CONCLUDING REMARKS

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During this workshop, attention was focussed upon two distinct issues related to *Delphinus delphis*: current knowledge and threats. Initially, discussion began by addressing current knowledge, with the primary focus being uncertainties and unknowns within current research. Key uncertainties raised during this discussion included: stock identity and geographic range, seasonal and long-term movements, genetic distinctiveness, taxonomy and population size. While it was generally agreed that many other regions of research were lacking when it comes to this species e.g., social structure, some disagreement occurred over the relative importance of such research topics from a management and conservation perspective. By-catch was discussed as an example, with emphasis being placed upon the fact that we still have little understanding of when or why by-catch occurs to the extent that it does in this particular species.

The feasibility of certain research techniques/methods were also discussed e.g., the use of photo-identification to determine population size and/or structure. While it appears such techniques are viable for some populations, general consensus was that such methods are clearly not appropriate for all populations of common dolphins. This may be due to the physical environment of the study site or the lack of suitably marked animals within a population. The use of aerial surveys to monitor cetacean-fishery interactions and to study social structure and groupings at different times of the year and in different areas was also discussed. While the majority agreed on the benefits of such a method and the need for making greater use of all aerial studies on common dolphins undertaken so far, it was also recognized that the cost of such surveys may limit their application. Despite the expense of many genetic techniques, delegates undertaking genetic studies described how inexpensive it is to sample skin for genetic analyses. Consequently, in light of the many potential uses for genetic samples, researchers who have access to stranded, dead beach cast or by-caught animals were encouraged to sample animals regardless for future research. It appears therefore that while more sophisticated methods, some of which are already available, should be promoted to better understand the biology of *Delphinus delphis* in the wild, the financial limitation upon most research projects may limit their use.

Other methods discussed included abundance transects, in particular SCANS, was noted. One important point raised here was the issue of seasonal movement and the limitations of 'snap shot' abundance estimates, such as those obtained through SCANS. Generally, the consensus was that abundance surveys can be potentially limited if temporally constrained. Further discussions regarding the use of relative abundance versus absolute abundance data followed, with favour being voiced for the potential benefits of relative estimates. As a consequence of the inherent difficulties of obtaining abundance data in general, further suggestions were posed regarding the management benefits of range data rather than abundance estimates. One suggestion made was that researchers need to identify limits of a population and work within that, rather than just sampling within a nominal geographic area.

During the discussion of threats, opinions were voiced on our true understanding of pressures to this species. The phenomenon of bubble formation found during necropsies undertaken on common dolphins from around the British Isles was raised, and questions relating to the timing of this finding were posed: "Could this be a new threat facing common dolphins, possibly as a result of recent sonar activity, or a pre-existing condition which had previously gone unnoticed in past examinations?" This raised further discussion on the fact that threats change with time, and that, as a consequence, it is inherently difficult to manage against such events. In addressing known threats, many agreed on the need to combine various data types e.g., anthropogenic activities, prey availability, traffic and pollution.

Additional points raised during the discussion related to the need to be able to identify induced changes resulting from direct or indirect anthropogenic pressure, as opposed to changes that result from natural fluctuations and variation. A factor identified and considered to be of significant hindrance to current research efforts was the lack of understanding and co-operation between researchers/institutes regarding research objectives and archived samples. Concerns were also expressed on the amount of inaccessible/unpublished data that exists, and the associated problems this can generate when trying to advance our knowledge of this species.

As a consequence of these concerns, it was decided that an audit of common dolphin research/samples would take place, initially through the format of an ECS discussion group questionnaire. If successful, the results of the audit would be used to generate a register of common dolphin research in Europe. This register would be hosted by the European Cetacean Society on their webpage and would contain an archive sample database which would be searchable and available to subscribers.