

Environmental Effect Assessment Requirements for Off-line and Instream Damming and Diversions

The below table is to be used as guidance when determining the level of detail required to be lodged with applications for off-line and instream damming and diversions. The differences in expectations recognises that potential effects to the environment and the extent of these effects will vary depending on the activity, its location, sensitivity of the receiving environment, consent duration sought and so forth. Please note that the below is guidance only on Council's approach and each application will need to provide information in sufficient detail to satisfy the purpose for which it is required (Schedule 4).

Definitions:

Dam types:

Small dam: As defined by the Regional Plan Water (RPW)

A dam:

- a. Where the size of the catchment upstream of the dam is no more than 50 hectares; and
- b. where the water stored immediately upstream of the dam is no more than 3 metres deep; and
- c. where the volume of water stored by the dam is no more than 20,000 cubic metres.

Large dam: As defined by the Building Act 2004

Large dam means a dam that has a height of 4 or more metres and holds 20,000 or more cubic metres volume of water or other fluid.

Other dams: Dams that do not meet the small dam definition nor the large dam definition.

For example:

- a. A dam with a depth of 5 m and volume of 15,000 m³
- b. A dam with a depth of 3 m and a volume of 50,000 m³

The combination of height and volume means these dams are likely to present a higher risk than small dams, but a lesser risk than large dams

Activity Status:

PER: Permitted

RDA: Restricted Discretionary Activity

DIS: Discretionary Activity

NC: Non-complying Activity

The effects discussed are relevant for all RDA and DIS activities, unless otherwise specified.

AEE requirements:

The following terms are used to describe the level of detail expected within an AEE for different consent types. The below provides guidance on what is anticipated by each term.

Limited Discussion: AEE to identify values and describe the existing/receiving environment using available data and information e.g. Schedules in Plans, GIS mapping, Council data (e.g. consent locations), available science reports, local knowledge. The AEE to clearly identify the effects the proposal could have on these values including any persons that could be affected by the proposal and to outline any measures to avoid, remedy and mitigate effects on these values during the consent term.

Moderate Discussion. AEE to identify values and describe the existing/receiving environment using best available data and information¹ and expert evidence, where relevant. The AEE to include expert advice on the existing values, effects associated with the proposal on these values and measures to avoid, remedy and mitigate effects on these values during the consent term. The proposal to identify and consider effects on any persons that could be affected by the proposal².

Substantive Discussion: AEE to include comprehensive expert advice and detailed descriptions and considerations to describe the existing/receiving environment¹, effects of the proposal on the existing environment and measures to avoid, remedy and mitigate effects. If relevant, the proposal to outline off-sets for effects that cannot be avoided, remedied and mitigated. The proposal to identify and consider effects

¹ Best information to be in accordance with Section 1.6 of the NPS-FM 2020

² A cultural impact assessment may be required for moderate or substantive changes to instream values.

on any persons that could be affected by the proposal. Expert advice to have a basis in demonstrable evidence. Where the evidential basis is unclear the advice to include an analysis of the uncertainty and how that affects the expert advice².

Existing/receiving environment: The existing/receiving environment for an application needs to be detailed and outlined in an application for a damming activity as this establishes the baseline that environmental effects are assessed against. Advice on how to consider the existing environment for different damming scenarios can be found in the attached practice note: [Legal advice for consent processing](#)

Dam or diversion type	Activity status ³	Natural and human use values including ecological effects; and wetlands, natural character; amenity (including recreational) values, heritage values (including cultural values) ⁴	Lawfully established take and damming activities ⁵	Flooding, erosion, land instability, sedimentation or property damage ⁶	Fish passage	Managing lake levels and flows ⁷
Out of stream dams						
Below ground dams i.e. dams with no dam structure holding back water above ground.						
Small ⁸	PER	NA	Need to demonstrate compliance with PA Rule 12.3.2.1(c): <i>No lawful take of water is adversely affected as a result of the damming or diversion.</i>	Need to demonstrate compliance with PA Rule 12.3.2.1(h): <i>The damming or diversion does not cause flooding of any other person's property, erosion, land instability, sedimentation or property damage.</i>	NA	NA
Other ⁹	RDA or DIS or NC ¹⁰	<p>Limited discussion</p> <p>Considerations:</p> <ul style="list-style-type: none"> Does the dam reservoir overlap and impact on other water bodies including any wetlands? Has the natural and human use values of these water bodies been identified? Does the damming affect these values? Note for RDA activities you can only consider natural or human use values in Schedule 1 of the RPW and Regionally Significant Wetlands. For <i>existing</i> damming, does the dam reservoir have/provide for natural and human use values (eg avian fauna habitat, amenity, recreational, heritage) that could be affected by damming being ceased/altere d/continued. For <i>new</i> damming that is discretionary, will the damming/creation of the dam reservoir have any effects on terrestrial ecology from flooding of land, cultural values and/or water quality. <p>The level of consideration should be based on the existing environment and the scale of the activity, consent duration sought and whether the activity is existing.</p>	<p>Limited discussion</p> <p>Considerations:</p> <ul style="list-style-type: none"> Identify and consider existing lawful take and damming activities in the immediate locality that could be affected by the damming. N.B, the activity is unlikely to affect surrounding water takes and damming. The exception could be where the dam reservoir overlaps with an existing damming activity/take activity or a water body that has water takes or damming in the general vicinity. 	<p>Limited discussion</p> <p>Considerations:</p> <ul style="list-style-type: none"> Dam inflows and outflows, freeboard and general management to ensure no over-topping. Structural soundness and integrity of dam structure. If all below ground this will be limited. If the damming has the potential to affect other waterbodies from flooding, will also require assessment as per instream diversions and dams. Potential for property damage. 	<p>For discretionary activities only.</p> <p>Considerations:</p> <ul style="list-style-type: none"> The level of discussion required is dependent on the ability of fish to enter dam reservoir. If fish present, will need to assess effectiveness of screens and/or bypasses for the species present. Does not include NES-F structures, given out of stream. 	<p>Limited discussion</p> <ul style="list-style-type: none"> Outline purpose of the existing dam or lake level control Describe operating level and any potential changes and effects of this. Describe any restoration of exposed lake bed resulting from any reduction in authorised lake level
Above ground dams i.e. dams on land with a dam wall holding the water. There may also be a below ground component of the damming.						
Small ⁸	PER	NA	Need to demonstrate compliance with PA Rule 12.3.2.1(c): <i>No lawful take of water is adversely affected as a</i>	Need to demonstrate compliance with PA Rule 12.3.2.1(h): <i>The damming or diversion does not cause flooding of any other person's</i>	NA	NA

³ Damming and diversion of certain rivers and lakes is **prohibited** by Rules [12.3.1.1 – 12.3.1.4](#).

⁴ This captures matters of discretion (a)(i-iv) and (b) of Rule [12.3.3.1](#).

⁵ This captures matter of discretion (a)(v) from Rule 12.3.3.1.

⁶ This captures matter of discretion (e) from Rule 12.3.3.1.

⁷ This captures matters of discretion (d), (f) and (g) from Rule 12.3.3.1.

⁸ Assume permitted under Rule 12.3.2.1. If not permitted, refer to other or large dams.

⁹ There are no large below ground dams because height of dam in the Building Act is measured from the stream bed (if the dam is across a stream) or the lowest elevation at the outside limit of the dam.

¹⁰ For damming or diversion of water within a Regionally Significant Wetland, in the Waitaki catchment (in certain circumstances) or within Welcome Creek. Refer to Rules 12.3.1A.1 to 12.3.1A.3. Given the non-complying status of these applications these will likely require more substantive assessments – moderate to substantive discussion depending on location, scale, duration and activity type. Please speak with Council about expectations for these applications

			<i>result of the damming or diversion.</i>	<i>property, erosion, land instability, sedimentation or property damage.</i>		
Other	RDA or DIS or NC ⁷	<p>Limited discussion</p> <p>Considerations:</p> <ul style="list-style-type: none"> Does dam reservoir overlap and impact on other water bodies including any wetlands? Has the natural and human use values of these water bodies been identified? Does the damming affect these values? Note for RDA activities you can only consider natural or human use values in Schedule 1 of the RPW and Regionally Significant Wetlands. If <i>existing</i> damming, does the dam reservoir have/provide for natural and human use values (e.g. avian fauna habitat, amenity, recreational, heritage) that could be affected by damming being continued/ceased/alterd? For <i>new</i> damming that is discretionary, will the damming/creation of the dam reservoir have any effects on terrestrial ecology from flooding of land, cultural values and/or water quality? Will the flooding effects have any effects on natural and human use values? 	<p>Limited discussion</p> <p>Considerations:</p> <ul style="list-style-type: none"> Identify and consider existing lawful take and damming activities in the immediate locality. N.B The activity is unlikely to affect surrounding water takes and damming. Exception could be where dam reservoir overlaps with an existing damming activity/take activity or water body that has water takes or damming in the general vicinity. Will to some extent be reliant on flooding discussion. 	<p>Limited discussion</p> <p>Discussion will need to include:</p> <ul style="list-style-type: none"> An initial qualitative assessment as per NZSOLD guidelines¹¹, and a discussion of the outcomes and implications of this assessment. Where PIC uncertainty arises, see large dams. If the dam has the potential to affect waterbodies, will also require assessment as per instream diversions and dams. Potential for property damage. Insurance in case of failure or other appropriate means for remedying the effects of failure. 	<p>For discretionary activities only.</p> <p>Considerations:</p> <ul style="list-style-type: none"> The level of discussion required is dependent on the ability of fish to enter dam reservoir. If fish present, will need to assess effectiveness of screens and/or bypasses for the species present. Does not include NES-F structures, given out of stream. 	<p>Limited discussion</p> <ul style="list-style-type: none"> Outline purpose of the existing dam or lake level control Describe operating level and any potential changes and effects of this. Describe any restoration of exposed lake bed resulting from any reduction in authorised lake level
Large						
Dam or diversion type	Activity status¹³	Natural and human use values including ecological effects; and wetlands, natural character; amenity (including recreational) values, heritage values (including cultural values)¹⁴	Lawfully established take and damming activities¹⁵	Flooding, erosion, land instability, sedimentation or property damage¹⁶	Fish passage	Managing lake levels and flows¹⁷
Instream diversions and dams						
Diversions						
Diversions that do not alter water level	DIS or NC ⁷	<p>Limited discussion</p> <p>Considerations:</p> <ul style="list-style-type: none"> What are the natural and human use values of the affected water body, diversion structure and the wider surrounding environment? Will the change in the location of flow affect these values? Diversions are likely to have little impact on up or downstream levels and flows beyond the diversion (i.e. once the diverted water is returned to the water body). 	<p>Limited discussion</p> <p>Considerations:</p> <ul style="list-style-type: none"> Identify and consider existing lawful take and damming activities up and downstream and within the diversion area. Based on the nature of the diversion, there are 	<p>Moderate discussion</p> <p>Discussion will need to include:</p> <ul style="list-style-type: none"> How the diversion structure changes flood flows, and their effects on the downstream catchment. Changes in downstream flows or a shift in the channel, including whether or not a residual flow is needed. 	<p>Limited/Moderate discussion</p> <p>Considerations</p> <ul style="list-style-type: none"> Describe fish passage through or around diversion, and details of fish screens and/or bypasses if relevant for the species present. 	<p>Limited discussion</p> <p>Considerations:</p> <ul style="list-style-type: none"> Changes in flows within the river reach that is diverted and below the diversion.

¹¹ NZ Sold Guidelines 2.2.1. [nzsold_dam_safety_guidelines-may-2015.pdf](#)

¹² NZ Sold Guidelines 2.2.2 or 2.2.3.

¹³ Damming and diversion of certain rivers and lakes is **prohibited** by Rules 12.3.1.1 – 12.3.1.4.

¹⁴ This captures matters of discretion (a)(i-iv) and (b) of Rule 12.3.3.1.

¹⁵ This captures matter of discretion (a)(v) from Rule 12.3.3.1.

¹⁶ This captures matter of discretion (e) from Rule 12.3.3.1.

¹⁷ This captures matters of discretion (d), (f) and (g) from Rule 12.3.3.1.

		<ul style="list-style-type: none"> Requires consideration of the effects that changes in flows within the diverted reach have on natural and human use values. If <i>existing</i> diversion, does the diversion have any values within itself (e.g amenity, recreational, heritage, cultural). If <i>new</i> diversion, will the diversion have any effects on terrestrial ecology (if relevant), water quality or any of the identified natural and human use values? 	unlikely to be significant effects, so flow limits (e.g. residual flows) may not be required.	<ul style="list-style-type: none"> Effects on stream erosion and stability of the bed and banks, both up and downstream of the diversion. Changes in bed function and sedimentation. Potential for property damage. Insurance in case of failure or other appropriate means for of remedying the effects of failure. <p>Diversions do not require a dam breach assessment.</p>	<ul style="list-style-type: none"> Will need less detail than dams, given most diversions do not create an impassable barrier. Will need to consider flows in reach diverted. Includes NES-F structures. 	
Diversions that do alter water levels (e.g. weir ¹⁸)	DIS or NC ⁷	<p>Limited/Moderate discussion</p> <p>Considerations:</p> <ul style="list-style-type: none"> What are the natural and human use values of the affected water body, diversion structure and the wider surrounding environment? Will the change in the location of flow affect these values? Diversions are likely to have little impact on up or downstream levels and flows beyond the diversion (i.e. once the diverted water is returned to the water body). Requires consideration of the effects that changes in flows within the diverted reach have on natural and human use values. If <i>existing</i> diversion, does the diversion have any values within itself (eg amenity, recreational, heritage). If <i>new</i> diversion, will the diversion have any effects on terrestrial ecology (if relevant), water quality or any of the identified natural and human use values? Some of the considerations below for instream dams may be relevant. 	<p>Limited/Moderate discussion</p> <p>Considerations:</p> <ul style="list-style-type: none"> Identify and consider existing lawful take and damming activities up and downstream and within the diversion area. Likely to be some adverse effects given impoundment of water. May require minimum or residual flow limits to manage effects on nearby activities (for longer duration activities). Effects may be related to flooding assessment. Potential downstream effect to existing lawful water takes and damming structures. 	<p>Limited/Moderate discussion</p> <p>Discussion will need to include:</p> <ul style="list-style-type: none"> An initial qualitative assessment as per NZSOLD guidelines¹¹, and a discussion of the outcomes and implications of this assessment. Where PIC uncertainty arises, see large dams. How the structure changes flood flows, and their effects on the downstream catchment. Changes in (timing) of downstream flows or a shift in the channel. Effects on stream erosion and stability of the bed and banks, both up-stream and downstream of the diversion/weir. Changes in sedimentation and bed function. Potential for property damage. Insurance in case of failure or other appropriate means for of remedying the effects of failure. 	<p>Moderate discussion</p> <ul style="list-style-type: none"> Will require detailed assessment of any barriers to fish passage, including effectiveness of screens and/or bypasses for the species present. Will need to consider flows in reach diverted. Includes NES-F structures. 	<p>Limited discussion</p> <ul style="list-style-type: none"> Changes in flows within the river reach that is diverted and below the diversion. Outline purpose of the existing dam or lake level control Describe operating level and any potential changes and effects of this. Describe any restoration of exposed lake bed resulting from any reduction in authorised lake level
Instream dams						
Small ⁸	PA	NA	Need to demonstrate compliance with PA Rule 12.3.2.1(c): <i>No lawful take of water is adversely affected as a result of the damming or diversion.</i>	Need to demonstrate compliance with PA Rule 12.3.2.1(h): <i>The damming or diversion does not cause flooding of any other person's property, erosion, land instability, sedimentation or property damage.</i>	Only for NES-F structures that require consent under the NES-F.	NA
Other, new or replacing a permit from 2000 or later and	RDA or DIS or NC ⁷	Limited discussion	Limited/moderate discussion depending on location of any lawful takes in relation to the damming.	Limited discussion Initial qualitative assessment as per NZSOLD guidelines⁸.	Moderate discussion, if required	Limited discussion

¹⁸ If a weir is damming or diverting a waterbody and is unable to meet the PA rules in the oRPW (12.3.2.1) then a damming/diversion consent is required for the weir structure. It is recognised that the definition of 'dam' and 'weir' is more specific in the NES-FW and separates out the two activities. This definition is relevant for considering dam and weir activities in respect of the requirements of the NES-FW. The more general definition of damming in the oRPW applies when considering s14 of the RMA and weirs and what rules consent is required under for damming and diverting water.

short consent term (less than 10 yrs)						
Other, new or replacing a consent pre 2000 and longer consent term (greater than 10 yrs)	RDA or DIS or NC ⁷	Limited to moderate discussion	Limited/moderate discussion depending on location of any lawful takes in relation to the damming.	Limited discussion Initial qualitative assessment as per NZSOLD guidelines ⁸ .	Moderate discussion, if required	Limited discussion
Other, replacing a consent pre 2000 or dam structure older than 25 years and short consent term (less than 10 yrs)	RDA or DIS or NC ⁷	Limited discussion	Limited/moderate discussion depending on location of any lawful takes in relation to the damming.	Limited discussion Initial qualitative assessment as per NZSOLD guidelines ⁸ .	Moderate discussion, if required	Limited discussion
Other, replacing a consent pre 2000 or dam structure older than 25 years and longer consent term (greater than 10 yrs)	RDA or DIS or NC ⁷	Limited to moderate discussion	Limited/moderate discussion depending on location of any lawful takes in relation to the damming.	Moderate discussion Initial qualitative assessment as per NZSOLD guidelines ⁸ .	Moderate discussion, if required	Limited discussion
Large, new or replacing a permit from 2000 or later and short consent term (less than 10 yrs)	RDA or DIS or NC ⁷	Moderate discussion	Limited/moderate discussion depending on location of any lawful takes in relation to the damming.	Moderate discussion Intermediate and/or comprehensive assessment as per NZSOLD guidelines ⁹	Moderate to substantive discussion, if required	Moderate discussion
Large, new or replacing a permit from 2000 or later and longer consent term (greater than 10 yrs)	RDA or DIS or NC ⁷	Moderate to substantive discussion	Moderate discussion	Moderate to substantive discussion Intermediate and/or comprehensive assessment as per NZSOLD guidelines ⁹	Moderate to substantive discussion	Moderate discussion
Large, replacing a consent pre 2000 or dam structure older than 25 years and short consent term (less than 10 yrs)	RDA or DIS or NC ⁷	Moderate to substantive discussion	Limited/moderate discussion depending on location of any lawful takes in relation to the damming.	Moderate discussion Intermediate and/or comprehensive assessment as per NZSOLD guidelines ⁹	Moderate to substantive discussion	Moderate discussion
Large, replacing a consent pre 2000 or dam structure older than 25 years and longer consent term (greater than 10 yrs)	RDA or DIS or NC ⁷	Substantive discussion	Moderate to substantive discussion	Moderate to substantive discussion Intermediate and/or comprehensive assessment as per NZSOLD guidelines ⁹	Moderate to substantive discussion required	Moderate discussion
Considerations for instream damming – the level of detail, assessment and need for technical reports is to be guided by the level of discussion indicated, the scale of the damming activity and the sensitivity of		<ul style="list-style-type: none"> What are the natural and human use values of the affected water body, dam reservoir and the wider surrounding environment? Note for RDA activities you can only consider natural or human use values in Schedule 1 of the RPW and Regionally Significant Wetlands. If <i>existing</i> damming, does the dam reservoir have/provide for natural and human use values (eg, amenity, recreational, heritage) that could be affected by damming being continued/ceased/altere For <i>discretionary</i> activities will the damming/creation of the dam reservoir have any effects on terrestrial ecology from 	<ul style="list-style-type: none"> Identify and consider existing lawful take and damming activities up and downstream and within the diversion area. Likely to be some adverse effects given impoundment. May require minimum or residual flow limits to manage effects on nearby 	<ul style="list-style-type: none"> Assessment as per NZSOLD guidelines¹¹ based on guidance above, and a discussion of the outcomes and implications of this assessment. Where PIC uncertainty arises, there may be a requirement for more comprehensive assessments. How the structure changes flood flows, and their effects on the downstream catchment including existing lawful activities and structures. 	<p>For discretionary activities or where fish are identified as a Schedule 1 value</p> <ul style="list-style-type: none"> Will require detailed assessment of any barriers to fish passage, including effectiveness of screens and/or 	<ul style="list-style-type: none"> Outline purpose of the existing dam or lake level control Describe operating level and any potential changes and effects of this. Describe any restoration of

<p>the receiving environment.</p>		<p>flooding of land, water quality, any wetland and natural and human use value outside of Schedule 1 of the RPW?</p> <p>For all, the need to consider long term (permanent) effects, temporary effects (during dam construction) and cumulative effects.</p> <ul style="list-style-type: none"> • Effects on natural values identified in Schedule 1 (and outside Schedule 1 for discretionary activities). This may include native fish and invertebrates, sports fish including spawning and juvenile rearing locations, avian fauna including nesting habitat, riparian vegetation. Consideration given to the effects of changes in flow processes/sediment movement, food availability and/or habitat loss from reservoir creation. • Effects on cultural values identified in Schedule 1 (and outside Schedule 1 for discretionary activities) including effects on mahika kai species and the activity of mahika kai gathering. • Effects on any Regionally Significant Wetlands or on any regionally significant wetland value (and any natural inland wetland or wetland for discretionary activities¹⁹) including effects that damming may have on the hydrology, ecology (flora and fauna) and cultural values associated with the wetland. Effects to focus on regionally significant wetland values of the wetland. • Effects on the natural character²⁰ of the water body upstream and downstream of the damming and of the impoundment itself. • Effects on amenity values (recreation values and aesthetics) on any affected water body including the impoundment such as changes to public access, changes in flows and lake levels, safety and/or ability to undertake recreational activities • Effects on heritage values and sites associated with the affected water body or impoundment including flooding of sites. <p>The application should address whether the following mitigation/off-setting is part of the application²¹.</p> <ul style="list-style-type: none"> • Residual flows – to mitigate effects on natural and human use values downstream, wetlands and/or natural character • Flushing flows²² to manage algal biomass build-up downstream -to mitigate effects on natural and human use values, amenity values and/or natural character • Pest species management (weed species and pest/unwanted fish species) movement including during construction 	<p>activities (for longer duration activities).</p> <ul style="list-style-type: none"> • May be related to flooding assessment. • Potential downstream effect to existing lawful water takes and damming structures. 	<ul style="list-style-type: none"> • Effects of flooding as a result of spillway operation? • Changes in downstream flows/hydraulics or a shift in the channel, including whether or not a residual flow is needed. • Effects on up and down stream erosion and stability of the bed and banks. • Changes in sedimentation and bed function including upstream and behind the dam. • Potential for property damage. • Effects during construction including potential flooding effects • Climate change (only for longer duration applications) • Insurance in case of failure or other appropriate means for of remedying the effects of failure. 	<p>bypasses for the species present.</p> <ul style="list-style-type: none"> • Includes NES-F structures. 	<p>exposed lake bed resulting from any reduction in authorised lake level</p>
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¹⁹ Additional consents may be required under the NES-FW for damming that affects natural inland wetlands. See [National environmental standards for freshwater | Ministry for the Environment](#)

²⁰ Policy 5.4.8 of the oRPW has guidance on what to consider

²¹ Note, this is not an exhaustive list but identifies common mitigation for this activity type. It will depend on context, site-specific assessment and additional mitigation may be required.

²² Flushing flows can include a 'flush' of water past a dam when the catchment is in low flow conditions (i.e. a scheduled and regulated flush). It can also include high flows passing the dam (e.g.. via a spillway) without being dammed.

		<ul style="list-style-type: none"> • Any off-set measures for loss of indigenous biological diversity. • Fish passage measures e.g fish pass, diversions, climbing surfaces – see fish passage column • Wetland creation • Riparian planting 				
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Other:

The following are also part of the RDA matters of restriction for damming. Refer to general guidance and application form 2 on details for these: Information and monitoring, bond, financial contributions, lawful priority and consent reviews.