

APPENDIX 1

Prioritized Connectivity Monitoring Actions



Appendix 1 Prioritized Connectivity Monitoring Actions

| Species Group | Species | Action | Priority | Objective(s) | Implementation considerations | Estimated Costs 2011/2012/2013 | Funding Source(s) | Start Yr (if funding is available) | Target year for completion |
|---------------|-----------|--|----------|--------------|---|--|---|------------------------------------|--|
| Large Animals | | | | | | | | | |
| | All | Conduct monitoring of crossing structures (see CBI 2002 a and b) used by large animals and compare monitoring methodologies (cameras, tracks, etc.) as part of a long-term monitoring strategy for chokepoints | 1 | LA1-3&4 | data on some locations will be collected as part of connectivity improvement efforts | \$10,000 but should be from connectivity improvement funds | Transnet-connectivity improvement funds | 2010 | 2011 |
| | Mtn. Lion | Conduct GPS telemetry studies of mountain lions utilizing core areas east of SR 67 and 125 to determine extent and specific location of lion movement between core areas. Include collection and analysis of genetic material to determine gene flow among core areas and population size information if possible. | 1 | LA 1-1 | | \$93,000//80,000/\$40,000 | Transnet - DFG SWG funding and funding from other partners should also be sought | 2011 | 2013 |
| | Badger | Conduct initial surveys of habitat potentially occupied by badgers and assess the potential (both feasibility and cost) of conducting GPS telemetry studies to identify specific locations important to badger movement in habitats fragmented by roads | 1 | LA 1-2 | This is primarily a habitat modeling and field verification action that may be followed up with initial identification of occupied areas using trained scent dogs | \$0/\$50,000/? Initial work SDMMMP | DFG SWG funding should be sought- Transnet FY 2011 as non-federal match for SWG funds | 2011 | Future priority 1 tasks for this species should be identified by Oct. 2011 |

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| | Deer | Analyze existing genetic data (or analyze current and/or new samples) from deer fecal analysis and utilize the data to evaluate core area connectivity for deer (initial work is occurring at SDSU) | 2 | LA 2-1 | Fecal samples have already been collected and some samples have been analyzed- The analysis of the initial data needs to be reviewed and additional study needs identified | none at this time | | 2011 | 2011 |
| | Bobcat | Obtain bobcat genetic material for core areas and utilize it to assess current connectivity for bobcats | 2 | LA2-2 | The amount of genetic material currently available should be review and methods to obtain additional material should be further evaluated-temporal issues with already collected material should be considered. Consideration should be given to working with groups such as the San Diego Tracking Team to establish bobcat scat transects to obtain additional genetic material. | \$40,000 (could be significantly higher depending on costs to culled additional genetic material) | DFG SWG and transportation funding should be sought | The amount of current and suitable genetic material available should be evaluated in 2011 | Unknown |

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| | | Analyze San Diego Tracking Team data collected subsequent to the data analyzed by Markovich-Nicholls (2008) to determine if it can be used to determine occupancy of habitat patches and infer connectivity for bobcats over time | 2 | LA2-2 | Should be SDMMMP Post-doc task | SDMMMP | Transnet | 2011/12 | 2012 |
| | Roadrunner | Conduct review of roadrunner literature and identify potential connectivity monitoring considerations and costs | 2 | LA2-3 | | \$2,000 | Utilize grad student through IEMM for this action | 2011 | |
| Small Animals | | | | | | | | | |
| | TBD | Review Rulon Clark's genetic data (from previously collected small animal samples) as it becomes available and review scientific literature regarding inter- and intra-preserve connectivity issues and monitoring. Review post fire monitoring data and its implications regarding intra-preserve connectivity | SDMMMP post doc in coordination with USGS 2011 task | SA1 | Should be collaboration with USGS | SDMMMP | Transnet | 2011/2012 | 2012 |

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| Birds | | | | | | | | | |
| | Cactus Wren | Determine current level of connectivity between occupied patches of cactus habitat (i.e. connectivity between cactus wren families/groups and populations in core areas) | 1 | B1-1 | Should be coordinated with cactus wren population monitoring to reduce costs/field time to locate nests and in coordination with NROC efforts to reduce costs and allow for SD county and Orange County comparisons | \$107,000 SD | Transnet Connectivity Funds- NROC share for marker ID | 2011 | 2012 |
| | Cactus Wren | Determine dispersal distances and habitats utilized | 1 | B1-2 | Should be coordinated with cactus wren population monitoring to reduce costs/field time to locate nests and in coordination with NROC efforts to reduce costs and allow for SD county and Orange County comparisons | \$50,000 | FY 11- Transnet connectivity monitoring funds | 2011 | 2012 |

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| | Gnatcatcher | Determine currently level of connectivity between CAGN occupied habitat patches | 1 | B1-3 | Should be coordinated with gnatcatcher population monitoring to reduce costs/field time to locate nests | \$175,000 | FESA traditional Section 6 funds should be sought and Transnet funds used for non-federal match | 2011 | 2012 |
| | Gnatcatcher | Determine dispersal distances and habitats utilized | 1 | B1-4 | Should be coordinated with gnatcatcher population monitoring to reduce costs/field time to locate nests | \$0/\$65,000 | FESA traditional Section 6 funds should be sought and Transnet funds used for non-federal match | 2012 | 2013 |
| | Least Bell's Vireo | Further evaluate the need for connectivity studies for this species and how results of such studies would be used to inform management decisions | 2 | B2-1 | TBD | TBD | TBD | 2012 | 2012 |
| | Willow Flycatcher | Further evaluate the need for connectivity studies for this species and how results of such studies would be used to inform management decisions | 2 | B2-2 | TBD | TBD | TBD | 2012 | 2012 |

FESA- Federal Endangered Species Act; SWG- State Wildlife Grants, IEMM- Institute for Ecological Monitoring and Management, SDMMP- San Diego Management and Monitoring Program, NROC- Nature Reserve of Orange County,