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Nota di contenuto	""PREPARATION OF THIS DOCUMENT""; ""ABSTRACT""; ""CONTENTS""; ""1. INTRODUCTION AND BACKGROUND""; ""1.1 Introduction""; ""1.2 Background""; ""2. INSTITUTIONAL AND ORGANIZATIONAL ISSUES""; ""2.1 Who this report is intended for""; ""2.2 Why there is an issue""; ""2.3 Strategic and tactical considerations""; ""2.4 Requirements that must be met for stock assessment""; ""3. APPLICATIONS AT SEA AND OPERATIONAL CHALLENGES""; ""3.1 Operational characteristics""; ""3.2 Role of incentives/disincentives""; ""3.3 Integrating surveys with commercial fishing activities""; ""3.4 Echo mark identification"" ""4. VESSELS AND EQUIPMENT""""4.1 Introduction""; ""4.2 The echosounder""; ""4.3 Frequency considerations""; ""4.4 Choice of vessel""; ""4.5 Location of transducers""; ""4.6 Calibration""; ""4.7 Opportunities for introduction of new technologies""; ""5. SURVEY METHODS""; ""5.1 Strategic considerations""; ""5.3 Area-based surveys""; ""5.4 Multiple surveys""; ""5.5 Deciding which data to use for estimation of abundance""; ""6. ACOUSTIC DATA PROCESSING""; ""7. ACOUSTIC BACKSCATTERING CROSS-SECTION VALUES""; ""7.1 Importance of proper specification"" ""7.2 Problems associated with use of I?b and sv values""""8. ESTIMATION OF ABUNDANCE""; ""8.1 Introduction""; ""8.2 Area-based

surveys"; ""8.3 Aggregation-based surveys"; ""8.4 Comparison of estimators"; ""9. UNCERTAINTY OF RESULTS"; ""9.1 Sources of uncertainty"; ""9.2 Sampling error"; ""9.3 Determination of species composition"; ""9.4 Backscattering cross-section"; ""9.5 Fish distribution and behaviour"; ""9.6 Weather"; ""9.7 Seafloor acoustic a €œdead zonea€?"; ""9.8 Calibration error"; ""9.9 Other errors"; ""10. IMPORTANCE OF COLLECTION OF BIOLOGICAL DATA""
""10.1 Data to be collected""""10.2 Species composition of the catch""; ""10.3 Length and weight frequency data""; ""10.4 Records of bycatch""; ""10.5 Sex composition and status of gonads""; ""10.6 Otoliths""; ""11. INCORPORATING INDUSTRY SURVEY RESULTS INTO THE ASSESSMENT AND MANAGEMENT PROCESS"; ""11.1 Stock assessment"; ""11.2 Indices of abundance"; ""11.3 Fishing vessel data and stock assessments"; ""12. FUNDING OF ACOUSTIC SURVEYS"; ""12.1 Funding considerations"; ""12.2 Cost items"; ""12.3 National applications"; ""13. DISCUSSION"; ""13.1 Common views""
""13.2 Communication with vessel crews""""13.3 Research strategies""; ""14. WORKSHOP RECOMMENDATIONS"; ""14.1 General recommendations"; ""14.2 Applications at sea and operational challenges"; ""14.3 Vessels and equipment"; ""14.4 Operational protocols"; ""14.5 Collection of biological data"; ""14.6 Acoustic data processing"; ""14.7 Estimating and estimates of acoustic backscattering values of deepwater species"; ""14.8 Estimation of abundance"; ""14.9 Uncertainty (error in estimates)"; ""14.10 Costs involved in commercial vessel stock assessment and funding issues""
""15. REFERENCES""
