

San Diego Connectivity Science Forum



*San Diego Management &
Monitoring Program*

Goals of Connectivity Monitoring

- **Basic questions to be answered:**
 - **Is it working? [i.e. core areas, linkages]**
 - **Are the animals getting across?**
 - **Are they re-populating or just commuting?**
 - **Are they exchanging genetic material?**
 - **Is the use of the linkage changing through time?**

Monitoring Connectivity

Geographic Area- San Diego County

Current Resources - \$300K

- **Design and Implement Monitoring**
- **Research/Studies**
 - **Test methodologies**
 - **Identification of crossing issues**
 - **Other**
- **Crossing Improvements**
 - **Fencing**
 - **Culvert clearing/cover establishment**
 - **other**

Linkages, corridors and Crossings

- Linkages



Cores, Linkages and Crossings

- Corridor



Cores, Linkages and Crossings

- Crossing

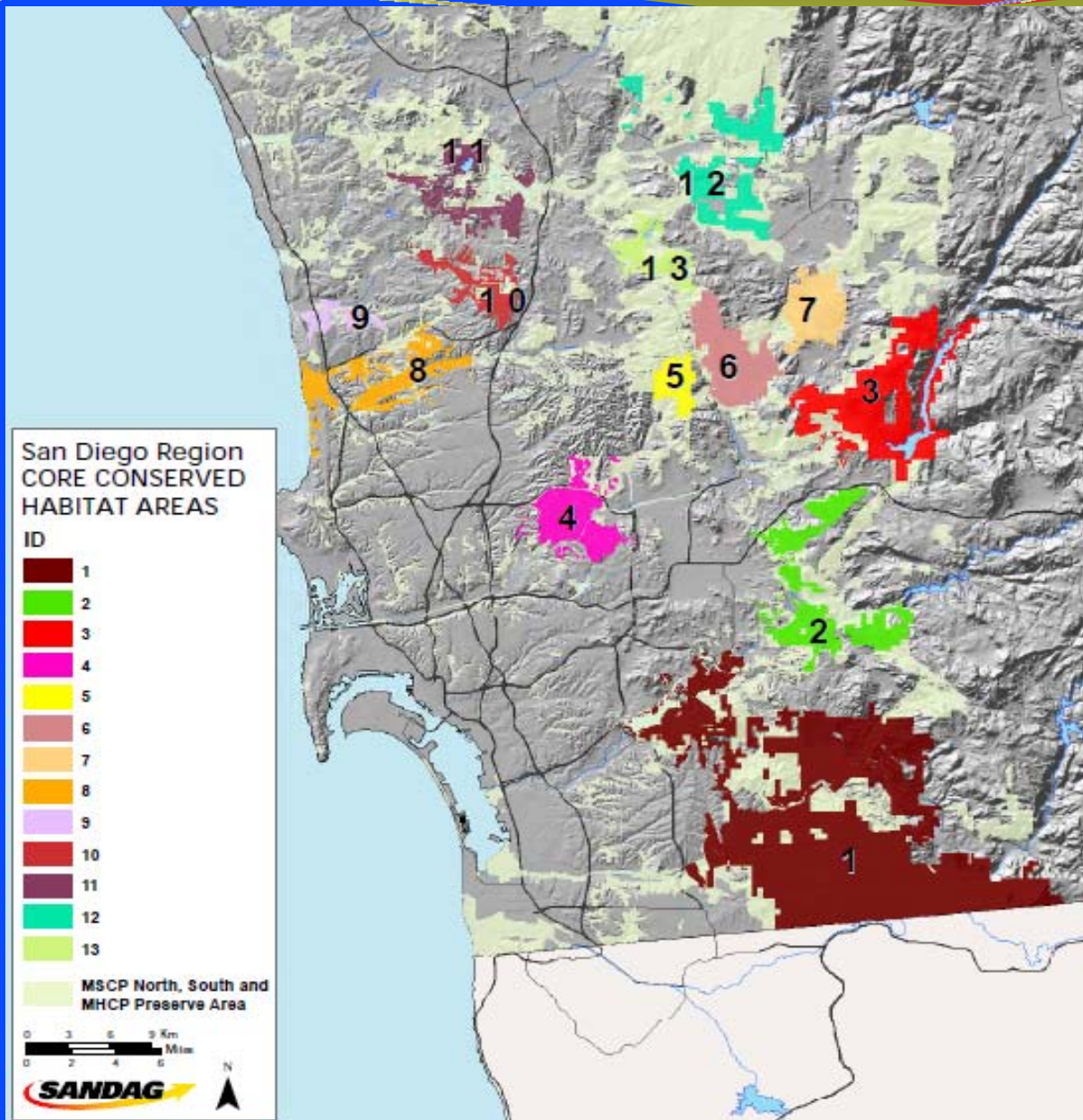


Why Connected?

- Ecosystem Function
- Resilience to stochastic events
- Gene flow
- Resilience to climate change
- Daily and annual habitat requirements
- Dispersal/population maintenance

Existing Cores

- Maps
 - Core
 - Linkages
- Plans determined that they must be linked

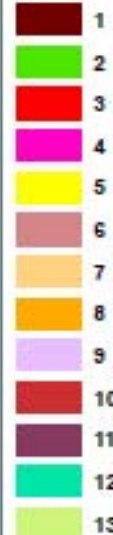


Currently Conserved Acres- Core Areas

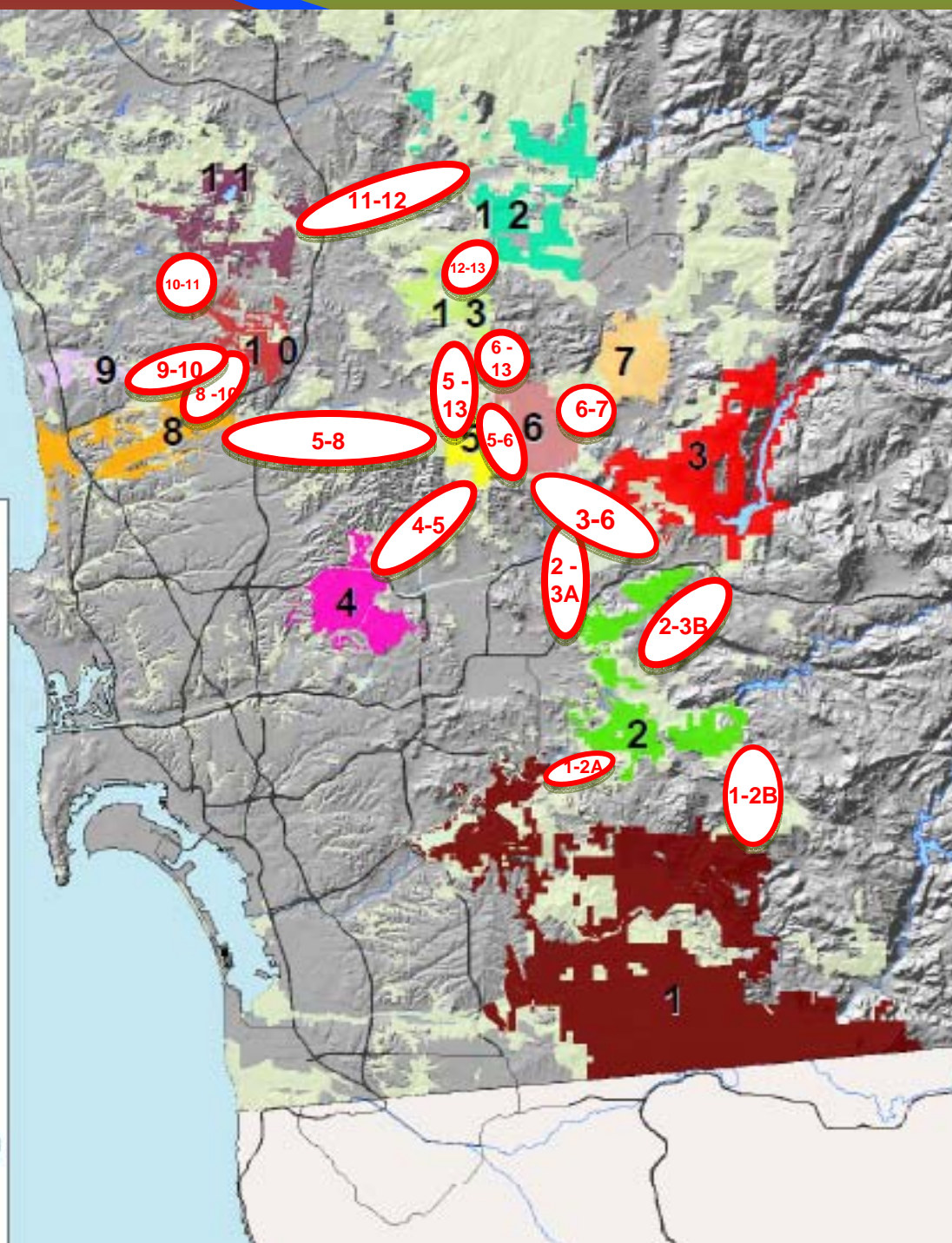
Core Area	Acreage	Core Area	Acreage
1	57,060	8	6,730
2	9,606	9	1,422
3	15,483	10	3,530
4	6,264	11	5,182
5	2,295	12	8,244
6	7,203	13	3,228
7	5,199	Total	131,452

San Diego Region
CORE CONSERVED
HABITAT AREAS

ID



MSCP North, South and
MHCP Preserve Area



Core Areas

- Connected or
- Not Connected?
- That is the question
- Answers vary by species and core area

Which corridors and/or crossings are most important/critical?

- Why?
 - Importance of cores they connect
 - What species are present
 - Potential for stressor impacts
 - Fire
 - Drought
 - Development
 - Existing, new and expanded roads

Most Important Linkages

- **Diversity of species and habitats within Cores connected by a linkage**
- **Level of conservation in connected cores**
- **Level of conservation within linkage area**
- **Elevational gradient connected**
- **Threats to linkage**
 - **Immediacy**
 - **severity**

Which Species and Why?

- **Ecosystem services**
- **Listed**
- **Vulnerability to change**
- **Umbrella for others**
- **Facilitates implementation of specific monitoring protocol**
 - **Little to no permitting requirements**
 - **Sample size**
 - **Etc.**

What are the specific questions?

- **Today**
- **Tomorrow**
- **Next 5 Decades**

What Methodologies to Answer the Question(s), Cost/Value?

- **Genetics**
- **Camera stations**
- **Tracking**
- **Telemetry**
- **Banding**
- **Stable Isotopes**
- **Others/Combinations**