

ASI/ EcAp workshop on the Estimation of Cetacean Abundance and Survival Rate

## Day 1 – 24 June 2019

08:00 - 09:00	1. Introduction to Workshop (including opening speeches by ASI, EcAp and CNRS?)
09:00 - 10:00	2. Introduction to mark-recapture methods:
	Capture and marking, basis of population size estimation, method assumptions
10:00 - 10:30	BREAK
10:30 - 11:30	3. Photo-id data collection and processing:
	Sampling design, survey protocols, turning photos into data
11:30 -13:00	4. Two-sample population size estimation (practical):
	Simple data exploration and analysis in Excel
13:00 - 14:30	LUNCH
14:30 - 15:30	5. Mark-recapture data analysis – closed population models:
	Open and closed models, heterogeneity of capture probabilities, selecting the best model
15:30 - 16:00	6. Multi-sample population size estimation using closed models (practical):
	Data analysis in MARK
16:00 - 16:30	BREAK
16:30 - 18:00	6 (continued):
	Data analysis in MARK, continued

## Day 2 – 25 June 2019

08:30 - 09:15	7. Mark-recapture data analysis – open population models:
	Estimating survival rates and population size from long-term datasets
09:15 - 10:00	8. Survival rate and population size estimation using open models (practical):
	Data analysis in MARK
10:00 - 10:30	BREAK
10:30 - 12:00	8 (continued):
	Data analysis in MARK, continued
12:00 - 13:00	9. Introduction to line transect sampling, including survey design
13:00 - 14:30	LUNCH
14:30 - 16:00	10. Designing a line transect survey (practical):
	Using DISTANCE to design a survey
16:00 - 16:30	BREAK
16:30 - 18:00	11. Line transect data collection:
	Factors to be considered, establishing a protocol, introduction to survey practical



## Day 3 – 26 June 2019

08:30 - 11:00	12. Line transect survey (practical):
	Estimating the number of plastic wall-plugs on a football field
11:00 - 11:30	BREAK
11:30 - 13:00	12 (continued). Organization of data from survey (practical):
	Transcribing survey data into Excel
13:00 - 14:30	LUNCH
14:30 - 15:00	12 (continued). Entering survey data into <i>DISTANCE</i> (practical)
14:30 - 15:00 15:00 - 16:00	12 (continued). Entering survey data into <i>DISTANCE</i> (practical) 13. Line transect data analysis, part 1:
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15:00 - 16:00	<b>13. Line transect data analysis, part 1:</b> Detection function models, data truncation, selecting the best model

## Day 4 – 27 June 2019

08:30 - 09:00	15. Line transect data analysis, part 2:
	Adding covariates to detection function models, estimating variance
	16. Estimating abundance using DISTANCE, part 2 (practical):
	Data analysis continued
10:00 - 10:30	BREAK
10:30 - 12:00	16 (continued):
	Data analysis continued
13:00 - 14:30	LUNCH
14:30 - 16:00	17. Debrief on analysis of survey data:
	Take home messages, application to real surveys
16:00 - 16:30	BREAK
16:30 - 18:00	18. Conclusions and close of workshop