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SECTION II

QUESTION 27.

a) (i) No fossil record of the organism in the area.

(ii) The cane Toad was deliberatly introduced into Queensland to control the cane grub which was destroying cane crops.

b) i) Old Mans Creek in Hornsby – lantana

The environment has been disturbed by the building of houses and roads Lantana was brought in as an ornamental plant which grows in gardens close to bushland where it is easy for it to spread into the bush.

ii) Lantana has a broad leaf and is fast growing, it quickly spreads and its leaves preventing light getting to natives reducing the rate of photosynthesis. This leads to the death of the vegetation surrounding the thick bush.

c) i) Quarrantine Legislation requires all imported plants and animals to undergo a compulsory period of quarrantine this has been affective in detecting diseases and virises as symptoms

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usually appear within the quarantine period if so the animal or plant is not released. This method is uneffective in detecting diseases with long incubation periods.

2) All ships are required to change ~~(ballast)~~ balist water at sea or treat it with chemicals or heat before release, so far this has been effective in preventing organisms entering most major ports although ~~(the)~~ some contaminations have occurred elsewhere ie. Tasmania and North America. These contaminations occurred previous to this legislation.

d) For introduced species A after an initial ~~over~~ higher rate increase there was a large decline in abundance over the next ten years before another higher rate increase up until 1908. The next 5 years there was a steady decrease before a slight rise and eventual stabilisation of abundance.

For the Rat Kangaroo from 1880 – 1892

there was a rapid increase of abundance and then a steady decrease before the species became extinct in 1915.

ii) Introduced species B when introduced into Australia wouldn't have had any of its natural predators. It would out compete natives by having a large range of food sources, high reproductive capacity. It may be attractive to man who would then spread it ie. privit. The opening up of ~~(for)~~ vast tracks of farm land saw large amounts of habitat and food created for animals such as mice and rabbits

e) ~~(the weed infestation)~~

Prickly Pear — biologically controlled by the Cacto-blastis Cactorum. ~~moth~~

In 1859 Prickly Pear was introduced to Australia as food for ~~the~~ a moth which was used to make red dye for the soldiers suits. It quickly became a serious problem and by 1920 covered 29 million

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hectares of farmland and other ecosystems. Research into a biological control commenced in 1912. Each potential control agent underwent the following tests:-

1.) Tested on other vegetation found in Australia.

2.) Tested in starvation where no Prickly Pear was present.

3.) Dispersement rates — to see how easily the control agent would spread.

The Cactoblastis Cactorum (the larvae of the Cactoblastis moth) was found to only eat Prickly Pear and was readily dispersed. It was brought across from South America in large quantities and released at strategic locations. In the ten years following its released 1925-1935, 90% was destroyed reopening vast tracts of land which were previously regarded as unusable. The ecosystem that was most affected was the open savanna woodlands in Northern NSW. Today Prickly Pear only exists as single plants in small quantities.

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The cactoblastis moth and larvae have largely died off as there only food source was consumed. They did not move on to other species of plant which is a credit to the research done prior to its introduction.

The prickly Pear — Cactoblastis Cactorum has been the most successful biological control strategy used in Australia and has seen affected ecosystems returned to there natural state.