

Question Number	Answer	Additional Comments	Mark
8 (a)	<p>QWC – Spelling of technical terms must be correct and the answer must be organised in a logical sequence)</p> <ol style="list-style-type: none"> 1. idea that 18 individuals is a small population / small gene pool / low genetic diversity / may have been closely related / eq ; 2. captive breeding will increase population ; 3. studbooks /records kept of breeding programme / eq ; 4. (zoos) select mates ; 5. inter-zoo exchange of animals for breeding / eq ; 6. idea of the need to prevent inbreeding ; 7. idea of avoiding genetic drift ; 8. use of { IVF / AI / use of surrogates } ; 9. process for measuring genetic diversity described, e.g. DNA profiling / eq ; 	<p>QWC emphasis is clarity of expression</p> <p>ACCEPT reference to 'species' instead of ferret which may arise due to the wording of question.</p> <p>4. Must refer to human intervention – not just the ferrets choosing their mates</p> <p>6. NOT 'interbreeding' in place of 'inbreeding'. ACCEPT 'encourage outbreeding' e.g. ferrets not mated with closely related ferrets</p>	(5)

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8 (b) (i)	<ol style="list-style-type: none"> 1. (captive) population not large enough / number of births is low / eq ; 2. individuals not mature enough / eq ; 3. zoos preparing ferrets for release / eq ; 4. idea of maintaining a population in zoos ; 		(2)

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8 (b) (ii)	<div>1. number of <u>births</u> is rising / eq ;</div> <div>2. increase in population :</div> <div>3. idea that more are born than are released e.g. at least 200 births each year ;</div> <div>4. identification of years when number of <u>births</u> fell, i.e. 1994 or 2000 ;</div> <div>5. correct manipulation of data ;</div>	<div>3. Or some understanding that the increases outweigh the decreases, e.g. between 1991-1999 it increased by 230, but only fell by 170 to 2000 from 1999</div> <div>5. Some examples are shown below</div> <table><tr><th>Year</th><th>Difference</th><th>%</th></tr><tr><td>1991-2000 – mp3</td><td>(220-280) 60</td><td>(+) 27 / 27.3</td></tr><tr><td>1991- 1999</td><td>(220-450) 230</td><td>(+) 105 / 104.5</td></tr><tr><td>1999-2000</td><td>(450-280) 170</td><td>(-) 38 / 37.8</td></tr></table>	Year	Difference	%	1991-2000 – mp3	(220-280) 60	(+) 27 / 27.3	1991- 1999	(220-450) 230	(+) 105 / 104.5	1999-2000	(450-280) 170	(-) 38 / 37.8	(2)
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8 (c)	<ol style="list-style-type: none"> 1. idea of habitat as a factor, e.g. loss of habitat / wider range of habitats / eq ; 2. availability of { prey / food / prairie dogs /eq }; 3. competition with other ferrets (for resources) ; 4. competition with other species (for resources) / eq ; 5. effect of eating { poisoned prairie dogs / poison put out for prairie dogs } / eq ; 6. presence of { predators / hunters } / eq ; 7. preparation for living in the wild improves chance of survival / if reliant on humans would not survive ; 8. idea of too few to be a viable breeding population ; 9. idea of presence of disease ; 	<p>Factors provided may either improve or reduce survival chances</p> <ol style="list-style-type: none"> 1. climate change can be accepted here as a factor affecting availability of suitable habitat ACCEPT description of human activity that could lead to loss or gain of habitat 3. Intraspecific competition 4. Interspecific competition 7. e.g. kept in semi-wild conditions initially and hunting behaviour encouraged 	(3)