BMP 503 – Managing Livestock Access to Riparian Areas

Dugout Construction Guidelines

- Exclusion fencing is required
  - The dugout must be protected from manure contaminated runoff
  - Livestock must be restricted direct access to the dugout
  - Exclusion fence must be a minimum of 15m (50') from the edge of the dugout
  - Spoil piles (from excavation of the dugout) if left at site, must be enclosed within the exclusion fence

- Dugout location
  - The dugout must be far enough away from any stream, river or creek as to not compromise bank stability or impact the riparian area

- Dugout construction requirements
  - End slopes and side slopes must be no steeper than 1.5:1
  - Dugout edge must be stabilized (by excavator) during construction

- Dugout sizing
  - Dugouts must be sized for drought proof standards
  - The total dugout volume must be 3.5x the annual anticipated water usage

<table>
<thead>
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<th>Dugout size (imp. gal) =</th>
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<tr>
<td>No. of cattle x 150 days on pasture x (15 imp. gal/head/day) x 3.5</td>
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- Dimensions can be calculated using this Dugout Volume Calculator
  - Leave ‘Water depth’ at 0
  - Ensure slopes reflect desired ratio (calculator will default to 4 and 1.5)
- Example calculation for 40 head of cattle:
  - 40 cattle x 150 days x (15 imp. gal/head/day) x 3.5 = 315,000 imp. gal
  - Dugout dimensions would be 41m x 16m x 4m (135’ x 52’ x 13’)

- Alternate water system components
  - Troughs / tanks must supply a minimum of one days water usage based on 15 imp gal/ head/day