extension, or reconstruction of a weir in, on, over, or under the bed of any river or connected area must be collected and provided to the Council **within 20 working days after the activity is finished** including the time and date of its collection:

- the type of weir
- shape: weir's crest, height and width
- material from which the weir is made
- type of bed substrate that is present across most of the weir
- are there any remediation features (for example, baffles or spat rope)
- does the weir have wetted margins
- slope of the weir
- the backwater distance from the weir, meaning the distance furthest upstream where the water level is influenced by the weir
- the numbers of each other type of structure to which this subpart applies, or of wingwalls or screens, on the weir



Kōaro

Fords

Permitted activity conditions

For the construction, placement and use of a ford you must meet **all** of the following permitted activity conditions from the Regional Fresh Water Plan to carry out the activity without a resource consent.

Fresh Water Plan for Taranaki conditions

- cross sectional area of the river bed on or over which the ford is to be placed (measured from the top of each bank) is no greater than 10m²
- the ford shall not alter the natural course of the river nor reduce channel capacity to convey flood flows
- no significant erosion, scour or deposition results from placement of the structure
- structure shall not restrict the passage of fish
- excess construction materials shall be removed from the bed
- sediment disturbance shall not conspicuously change the visual clarity of the water beyond a zone of reasonable mixing
- there shall be no significant adverse effects on aquatic life or instream habitat
- disturbance of the bed shall be the minimum necessary to carry out the required works
- no contaminants shall be released to the river bed from equipment being used for the activity, and no refuelling of equipment shall take place on any area of the river bed

- between 1 May and 31 October there shall be no disturbance of any part of the bed covered by water
- the Council shall be informed that the placement of the structure is to occur, at least two working days prior to the commencement of works
- ford raises the level of the bed no more than 300mm

Dams

Permitted activity conditions

For the construction, placement and use of a dam you must meet **all** of the following permitted activity conditions from the Regional Fresh Water Plan to carry out the activity without a resource consent.

Fresh Water Plan for Taranaki conditions

- dam has a maximum wall height (measured vertically from the downstream bed to the crest) of not more than 3m
- catchment area upstream of the structure is not more than 25ha
- structure must have an auxiliary spillway which is capable of conveying flood flows
- structure must not impound water beyond the property on which it is built, unless agreed to in writing by any affected property owner(s)
- no takes for domestic use, stock-watering, fire-fighting, or any other take authorised by a resource consent, shall be restricted by the construction, placement and use of the dam.
- structure must not alter the natural course of the river nor reduce channel capacity to convey flood flows.
- no significant erosion, scour or deposition shall result from placement of the structure.
- no contaminants shall be released to the river or lake bed from equipment being used for the activity, and no refuelling of equipment shall take place on any area of the river or lake bed.
- excess construction materials shall be removed from the bed.
- disturbance of the bed shall be the minimum necessary to carry out the required works.
- between 1 May and 31 October there shall be no disturbance of any part of the bed covered by water.
- sediment disturbance shall not conspicuously change the visual clarity of the water beyond a zone of reasonable mixing.
- there shall be no significant adverse effects on aquatic life or instream habitat.
- structure shall not restrict the passage of fish.
- the Council shall be informed that the placement of the dam is to occur, at least two working days prior to the commencement of works.

Inspection and monitoring programme

The Council is undertaking an inspection and monitoring programme of fish passage for all existing and new structures in, on, over or under a river bed or connected area. This will include an initial inspection of your structure and routine monitoring to ensure future compliance (whether or not the structure required a resource consent).

Existing structures must meet the requirements of the *Fresh Water Plan for Taranaki*. New structures must meet both the Plan's requirements and the new requirements in the NES-F. It is the responsibility of the structure owner to ensure it complies with these requirements and to undertake any remediation work. If you have an existing structure or are considering a new structure we recommend you speak to the Council to establish your regulatory requirements.

Reclamation of rivers

Reclamation means the man-made formation of permanent dry land by the positioning of material into or onto any part of a waterbody, bed of a lake or river or the coastal marine area, and:

- (a) includes the construction of any causeway; but
- (b) excludes the construction of natural hazard protection structures such as seawalls, breakwaters or groynes except where the purpose of those structures is to form dry land.

Examples of reclamation are piping and realignment of small streams.

There is no permitted activity status for reclamation of rivers. This means you will need a resource consent to undertake this activity.

The Council is not able to grant a consent for reclamation of rivers unless there is a 'functional need' for it to occur. This means the activity requires the reclamation of the river because it can ONLY happen in that particular place. This is a very strict requirement and we recommend you speak to the Council early if you are considering river reclamation.

Contact us

If you have any questions on structures in waterbodies, reclamation of rivers or any other aspect of the NES-F please email info@trc.govt.nz.

Our website at www.trc.govt.nz will also be regularly updated with guidance.

