

# 1. Structuring

## Results

Validation results

Prompt

## 2. Synthesising

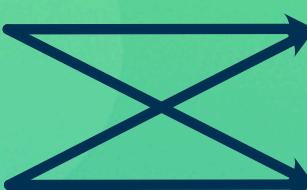
# Results

### Conservation Evidence actions

1. Plant nectar flower mixture/wildflower strips
2. Plant grass buffer strips/margins around arable or pasture fields
3. Restore/create species-rich, semi-natural grassland
4. Provide artificial nesting sites for songbirds
5. Translocate to re-establish or boost populations in native range

### Gemini-generated actions

1. Create and Manage Diverse Non-Crop Habitats for Farmland Biodiversity
2. Optimize Design and Implementation of Agri-Environment Schemes
3. Integrated Soil and Vegetation Management for Grassland Restoration
4. Provide and Manage Artificial Nesting and Roosting Structures
5. Strategic Planning and Adaptive Management for Wildlife Reintroductions



# Validation results

## Prompt #1

Your task is to create categories of actionable conservation measures based on a set of abstracts and titles of scientific papers.

You will be given a YAML mapping of paper\_id -> {title, abstract}. Your task:

1) Read the papers and create concise action categories (short names).

2) For each category return a mapping:

- category\_name:
- description: Short description (1-2 sentences).
- how\_it\_ensures\_restoration: Short explanation of the mechanism by which this action supports conservation/restoration.
- papers: [list of paper IDs from the input that belong to this category]

3) Use only paper IDs present in the input. Prefer non-overlapping categories and keep entries concise.

4) Return ONLY valid YAML (a top-level mapping). Do not include commentary outside the YAML block.

## Prompt

## Prompt #2

You are analysing restoration actions to group them into similar themes based on their methodology and approach.

You will be provided with a JSON array containing unique restoration actions from academic papers.

Your task is to:

1. Examine all the actions
2. Identify common themes and group similar actions together based on their methodology, target ecosystem, or restoration approach
3. Create meaningful group categories that capture the essence of related restoration techniques

Group the restoration actions into coherent groups based on their methodology, target ecosystem, or approach. Focus only on the actions themselves, not the papers they came from. The actions they are grouped into should be a concrete and actionable restoration method or technique, such as "planting native tree species" or "remove barriers to natural hydrology". They should not be a general concept or idea such as "improving biodiversity" or "enhancing ecosystem services".

### 3. Reasoning

## Results

A study in 1963–2010 in two areas of mixed broadleaf and montane forest with alpine meadows in the northern Carpathian mountains of Ukraine, Slovakia and Poland (Ziółkowska et al. 2016) found that three European bison *Bison bonasus* herds persisted >6 years after the last release of translocated individuals. Between 6–47 years after releases, around 320 free-ranging European bison survived in the three herds. Two herds (totalling about 300 individuals) resulted from 30–47-year-old translocations. The third herd (about 20 individuals) resulted from a translocation some six years earlier. The study was conducted in the Polish Bieszczady Mountains and in the Slovak Poloniny National. Bison were translocated to the Polish Bieszczady Mountains between 1963 and 1980 and to the Slovak Poloniny National in 2004. No details are provided on the number of animals translocated nor on their origin. GPS locations of bison were collected in 2001–2010 (29,382 records). No monitoring details are provided, but bison presence data included direct observations, tracks, faeces and signs of feeding. Six bison were radio-tracked in 2002–2006 (two locations recorded at least twice a week).

"The paper explicitly states that unassisted natural bison expansion is not sufficient to achieve the conservation goal of a viable metapopulation due to widespread movement barriers. It directly recommends 'targeted introductions of new herds into suitable habitat patches' and 'periodical prescribed exchange of individuals and/or supplementation with possibly genetically distant animals' as necessary actions, thereby supporting the effectiveness of translocation for re-establishing or boosting populations in their native range when natural dispersal is limited by anthropogenic barriers."

## Validation results

## Prompt