California Department of Transportation
Statewide Assessment of Habitat Connectivity

Multidisciplinary Team Meeting One
October 7, 2008
1pm – 5pm
Secretary of State Building Auditorium
1500 11th Street, Sacramento, CA 95816

MEETING SUMMARY

The following materials were handed out to participants and are attached to this document

- *Agenda*
- *Breakout Session overview*
- *Interest in Technical Team sheet*

The overall goals of this meeting were:

- People understand the purpose, aims, timeline of the project
- Begin to build effective working relationships between regional transportation planners, land managers and planners, regulatory agencies, scientists and project staff
- Invitees engaged and excited about process and products
- Input from Invitees on products, implementation barriers, and priorities

Approximately 300 people were invited to participate in the first meeting. 85 people, including 9 members of the consultant team and 8 members of the steering committee attended the meeting in person. Another 39 people registered to view the meeting as a webinar. The webinar is available for viewing at http://msmedia.dot.ca.gov/training/20081007_evironmental.asf
A contact list of the invitees and attendees is attached.

Presentation Summaries

Gregg Erickson, Chief, Biological and Technical Assistance Branch of the Division of Environmental Analysis, California Department of Transportation – *Welcome, Introductions & Project Overview*

Gregg introduced the project and asked participants to think broadly and tangibly. He also briefly discussed connectivity in relation to growth pressures, climate change, and that planners are making decisions without full information in order to work proactively. There is a partnership between Caltrans and DFG in order to align how the state is working and to bring together expertise and partners. We need to deepen our expertise and understanding on a statewide level. The goals of the meeting are for participants to understand the planning context, and science, and reach out to get information from participants. He then introduced the speakers.

Joan Sollenberger, Chief, Division of Transportation Planning, California Department of Transportation – *Planning Interactions*

Joan discussed how this project provides an opportunity to bring the focus of environmental considerations into planning processes at the beginning, in order for planners to make better decisions. Support for this effort came from Federal transportation funds, but with an emphasis on environmental information. Caltrans strives to achieve three E's – Quality Environment, Prosperous Economy and Social Equity by successfully integrating transportation and land use planning processes. Goals in AB32 and SB375 focus on planning for sustainable communities in urban regions. Caltrans' Regional Blueprint Planning Grants provide funds and support for local and regional planning to focus on alternative land use and compact growth strategies to make our communities more sustainable. The products from this effort will go to planners to assist them with these new plans. This project provides a phenomenal opportunity to positively impact land use planning in California.

Tina Bartlett, Chief of the Habitat Conservation Branch, California Department of Fish and Game – *State Wildlife Action Plan*

Tina provided an overview of DFG's role in the California Essential Habitat Connectivity Project. DFG believes the products resulting from this project will aid compliance with or implementation of the Fish and Game Code, CEQA, ESA, Wildlife Action Plan, NCCP's and SAFETEA-LU among other laws and regulations. This project will also assist with the integration of wildlife connectivity needs into forecast modeling analyses for future growth and anticipated infrastructure needs; and identify priority areas and linkages that are irreplaceable and/or vulnerable and plan for their protection or restoration. DFG is

currently working on a number of related projects including the biodiversity sector of the statewide Climate Change Adaptation Strategy, which includes identifying linkages between existing and planned reserves. DFG is also implementing and updating the Wildlife Action Plan recommendations by bioregion to increase focus on connectivity for species adaptation, ongoing research, and vegetation mapping. AB2785 requires DFG to update the Wildlife Action Plan with a climate change addendum by the end of the year. Senate Bill 85 requires DFG to develop a vegetation mapping standard for the State of California and report on wildlife corridors in the state. Caltrans and DFG have been working together to identify where information on wildlife movement and habitat fragmentation may need to be focused. A contract with The Institute for Geographic Information Science synthesized existing information and developed a compilation of data on habitat connectivity and wildlife movement in the State of California. The report helped us establish baseline knowledge from previous studies from multiple agencies and universities around the state. This baseline information is currently being used by Caltrans, Division of Environmental Analysis and DFG to help address wildlife passage impacts associated with proposed projects. The expectation is that this baseline information will also help to validate habitat and wildlife connectivity models and maps developed by this effort. Finally, DFG is working on the Areas of Conservation Emphasis (ACE) project to establish habitat conservation priorities with the intent to work with conservation partners to ensure that important areas are included and protected through the land use planning process. ACE will also focus limited conservation funding on the most important areas that provide suitable habitat and landscape-level connectivity.

Rick Rayburn, Chief of the Natural Resources Division, Department of Parks & Recreation – ***Larger Conservation Picture***

Rick discussed the California Climate Change Adaptation Strategy with an emphasis on Biodiversity and Habitat Strategies. The plan focuses on Landscape Reserves, Management of Habitat and Restoration, Research/Guidelines, and Regulatory Needs; he focused on Landscape Reserves for this meeting. State Parks number one acquisition criteria are for linkages and expanding natural areas to make sure they are resilient over time. We need to address the reserve concept on our landscapes and its relation to climate change. Key steps include identifying and prioritizing reserves, perfecting reserve areas, managing reserve cores, and working with partners. Factors that improve resiliency for landscape reserves include sustainable size, elevation and latitudinal gradients, endemic movement & evolutionary hot spots, soil gradients and configuration, and linkages. He provided

some examples of projects, including Big Sur and Mt. Hamilton. Management should be a factor in determining how to prioritize linkages.

Paul Beier, Professor, Conservation Biology and Wildlife Ecology School of Forestry, Northern Arizona University - ***Overview of Habitat Connectivity Planning in California***

Paul gave an overview of Habitat Connectivity Planning in CA and focused on the following topics: What is connectivity; What's been done in California so far; How does this effort related to regional and local efforts; What GIS approaches can we use for statewide connectivity mapping; and Prioritization.

What is Connectivity? Paul discussed functional connectivity versus structural connectivity and that this project will focus on functional connectivity. We have questions and issues about what we want to connect – core areas or wildland blocks, and how to define them. He also discussed terms and definitions, including linkages versus corridors.

What's been done in California so far? Thus far, three statewide efforts have been completed: the Missing Linkages project, the State Wildlife Action Plan, and the California Legacy Project, though none of these completed a usable, prioritized map of connectivity. There have been over 40 local or regional connectivity plans completed, which will be integrated into this statewide effort. Lessons learned from earlier efforts include clarifying what you are trying to connect, using clear criteria and a transparent process, involving end users early in the process, and having clear linkage descriptions.

How does this effort related to regional and local efforts? It is important to remember that modeling will occur within a broader planning context, and this is only one step in the process. The stakeholders and users need to be involved in all the steps. For this project, we will complete a statewide connectivity map, and a prioritization analysis of connectivity areas, but we will not produce a set of implementable linkage design plans. Our strategic plan will outline the steps necessary to conduct future connectivity analyses in each region, and will also address planning and implementation.

What GIS approaches can we use for statewide connectivity mapping? There are several approaches that can be used to develop a statewide connectivity map, including least-cost modeling, circuit theory, expert workshop, simulated annealing, graph theory, spatially explicit population modeling, and individual based movement models. Dr.

Beier discussed each approach's utility in reference to whether the approach produces a map (rather than a list), has a rigorous transparent, repeatable, updateable procedure, can be applicable on a statewide level, and has linkages depicted as paths or swaths. No one approach will be perfect, and we will probably use a few different approaches for different steps in the process.

Prioritization. Although some may consider all habitat connectivity important, we will need to prioritize corridors so that planners can better understand where to focus their efforts. One example may be to use biological importance versus threats and opportunities. Paul finished with a summary of unresolved issues, including what are we protecting, what approach shall we use to produce a statewide map of linkages, and what criteria will we use to prioritize.

Questions and Answers

Q: What I'm hearing is definition and description of a project. What I think we really are about is a process – maybe best linked to adaptive management – to keep the process going. Unless we get the process going, we'll end up with a one time project that will fade into the background. DFG has a map that has identified a number of HCP's and NCCP's that have been done in California. There is a lot of knowledge that will be readily available if we can assemble the right number of people to begin the process.
A: Any map we put out will become obsolete right away, so we understand that this has to be an updateable process.

Q: Will the criteria and definitions for corridor be consistent with state law? Will this exercise in connectivity be used to implement SB275, 2343, as well as identify essential habitat connectivity?
A: Yes. We're reaching out to ensure our products are useful and consistent with legislation. This project will produce a unified message for the statewide agencies so that the local agencies can use it.

Q: Several years ago the Energy Commission underwent a planning process for federal energy corridors, and they identified lands where energy corridors could not go for environmental reasons. This map came to be known as the "black map" as there were so few places that were deemed to be ok for energy corridors. How is this project going to relate to other efforts completed by state agencies?
A: Once we develop the map/model, it will be evaluated in relation to other local connectivity models. This process will also inform other planning processes, and the actual data will be available for other entities to incorporate into their planning processes. Additionally, we

will incorporate existing data either into our model, or use it to verify our model.

Amy Pettler, Senior Endangered Species Coordinator and Wildlife Biologist Division of Environmental Analysis, California Department of Transportation ***- Project Background, Goals, and Products***

Amy introduced the consultant team, including Paul Beier; Karin Winters and Pete Dangermond from The Dangermond Group; Kristeen Penrod, Candace Paulman, and Lynn Sadler from SC Wildlands; and Jim Strittholt, Wayne Spencer and Esther Rubin from Conservation Biology Institute. She also recognized Tina Bartlett from DFG, and Katie Benour from Caltrans as important members of the planning team.

Amy stressed that the team wants the products to be used by transportation planners, land use planners, managers, regulators, and scientists. The project goals include providing a statewide assessment of habitat connectivity to comply with SAFETEA-LU, incorporating natural resource considerations early in transportation and land use planning efforts to increase efficiency, and providing a framework for detailed regional studies.

The project will be completed over 18 months and includes four team meetings; the middle two meetings are for the technical advisory group. The steps include developing a work plan with the multidisciplinary team, completing statewide connectivity map, model and prioritization scheme, and developing a strategic plan. Our expectations for the Multidisciplinary Team are that members will provide information and data to us, participate in up to four meetings, and provide expertise, input and review of all products. Attendees were given a hand-out related to whether they are interested in participating in the technical advisory group and were asked to complete it.

This project is a highly collaborative effort, including not just Caltrans and DFG, but many project partners to focus the project. We want the process to be transparent, scientifically defensible, and repeatable. We want to be able to incorporate the products into local, regional, statewide, and perhaps federal plans so that it will be implemented.

Amy then discussed the survey results. The largest current way that respondents are addressing connectivity is project modification to avoid or mitigate impacts, rather than informing issues earlier. The biggest issues obstacles or concerns that were identified included the lack of information or tools, prohibitive cost, and lack of awareness.

We hope that the tools we produce will help alleviate some of these obstacles. The types of tools identified as necessary to help were GIS data, reports, maps, and documentation that are accessible on-line.

Questions and Answers

Q: When data is published and available, please make description of models available.
A: Absolutely. We also plan to include an outline for how to complete a connectivity analysis at the local/regional level.

Q. Counties are going to want to use some of this data. How does the statewide model fit into Counties and other local government needs?
A. It will be something we will be grappling with throughout the project, but this project will be a statewide, more gross level. However, the strategic plan will outline steps necessary to complete a regional level connectivity analysis. It is our hope that the common vision resulting from this project will help simplify the regional analyses.

Q. I agree that outlining the steps necessary to complete regional level analysis would be good. The Strategic Plan should also identify funding types and availability.
A. Yes, good idea.

Q. At the regional level we're thinking about implementation, so the strategic plan should help funders know what needs to happen to implement at the regional level.
A. Yes, it's important to know how the products will be used so we can cover those issues.

Breakout Sessions – How to make our products most useful

Breakout sessions were used to learn more about what specific tools, elements, topics, and functions end users need from our proposed end products. Participants broke into the following four groups:

1. Land managers/implementers/acquisition/conservation, (~8 people)
2. Transportation and land-use planners, (~26 people)
3. Regulators, (~9 people)
4. Conservation Science/ Planners (~12 people)

Topics addressed in each breakout session included:

- What specific elements do the products of this effort need to have in order to provide reduce or alleviate obstacles or constraints for implementation?

- What specific elements should the products of this effort have in order to be of most use to you (i.e. on-line availability, interactive tools, software compatibility, etc.)?
- What additional specific elements or topics should the Strategic Plan cover in order to be of most use to you (i.e. description of model, way to apply model at regional scale, funding needs, how to do this in my area, regulatory guidelines, etc.?)

See attached summary of breakout groups for detailed information.

Back to one group – each group reported on their top three issues

For Land Use planners –

- Map/Model - make sure model is scalable and relates to existing and future plans
- Strategic Plan- make sure funding is identified, consider cumulative inputs, find way for regulatory agencies to adopt plan to take into account identified corridors for required mitigation, develop standardized, streamlined process for local/regional level

For Conservation science/planning

- Clearly state goals of map/model – is it for regulatory guidelines or is it for linkages to conserve for biodiversity reasons
- Strategic Plan – need to recognize changing conditions, and anticipate changes, such as urban infrastructure and climate change
- Prioritization – recognize change and forecasting threats, and consider cumulative effects

Land Managers

- Map/Model – reflect climate change, linkages are buffered, keep updateable
- Strategic Plan – how this will be updated, and new data put in, what is cost to have updateable document/map
- Strategic Plan – much more important if has high level agency sign-off
- Strategic Plan – include specific cookbook for how local/regional connectivity

Regulators

- Important to increase level of awareness of connections, and get early in planning process
- Project needs to be of highest integrity and needs to be scalable
- Map – living document, available on internet, can attach documents and case studies to it

- Prioritization – need for high level of transparency, and complementing existing work
- Any way to incorporate field testing into process?

Next Meeting/Next Steps

Gregg Erickson thanked participants for attending the meeting. Our next steps are to synthesize the survey and meeting results, follow up with participants, coordinate technical meetings, and compile background materials.

End of Meeting

Meeting notes, powerpoint presentations, project summary, etc. will also be available at the project website at http://www.dot.ca.gov/hq/env/bio/program_efforts.htm.