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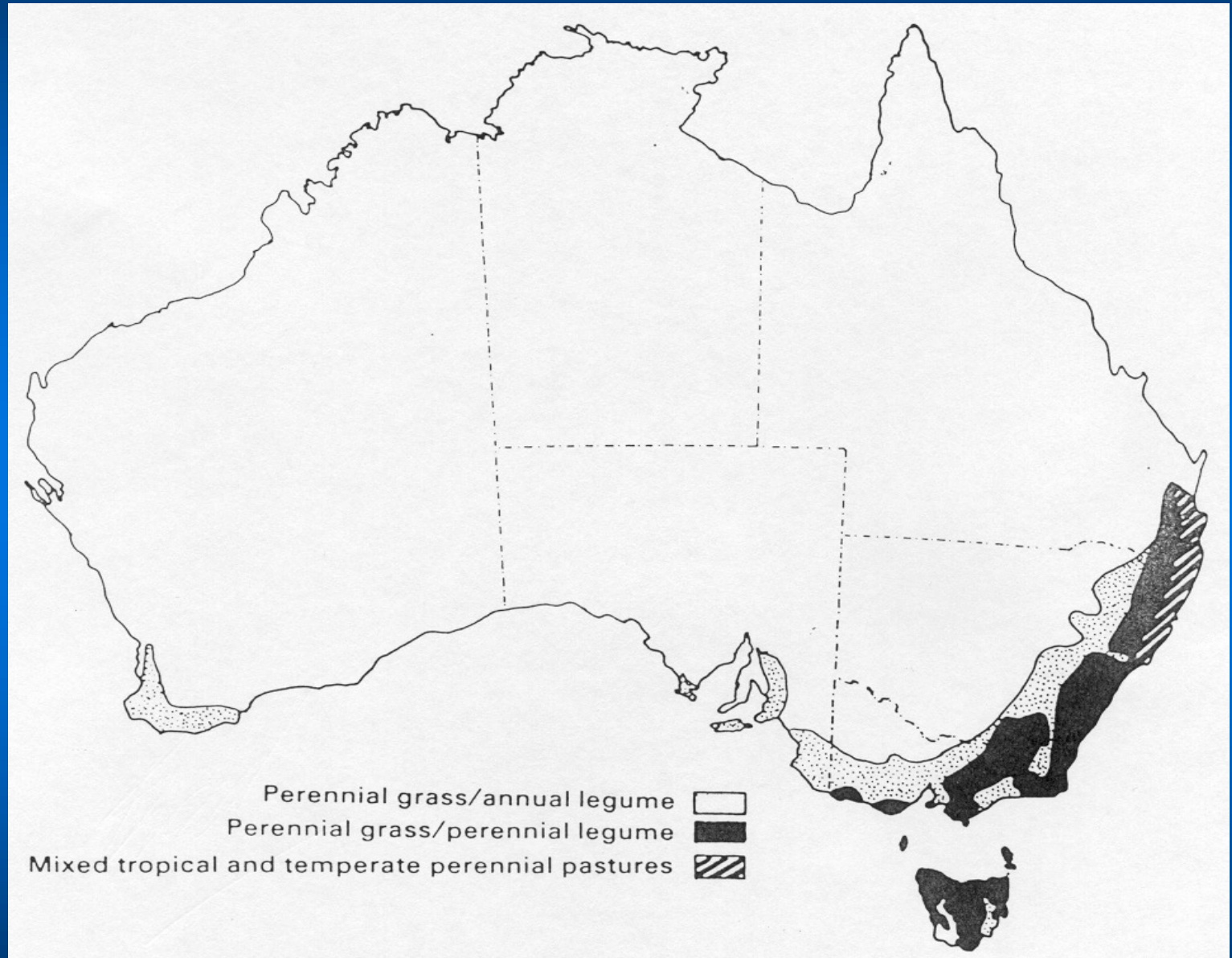
Wool

Management of Temperate Perennial Pastures for Wool Production: Botanical Changes

Produced for the CRC for Premium Quality Wool undergraduate program by;
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Temperate Zones for Pasture Production in Australia



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Source: Hutchinson and Clements (1987)



Progressive changes in pastures of the northern slopes and tablelands of NSW

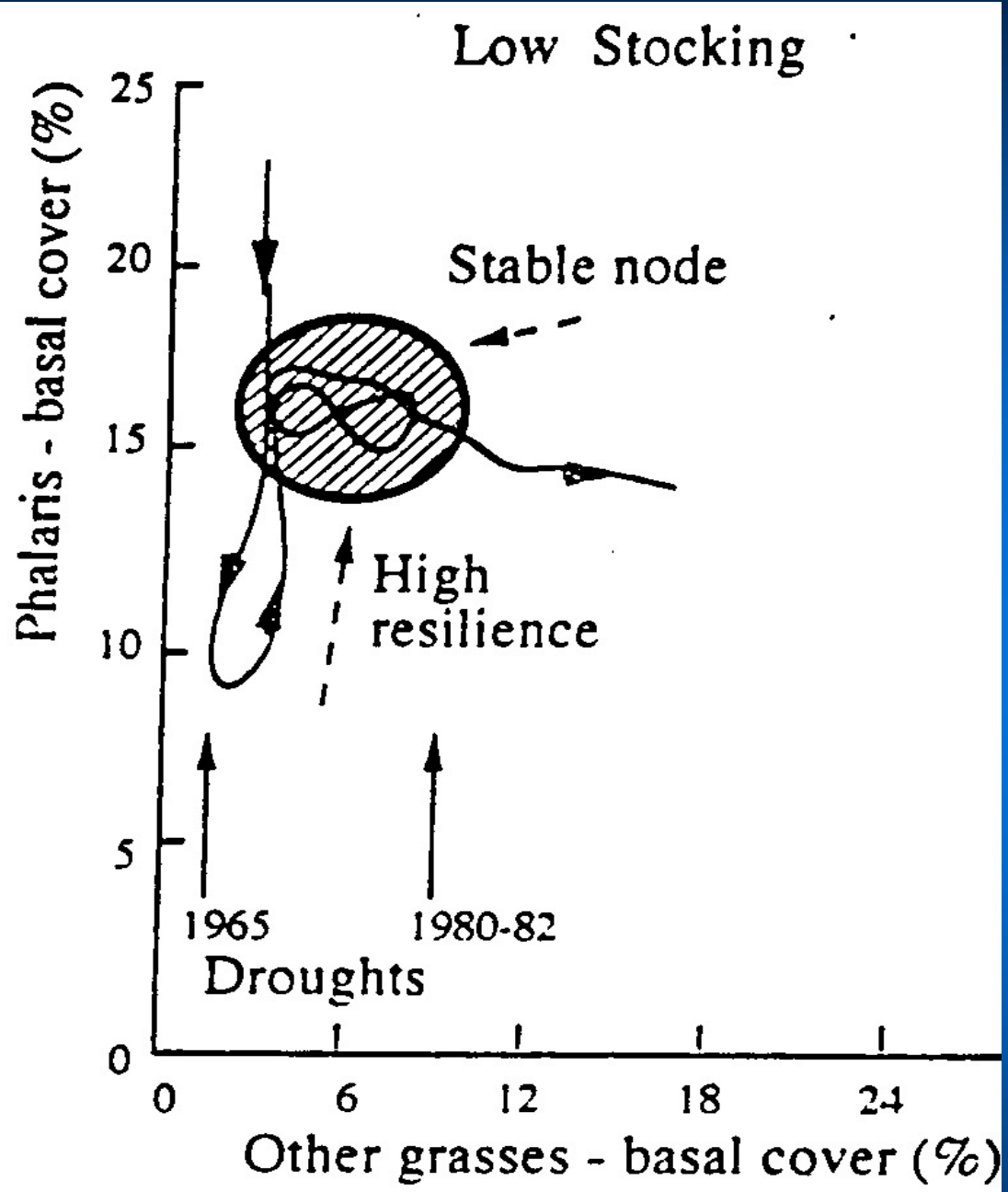
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Time	Species type	Examples
European settlement	Tall, warm season native perennials	Kangaroo grass (<i>Themeda australis</i>) Poa (<i>Poa sieberana</i>) Purple wiregrass (<i>Aristida ramosa</i>)
Introduction of sheep	Short, warm season native perennials Cool season annuals	Redgrass (<i>Bothriochloa macra</i>) Rat's Tail grass (<i>Sporobolus elongatus</i>)
Increased stock numbers and superphosphate use	Short year-long green perennial native grasses Sown exotic legumes	Weeping grass (<i>Microlaena stipoides</i>) Wallaby grass (<i>Danthonia spp.</i>) White clover (<i>T. repens</i>) Sub clover (<i>T. subterraneum</i>)
Increased fertiliser use (1950's - 1970's)	Sown exotic perennial grasses	Phalaris (<i>Phalaris aquatica</i>) Cocksfoot (<i>Dactylis glomerata</i>) Perennial Ryegrass (<i>Lolium perenne</i>)



Persistence of fully-improved pastures in Northern NSW: 10 sheep per ha

Annual variation in mean fleece weight (CV): 9%





Persistence of fully-improved pastures in Northern NSW: 15-20 sheep per ha

Annual variation in mean fleece weight (CV): 11.5%

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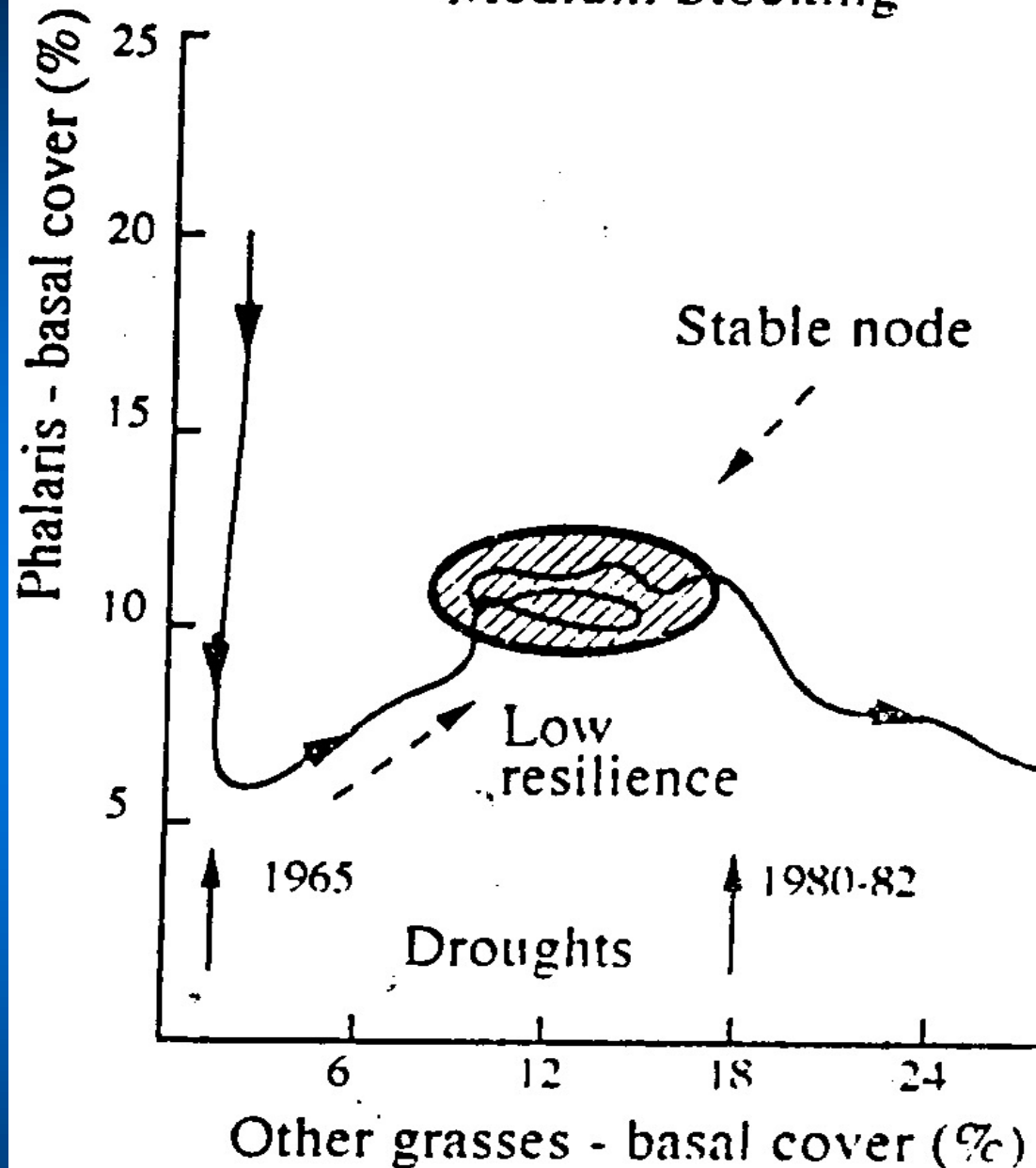
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Medium Stocking



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Source: Hutchinson (1992)



Persistence of fully-improved pastures in Northern NSW: 20-30 sheep per ha

Annual variation in mean fleece weight (CV): 20.2%

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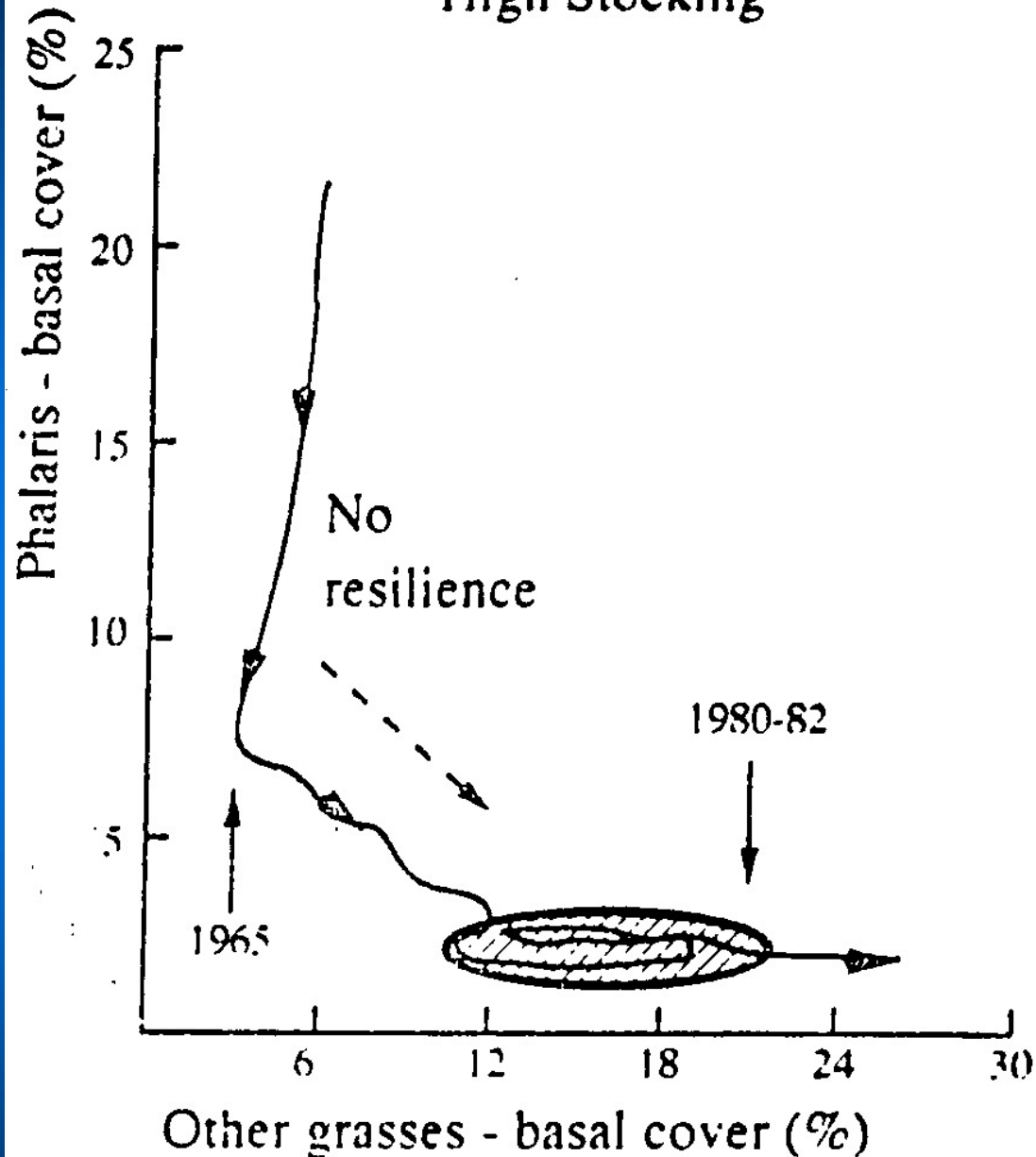
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High Stocking



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Source: Hutchinson (1992)



Surveys of perennial pastures in Victoria

- **SW Victoria, 500-950 mm rainfall:**
 - on average, pastures contained:
 - 12% sub clover (25% is considered satisfactory)
 - 15% sown grasses (25% is considered satisfactory)
 - 58% of volunteer grasses: annual and perennial
 - 15% broad-leafed weeds
 - only 25% of pastures contained $\geq 30\%$ sub clover
 - only 15% contained $\geq 30\%$ improved grasses
- **Sth Victoria, 750-800 mm rainfall:**
 - 2% of sheep pastures resown annually
 - 40% of pastures with $< 20\%$ legume
 - high incidence of low fertility perennial grasses

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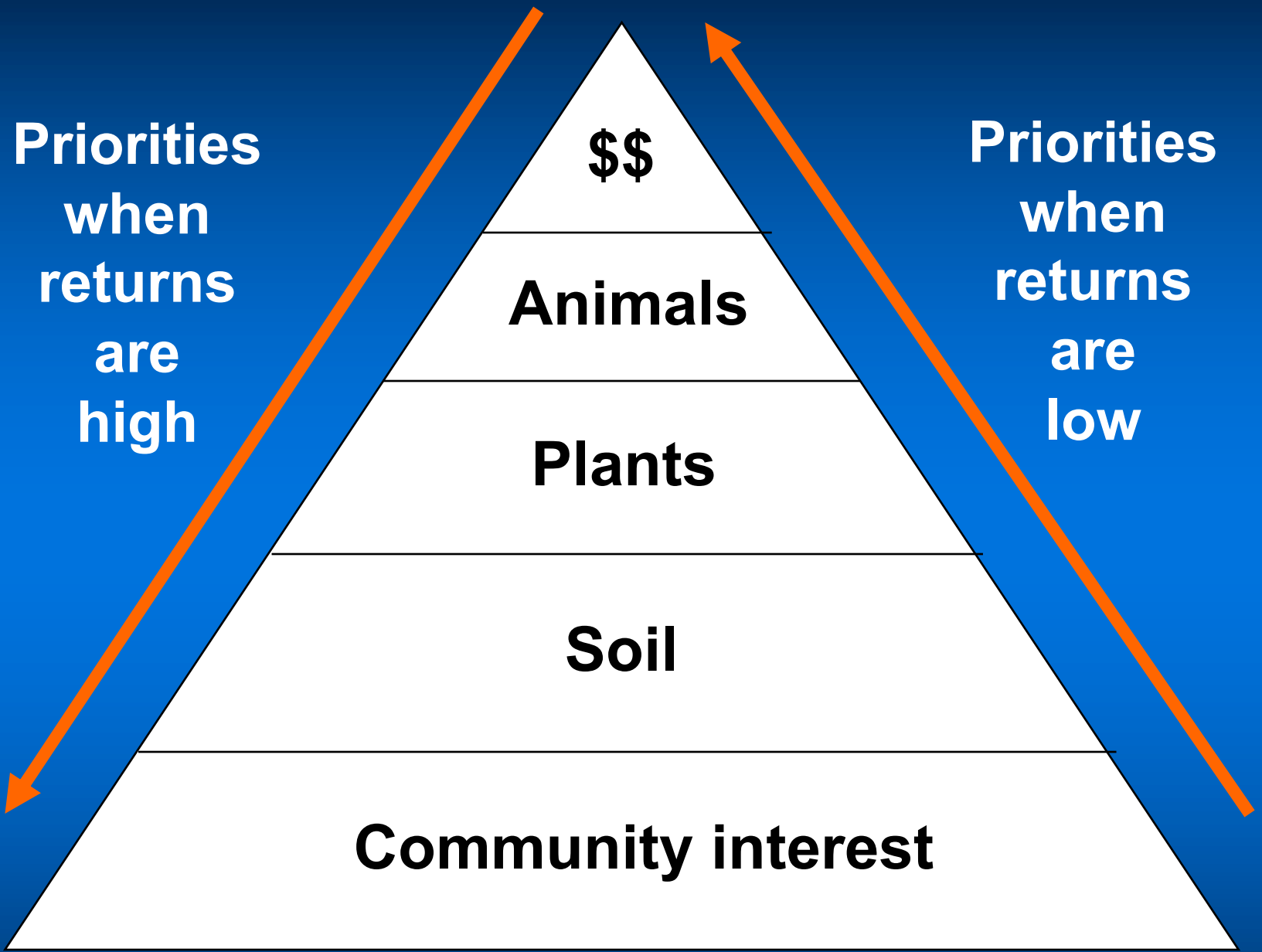
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Source: Quigley et al. (1990, 1993); Ward and Quigley (1992)



**Priorities
when
returns
are
high**



**Priorities
when
returns
are
low**

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