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| **Managed Retreat** | | | | **Gabions** | | | |
| **How does it work?** | | | | **How do they work?** | | | |
| This doesn’t stop erosion it allows some coastal areas to erode and flood naturally. Usually this will be areas of low value like nature reserves or farmland. | | | | Steel mesh cages filled with boulders to absorb wave energy. They are placed at the bottom of cliffs like a sea wall. | | | |
| **Cost** | | Millions | | **Cost** | | | £50 000 per 100m |
| **Environmental impact** | | 9/10 | | **Environmental impact** | | | 5/10 |
| These retain the natural coastal environment. They create wetlands habitats for wildlife. | | | | These don’t look lovely but they actually blend in very well after a few years as grasses and plants start to grow on top of them creating new habitats. | | | |
| **Appearance** | 10/10 | | | **Appearance** | 2/10 | | |
| This creates a beautiful natural environment. | | | | They are ugly and don’t look natural for years until vegetation covers them. | | | |
| **Life span** | | | Forever | **Life Span** | | 5-10 years | |
| **Issues**  This is often unpopular as much of the land | | | | **Issues**  The cages can be sharp so tourists who | | | |
| flooded is rural and attractive so popular for walking, bird watching etc. | | | | People that walk on them can hurt themselves. | | | |
| Image result for coastal managed retreat dorset | | | | Image result for gabions dorset | | | |

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| **Dune Stabilising** | | | | **Beach Nourishment** | | | |  |
| **How does it work?** | | | | **How does it work?** | | | |  |
| Dunes are a natural defence against wave energy. The roots of plants like couch grass bind the sand. By planting these and keeping tourists and grazing animals away, the dunes can develop. | | | | Sand is added to the beach to replace sand washed away. The beach them absorbs the wave energy protecting the cliffs. The sand needs to be replaced regularly. | | | |  |
| **Cost** | | £200 - £2000 per metre | | **Cost** | | | £3-£10 per metre |  |
| **Environmental Impact** | | 10/10 | | **Environmental Impact** | | | 8/10 |  |
| These defence the natural environment | | | | Collecting sand from the sea bed can kill organisms like sponges and corals. | | | |  |
| **Appearance** | 9/10 | | | **Appearance** | 9/10 | | |  |
| These don’t look like a defence method other than fencing and signage | | | | Other than when the sand is being collected or replaced this look natural and creates a wide open beach | | | |  |
| **Life Span** | | | Forever (if maintained) | **Life Span** | | Up to 5 years | |  |
| **Issues** | | | | **Issues** | | | |  |
| The fencing and planting can be time consuming and the dunes will never be as strong as a man-made defence | | | | This needs constant upkeep and as a result is only really suitable for tourist areas. | | | |  |
| Image result for dune stabilising dorset | | | | Image result for beach nourishment dorset | | | |  |

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| **Groynes** | | | | **Sea Wall** | | | | **Rip Rap / Rock Armour** | | |
| **How do they work?**  These fences are placed at right angles to | | | | **How do they work?**  Concrete walls built to protect towns. They | | | | **How does it work?**  Large boulders piled on the beach absorb the | | |
| These fences are placed at right angles to the beach to trap sand being moved by longshore drift. This creates a wider beach to absorb the waves energy. | | | | Concrete walls built to protect towns. They absorb the wave energy and protect the cliffs behind. They often have a curved top to reflect the waves back out to sea. | | | | Large boulders piled on the beach absorb the wave energy so reducing erosion of the beach or cliff. They can be moved if needed. | | |
| **Cost** | | £150 000 each every 200m | | **Cost** | | £5000 – £10 000 per metre | | **Cost** | | £200 000 per 100m |
| **Environmental impact** | 5/10 | | | **Environmental impact** | | 6/10 | | **Environmental impact** | | 8/10 |
| They cause erosion down the coast to increase by trapping all of the sand. | | | | They create an artificial environment and encourage tourism which can lead to litter. | | | | Rock armour has minimal effect on wildlife; in some cases, it creates new habitats. | | |
| **Appearance** | | | 5/10 | **Appearance** | 5/10 | | | **Appearance** | 8/10 | |
| They make beaches look messy. | | | | It can look obtrusive and unnatural. | | | | These are one of the most natural looking defences. | | |
| **Life Span** | | | 25 years | **Life Span** | | | 100 years | **Life Span** | | 100-500 years |
| **Issues** | | | | **Issues** | | | | **Issues** | | |
| They starve other beaches making them narrower so they offer less protection against erosion. | | | | The walls can create a strong backwash which erodes under the wall. | | | | They do lose marks for the environmental damage due to transportation. | | |
| Image result for groynes dorset | | | |  | | | | Image result for rock armor dorset | | |

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