

CASE STUDY: The History of Water Supply on the Central Coast

4. Choosing a dam site – criteria for selection

General Considerations in the Selection of a Dam Site

Choosing an optimal location for a dam, involves complex **physical**, **environmental**, **financial** and **social** considerations. The most obvious physical considerations include:

- proximity of the site to the place where the water will be used i.e. to population centres;
- sufficient land area available for a large dam to be built;
- a pristine, clean catchment where the land is preferably undeveloped and uninhabited
- a sufficient water supply (i.e. enough rain within a large collecting area) under both normal and drought conditions;
- preferably, a rock foundation – alluvial areas with a sandy base (such as coastal areas) are not desirable for dam construction because of the huge weight of the water it has to hold;
- fresh water quality - building a dam too close to the coast could risk a salty supply;
- a deep, natural V-shaped valley - flat areas would require major excavation and hold only a relatively small amount of water;
- access to suitable land for supporting infrastructure to treat and transfer the collected and stored water to where it is needed.

ACTIVITY:

1. Examine the six locations portrayed in the following photographs. Using your own judgement, rank the six locations from most suitable to least suitable as potential sites for a dam.



Plate 5: Site 1
(www.greendiary.com)



Plate 6: Site 2
(Graham Eagleton)



Plate 7: Site 3
(R. Fensom)



Plate 8: Site 4
(www.devilcatboats.com.au)



Plate 9: Site 5
(www.adunk.ozehosting.com)



Plate 10: Site 6
(Graham Eagleton)

2. Now write a brief paragraph explaining the reasons for the ranking that you have chosen - i.e. outline the criteria you used in arriving at this ranking.

In the next few pages we will consider how these and other criteria were assessed during the decision making processes that led thirty years ago to the construction of a major storage dam on the Upper Mangrove Creek Catchment.