Displacement Matrix Approach

Glen Tyler (SNH)

Scottish Natural Heritage
Dualchas Nàdair na h-Alba
All of nature for all of Scotland
Nàdar air fad airson Alba air fad

Counts of birds on site and in buffer area

The full range of possible numbers of birds displaced from 0 -100% and impact from displacement of 0-100% represented in a matrix display

Example Displacement Matrix

	Mortality level											
Displacement Level		0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
	0%	0	0	0	0	0	0	0	0	0	0	0
	10%	0	5	10	15	20	25	30	35	40	45	50
	20%	0	10	20	30	40	50	60	70	80	90	100
	30%	0	15	30	45	60	75	90	105	120	135	150
	40%	0	20	40	60	80	100	120	140	160	180	200
	50%	0	25	50	75	100	125	150	175	200	225	250
	60%	0	30	60	90	120	150	180	210	240	270	300
	70%	0	35	70	105	140	175	210	245	280	315	350
	80%	0	40	80	120	160	200	240	280	320	360	400
	90%	0	45	90	135	180	225	270	315	360	405	450
	100%	0	50	100	150	200	250	300	350	400	450	500

Assess the species sensitivity to appropriate stimuli and correct sensitivity for season and bird activity. Sensitivity scale from 1 to 5

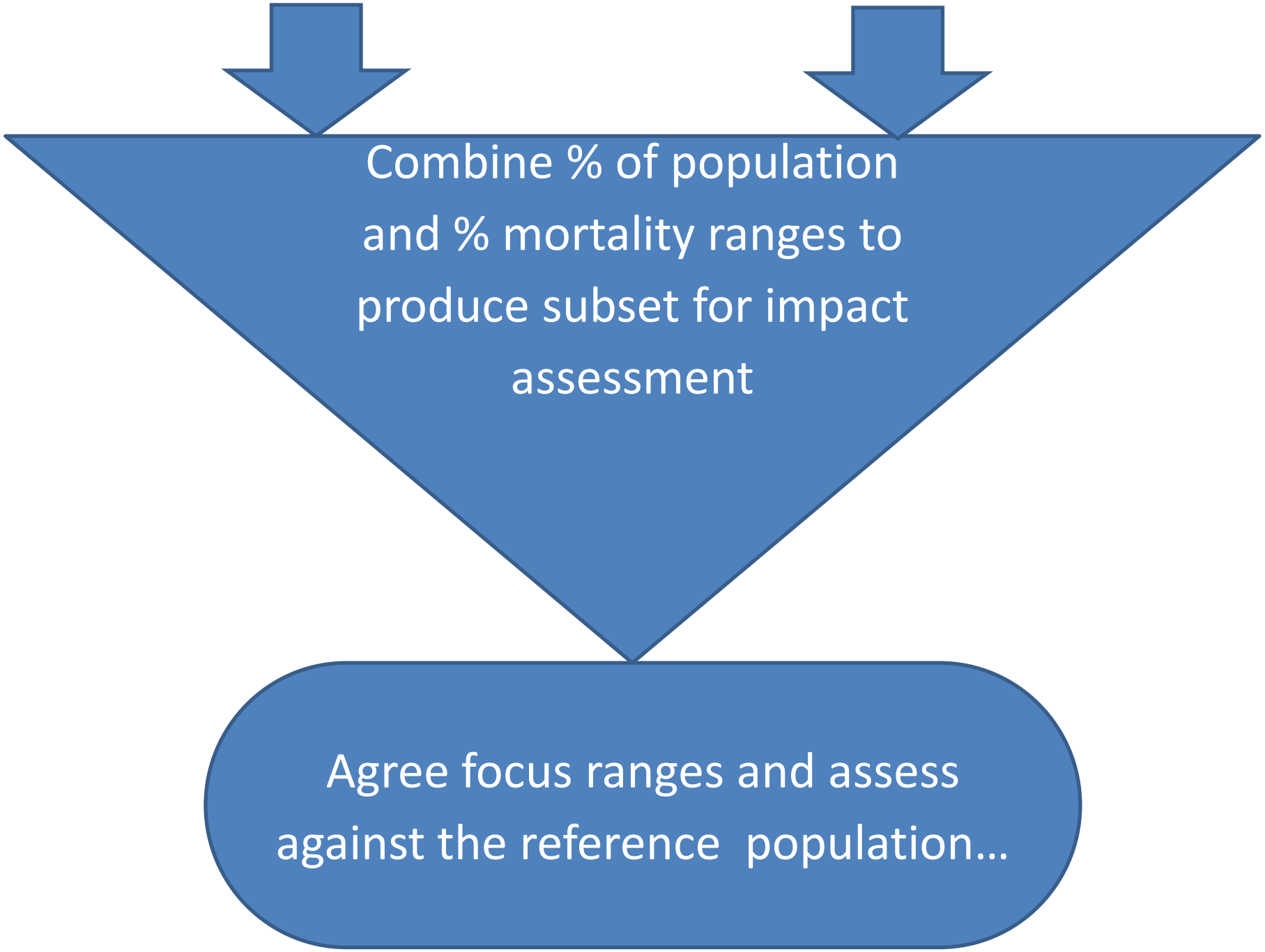
Sensitivity Rating carried forward

Assess the species sensitivity to effect of displacement assessed based on habitat flexibility, local conditions, development condition and other situation

Flexibility rating carried forward

Translate sensitivity rating to range of displacement – more direct proxy

Translate flexibility rating to range of mortality (or productivity loss) – more informed by expert judgement


Combine % of population and % mortality ranges to produce subset for impact assessment
Agree focus ranges and assess against the reference population…

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	Mortality level											
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	0%	0	0	0	0	0	0	0	0	0	0	0
	10%	0	5	10	15	20	25	30	35	40	45	50
	20%	0	10	20	30	40	50	60	70	80	90	100
	30%	0	15	30	45	60	75	90	105	120	135	150
	40%	0	20	40	60	80	100	120	140	160	180	200
	50%	0	25	50	75	100	125	150	175	200	225	250
	60%	0	30	60	90	120	150	180	210	240	270	300
	70%	0	35	70	105	140	175	210	245	280	315	350
	80%	0	40	80	120	160	200	240	280	320	360	400
	90%	0	45	90	135	180	225	270	315	360	405	450
	100%	0	50	100	150	200	250	300	350	400	450	500