

Contents

1.	Executive Summary	1
2.	Introduction	3
3.	The Threat	4
4.	Asteroids	8
4.1.	Origin	
4.2.	Size and Composition	
4.3.	Orbital Characteristics	
5.	Short Period Comets	10
5.1.	Origin	
5.2.	Composition	
5.3.	Orbital Characteristics	
6.	Long Period Comets	12
6.1.	Origin	
6.2.	Composition	
6.3.	Orbital Characteristics	
7.	Cometary Debris	13
8.	Impact Probability & Impactor Size	14
9.	The Current Situation	17
10.	The Spaceguard Foundation	19
11.	Countermeasures	20
11-1.	Destruction	
11-2.	Deflection	
11-3.	The Deflection Dilemma	

12.	US Military Involvement	21
------------	--------------------------------	-----------

13.	UK Military Involvement	22
13-1.	The resulting need for humanitarian relief.	
13-2.	The possible destabilisation of the international community.	
13-3.	The possible threat to national security.	
13-4.	The inevitable nation-wide calls for action.	

14.	International Co-Operation	23
------------	-----------------------------------	-----------

15.	Programme Spin-Offs	24
15-1.	Scientific	
15-2.	Commercial	
15-3.	Intangible	

16.	Financial Considerations	25
------------	---------------------------------	-----------

17.	If it's so important, why is so little being done?	26
17-1.	No one realised that there was a problem.	
17-2.	Historical Inertia.	
17-3.	Nothing can be done about the problem, so why bother?	
17-4.	Money.	
17-5.	Self interest.	
17-6.	Responsibility.	

18.	Spaceguard UK	28
18-1.	Aims	
18-2.	Affiliation	
18-3.	Activities	
18-4.	Membership	

19.	Spaceguard UK Proposal	31
19-1.	Introduction	

- 19-2. The Requirement
- 19-3. Priorities
- 19-4. Deductions
- 19-5. Scientific Case
- 19-6. The UK NEO Research Community
- 19-7. Possible International Partnerships
- 19-8. Options Open
- 19-9. Project Personnel
- 19-10. Option 1 - Build a New, Dedicated Search and Follow-Up Telescope.
- 19-11. Option 2 - Find an Existing Telescope Suitable for Use in a Detection and Follow-Up Programme.
- 19-12. Option 3 - Establish a Dedicated Team to Study NEOs, and to Conduct "Precovery" Searches, Using the UKST Plate Library at ROE.
- 19-13. Option 4 - Establish an Amateur Network for Follow-Up Observation.

20. Conclusion

40

Illustration Credits:

Cover - D. Hardy	Fig. 15 - Spacewatch
Fig. 2 - NASA	Fig. 16 - Spacewatch
Fig. 3 - NASA	Fig. 17 - Kitt Peak Observatory
Fig. 4 - Geological Survey of Canada	Fig. 18 - D. Hardy
Fig. 6 - Geological Survey of Canada	Fig. 19 - NASA/JPL
Fig. 7 - NASA/JPL	Fig. 20 - NASA/JPL
Fig. 8 - NASA/JPL	Fig. 22 - NASA/JPL
Fig. 9 - D. Hardy	Fig. 23 - AAO
Fig. 10 - Halley	Fig. 25 - D. Hardy
Fig. 11 - Max-Planck-Institute fur Aeronomie	