

# Why are we carrying out the projects?

The completion of the West Cumbria Water Supplies project means that Crummock Water, Chapelhouse Reservoir, Overwater and Ennerdale Water are no longer used as sources for drinking water supplies.

Ennerdale Water and the River Ehen are subject to high levels of environmental protection. This project aims to understand the feasibility of removing the infrastructure and restoring the site to a more natural state.

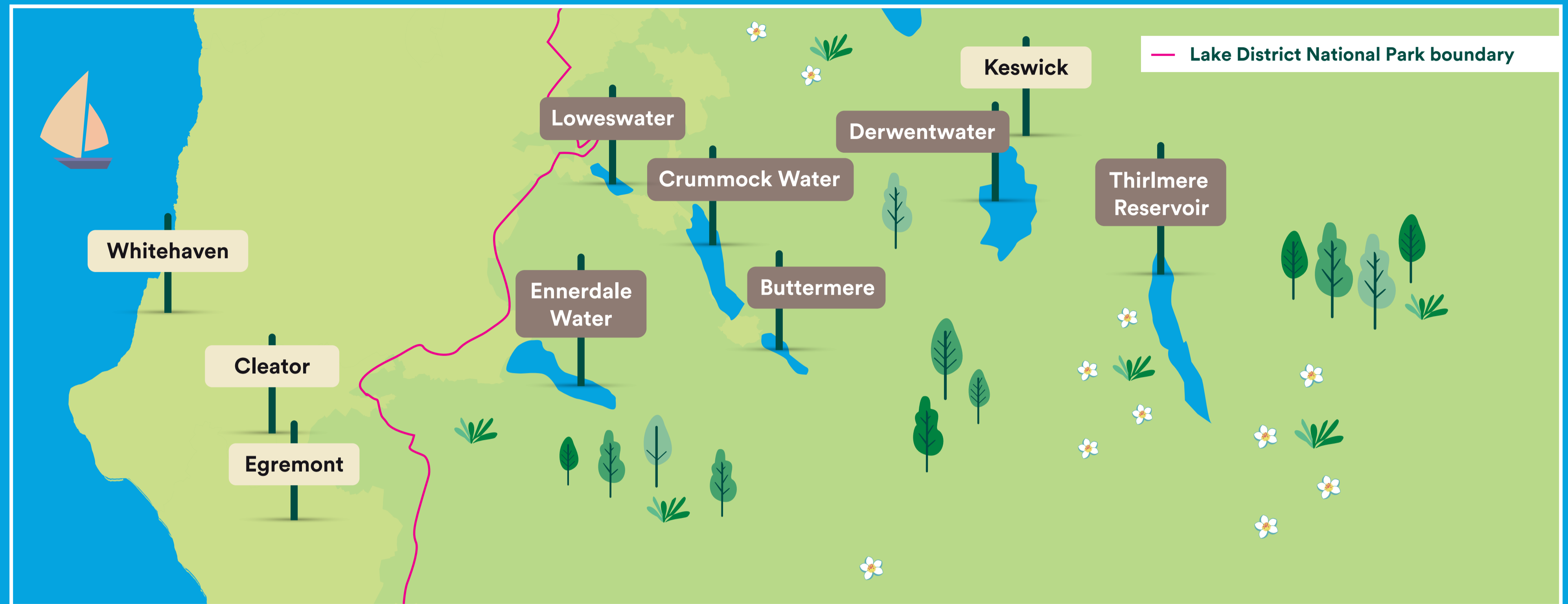
Our Ennerdale project will follow the same phases as our other discontinuance schemes at Crummock, Overwater and Chapelhouse.

## Our phases of work for Ennerdale

- **Phase 1** - Feasibility
- **Phase 2\*** - Detailed design
- **Phase 3\*** - Infrastructure removal.

## Our findings at Crummock, Overwater and Chapelhouse will help plan work at Ennerdale

- **Phase 1** - Feasibility assessment: High level view of environmental and flood risk impacts at the sites. Only beneficial options taken forward to phase 2.



- **Phase 2\*** - Details of build and what the construction phase will look like, stakeholder impacts, environment impact assessment.
- **Phase 3\*** - Infrastructure removal.

## Working together

We'll work with a wide range of key stakeholders including the Environment Agency, Natural England, Lake District National Park Authority, Wild Ennerdale, National Trust, Forestry Commission, West Cumbria Rivers Trust, landowners, parish councils, highways and other interest groups to develop long-term plans that would maintain and enhance access for visitors,

while sensitively returning Ennerdale and the River Ehen back to nature, helping to protect the habitats and environment.

## Your views are important to us and we welcome your feedback

We're continuing to carry out investigations and surveys to develop the most appropriate long-term plans. We'll hold further community information and update sessions.

\*Phases 2 and 3 subject to conclusion of feasibility assessment

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# Ennerdale Water

Ennerdale Water was used as a water source for our customers in the Whitehaven area for more than 120 years. With the completion of the new Thirlmere pipeline and water network, the Environment Agency have revoked our abstraction licence and we're looking at plans for the future of the infrastructure at Ennerdale.

We're continuing to carry out feasibility studies which explore a range of options to help evaluate and develop our long-term plans for Ennerdale Water - using the knowledge and learning from our projects at Crummock, Chapelhouse and Overwater will be invaluable.

The plans are very much in the early stages, and there are lots of things to consider including:

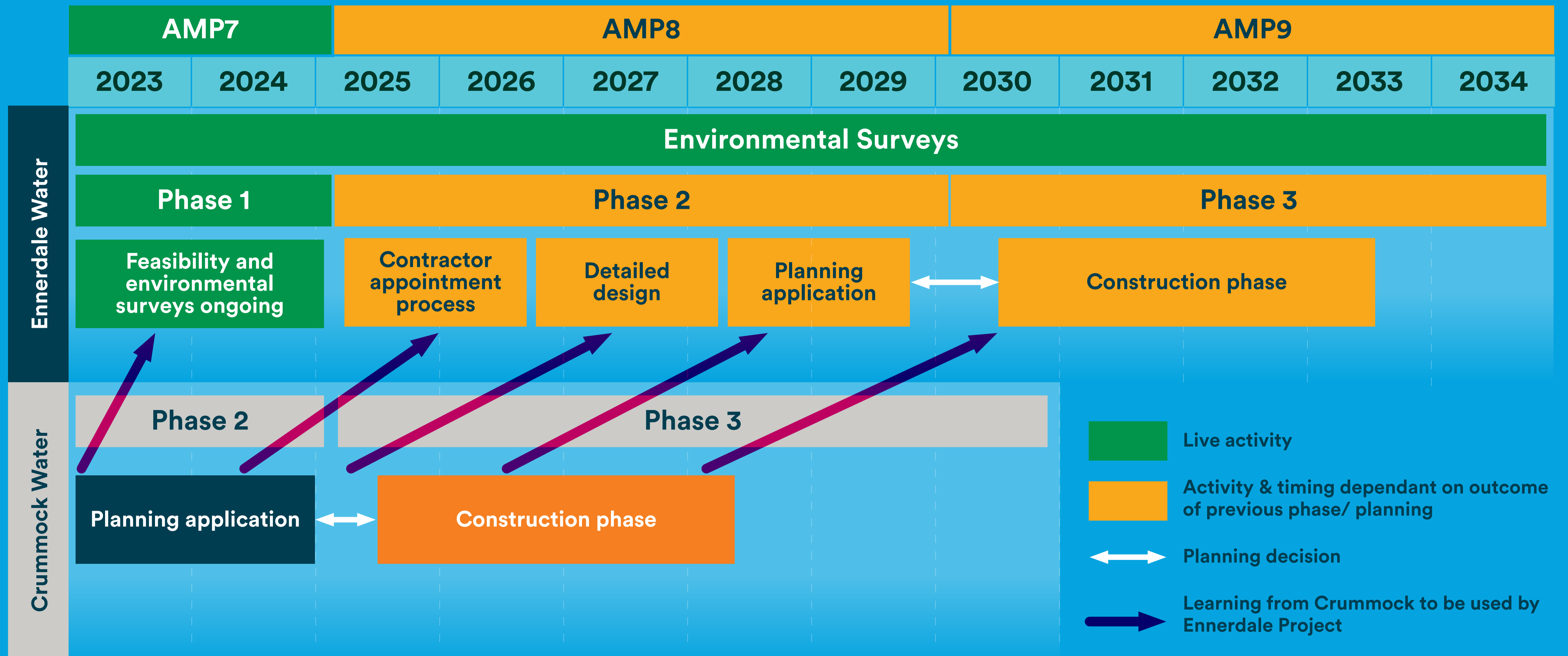
- Changes to lake level, river flows and flood risk
- Protecting and enhancing habitats and biodiversity
- Recreation, landscape and visual amenity

We'll be holding further sessions to keep you updated on our plans as we work through the feasibility studies and investigations, before we decide on the final options.



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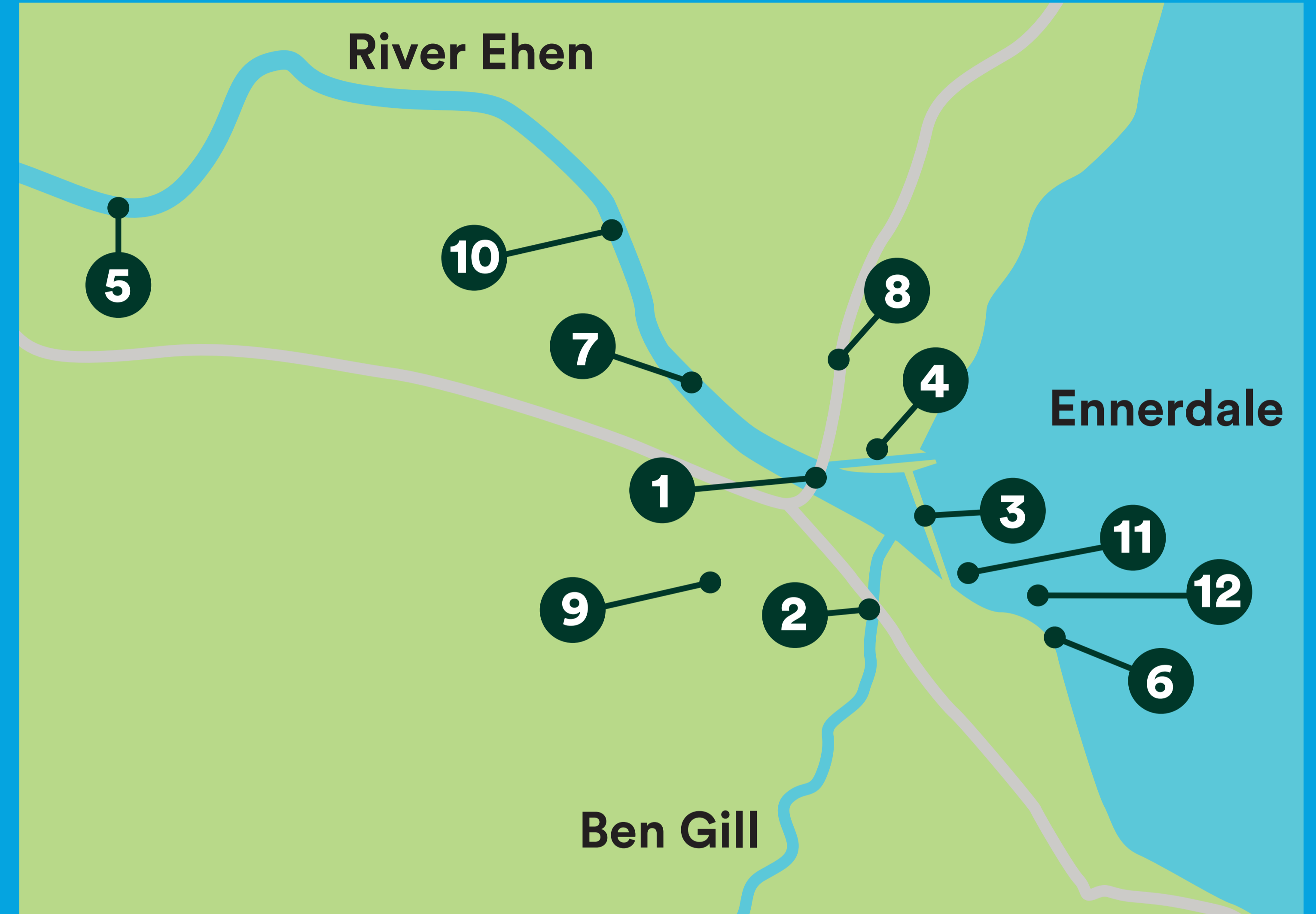
# Feasibility outcomes will determine our long-term Ennerdale plan



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# Proposed scope of activity

Feasibility studies have now been completed and identified the following as part of the proposed project activity.



Other elements of work within the project scope include:

- 7 Downstream bank protection activity
- 8 Current abstraction pipework/historic abstraction structure
- 9 Sheepfold pumping station
- 10 Boulder weirs between Ennerdale and Bleaching Weirs
- 11 Timber weir upstream of main weir
- 12 Manmade spit (landform) on south shore

# Helping to enhance the environment and biodiversity

We understand Ennerdale is a valued space and an important landscape for visitors and the surrounding communities. The lake, river and much of the surrounding catchment are designated for their unique and important habitat and species. Wild Ennerdale was also recently declared a National Nature Reserve.

We're working with a range of partners, stakeholders and engaging with specialist ecological contractors to carry out surveys and assessments, the majority of which will be undertaken during phase 2 of the project.

The purpose of our proposed scheme is to deliver long-term environmental benefits, which would include:

- The restoration of natural salmon and freshwater mussel habitat.
- Removing barriers to fish and eel movement.
- The restoration of natural flows and sediment transportation.
- Improving river habitat quality.

The Ennerdale valley has already benefited from tree planting schemes, with the creation of around 20 hectares of new woodland and the realignment of Ben Gill to help improve sediment movement into the River Ehen.



Photo credit: West Cumbria Rivers Trust

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# Assessment of flood risk

## Ennerdale Water

Extensive hydraulic modelling studies have been carried out to assess how the proposed work at Ennerdale may alter river flows to provide an evaluation of any impact to flood risk.

- Hydraulic modelling has been developed for this study and is a linked one-dimensional/two-dimensional (1D/2D) hydraulic model.
- Assessments of proposed peak flows and flood levels along the River Ehen have been carried out, which also take climate change into account. Initial modelling results suggest a lowering of risk and flood peaks.
- Hydraulic modelling assessed the impacts on both flood flow and flood level throughout the catchment down to Sellafield. We would not be able to obtain consent for solutions that would show an increased risk of flooding in the River Ehen catchment.
- We will continue to refine the model during detailed design and work with the EA Flood Risk Teams to ensure that there would be no increase in flood risk.



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# Recreation and leisure

The dramatic landscape of lakes and mountains makes the Ennerdale Valley a popular destination for both locals and tourists alike. We understand the importance of visitor enjoyment and the wealth of recreational opportunities in and around Ennerdale Water.

## Access routes

During construction, there is potential for some access to be restricted or closed.

We'll look to provide temporary alternative routes to areas not impacted by our work and when it becomes safe, return the existing access routes to users as quickly as possible.

We'll make sure that long-term pedestrian access is not restricted and the impact of our work is kept to a minimum. We will look to work closely with the Lake District National Park Public Right of Way Officers.



## Access to the water

The removal of the weir would lower top water level and generate an increased lake margin.

We would look to undertake assessments to understand the shoreline gradients and whether the lowered water level will impact access to the water.

As we have done for the proposed work at Crummock Water, we'll also produce similar heat maps to help illustrate the lake margin gradients against both the existing and lowered water levels alongside section drawings at the most popular access points.

There are no plans for the long term use of Ennerdale Water for permitted leisure activities (as set out on the LDNPA website) to change following completion of work.

Access to Blacksail Youth Hostel and along the Coast to Coast path will be maintained throughout the work. Any temporary localised diversions of Public Rights of Way/access routes will be minimised as far as possible.

