



Photo point monitoring
protocol for Natural Wetlands

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Background

Under the Resource Management (National Environmental Standards for Freshwater) Regulations 2020, there are three regulations that relate to the taking and use (e.g. irrigation) of water, and are relevant for water take resource consents.

- Regulation 52: Drainage of natural wetlands (**Non-complying**)
The taking, use, damming, diversion or discharge of water outside, but within a 100m setback from a natural wetland is a non-complying activity if it results, or is likely to result, in the complete or partial drainage of all or part of a natural wetland and does not have another status under any of [regulations 38 to 51](#).
- Regulation 53: Drainage of natural wetlands (**Prohibited**)
The taking, use, damming, diversion, or discharge of water within a natural wetland is a prohibited activity if it results, or is likely to result, in the complete or partial drainage of all or part of a natural wetland and does not have another status under any of [regulations 38 to 51](#).
- Regulation 54: Other activities (**Non-complying**)
The taking, use, damming, diversion, or discharge of water within, or within a 100m setback from a natural wetland.

As a requirement under these regulations, all resource consent applications for water takes and use (including irrigation), damming, diversion, or discharge need to be assessed in relation to all scheduled and non-scheduled (unidentified) natural wetlands. Water takes that are within a natural wetland, or within 100m of the take point or the use area, are a non-complying or prohibited activity depending on the effects.

If an assessment of your application has shown there is a risk of drainage on a natural wetland(s) it is a condition of your consent to monitor your wetland by photograph points for assessment by Greater Wellington to ensure that the wetland(s) is/are not unduly impacted by the consented take and/or use of water.

Monitoring protocol

Photo points are a simple, quick, and cheap way to monitor changes such as vegetation or water level. Changes observed in the photos can be used to trigger further investigative work to ensure the consented activities are not affecting the water table regime of the natural wetland.

To obtain photo material that can be used to monitor natural wetland condition, it is important to follow the guidelines to ensure that a photo point is set up in an appropriate location, that the image captures the necessary information, and that the same field of view is captured in each photo. This guide outlines standardised points and processes to assure the provision of quality repeatable photos of your natural wetland(s), thus documenting any visual changes over time.

Key points:

- Photos are to be taken every year or as stated in your consent conditions.
- Photos are to be taken from the same marked position in either February or March.
- Photos must capture the same field of view. Landmarks are useful reference points. Trees or other vegetation can be permanently marked.
- Photos must be high quality and of at least 4MB.
- Photo point sites should be selected to show where any visual changes could be seen e.g. an overview of the vegetation patterns/composition and/or the water level.
- Ideally photos are from a high point or bird's eye view to show a good overview of the site.
- Photos should face south, if possible, to minimise shadows and sun glare.
- Once selected, photo points should be permanently marked and not change as they are to provide a long-term record.
- Larger wetlands will require two or more photo points.

What to avoid:

- Low angle oblique photos.
- Obstructions.
- Photographing distant subjects or poor focus.
- Low light or poor visibility due to time of day, fog or rain etc.
- Windy days.

These will all affect the quality of the site representation that the photo provides.

Method

Depending on the size and composition of the natural wetland, you might need two or three marked photo points to show a good representation of the natural wetland. The locations of these need to be carefully considered. At least two points is preferable; one showing a broader natural wetland extent; and a second or more, showing a closer view of the natural wetland plants or water level.

Select the photo point location(s)

Consider where you can photograph the major types of vegetation, and where there is a good position that gives an overview of the site. If you can, gain height for an overview, perhaps on a bank. In smaller wetlands an overview may not be required. You will need to identify (1) the location to stand when taking the photo (GPS or phone record) and (2) the direction you face while you take the photo to ensure the view is the same each time you take a photo.

Tips for deciding on the location and direction of the photos are:

- Try to show a good example of the vegetation community – we need to be able to see the vegetation patterns and what species are present in the area, and whether they change between years.
- If your natural wetland has surface water, show the water level within the shot, if your natural wetland dries out over summer, dried mud can be helpful too (making sure you still have vegetation in the photo for scale and to monitor change against).
- If you can discern the margins between natural wetland and non-wetland it is useful. This is where changes might be seen first if the water table is changing.

- Can you fit the entire extent of the natural wetland in a single photo? If so, this viewpoint might be a good.
- The growth and health of the main representative plant may be useful e.g. a patch of tussock sedges/cutty grass or willow weed.



Photo point 1; showing an overview of the natural wetland with vegetation composition and the water level. The corner fence post has been used as the reference point, a compass bearing plus a permanent warratah placed 10m into the natural wetland is used to align the direction of the photo. A data sheet outlining the site, date and time is in the foreground.



Photo point 2; An overview of the natural wetland showing vegetation types at the edges and the water level. A compass is not used for the bearing here, instead the direction of the photo is taken from aligning the two permanent warratahs. Again, a datasheet is in the foreground.

Mark the location

The photo point is to be permanently marked. You could use a marker on a fence post, tree, or a structure such as a culvert. If there is no **permanent** feature already present, use a pole, stake, or warratah and paint the top to make it stand out and ensure it can easily be found again. Plastic or fibreglass poles are recommended as they don't rust.

Record the location

GPS or write down the location - remember the next person taking the photo may be unfamiliar with the site or identifiable trees may fall between visits. It is helpful to draw a sketch map and write a detailed description to help remember the location of the point. **The coordinates of the photo point and the direction need to be submitted with the photo.** This can be obtained off Google maps or a GPS - making sure it is programmed to the WGS 1984 coordinate system (this is the default coordinate system in Google maps).

Place a sighting post

To make it easy to re-take the photo in a years' time erect a second marker, such as a post or warratah, 5-10m from the photo point in the centre of the photo field of view.

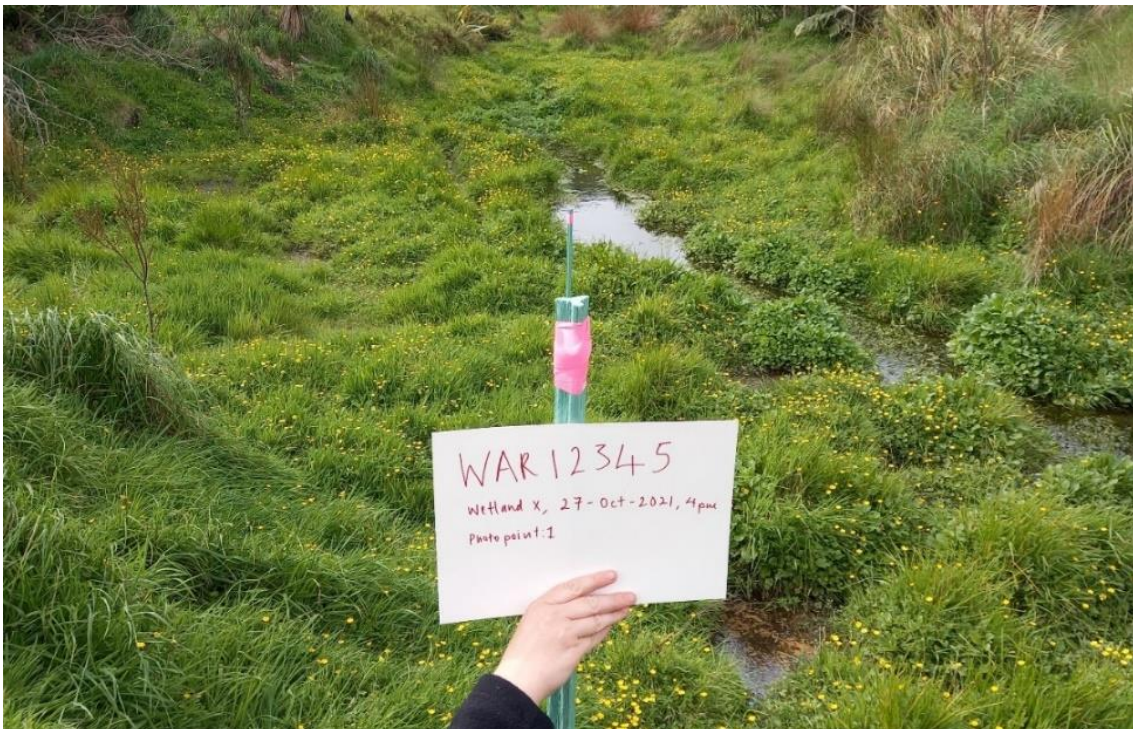


Photo point 3; Permanent warratahs (or posts) are placed 5m apart and the photo is taken in alignment of the posts. A good bird's eye view of the extent of the natural wetland is shown in the photo.

If it is not safe or practical to place a second marker within the selected field of view (e.g. open water or deep mud) you can use the compass bearing to line up the direction of the photo. If you have a compass, record the bearing of the direction of the photo. Many phones also have a compass app to do this. If a sighting post is not being used, another landmark reference point such as a large tree (possibly marked), distant hill, or a fence line with marked or post/batten is useful to help align future shots.

Take the photo

A high-resolution camera is recommended but a modern cell phone is adequate (please send images in high resolution if from a cell phone camera). Consider the layout of the photo; to give a good overview most shots would be in Landscape format. If you have a forested natural wetland a portrait format might better capture the forest canopy.

It is a good idea to include an A4 piece of paper in the foreground of the photo to show scale. The site name, consent number, time and date should be written on the paper. This needs to be large enough to be readable on the photo.

Record and save the photo

A consistent recording format should be maintained for each photo. Any other observations may also be useful, note any other changes or factors which might influence the site.

For example:

Photo no.	Date	GPS coordinates	Compass bearing	Time	Notes
1	12 Nov 2021	-41.09876 175.05419	130°	1.35pm	The large macrocarpa to the left was used as the left frame. Cabbage trees are in full flower
2	12 Nov 2022	-41.09876 175.05419	130°	2.00pm	A large branch of the macrocarpa to the left of the natural wetland has broken off and fallen into the natural wetland. Cabbage trees in flower. Flax appears to be yellowing

What to do with the photo once taken?

- Email photo to Notifications@gw.govt.nz
- File and include in the consent number to the Greater Wellington Environmental Regulation department by the date specified within the consent.

If your site is large and complex and you would like assistance on selecting a photo point site or any other information, please contact the Greater Wellington Terrestrial Ecology team at: wetlands@gw.govt.nz

Where to find more resources:

<https://www.landcare.org.nz/file/module-2-photopoints/open>

<https://www.gw.govt.nz/healthy-waterways>

Greater Wellington Regional Council:

Wellington office
PO Box 11646
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Wellington 6142

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Upper Hutt office
PO Box 40847
Upper Hutt 5018

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September 2022



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