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## Community Advisory Committee

Regional Transportation Commission Building, Room 108  
600 South Grand Central Parkway, Las Vegas, Nevada 89155

Draft Meeting Summary for April 8, 2010



## **Meeting Summary**

*Community Advisory Committee Meeting 15, April 8, 2010, 2:00 p.m.*

*Regional Transportation Commission Building, Room 108*

The following pages contain a summary of the presentations and discussions from the Desert Conservation Program (DCP) Community Advisory Committee (CAC) Meeting of April 8, 2010. These pages, together with the presentation slides and handouts, constitute the meeting record.

## **Meeting 15 Agenda**

1. Opening and Introductions
2. Approval of Meeting Notes from the March 2010 CAC Meeting - Action Item
3. Presentation on Mitigation and Reserve System - Informational Item
4. Discussion of Avoidance, Minimization, and Mitigation Recommendations - Action Item
5. Public Comment
6. Meeting Wrap Up and Closing

## **Appendix A - Meeting 15 Agenda**

## **Appendix B - Responses to feedback from committee**

## **Appendix C - Presentation on Mitigation and Reserve System**

## **Appendix D - Flowchart on Reserve Design and Conservation Strategy Process**

## **Appendix E - Classification of Land Availability for Proposed Reserve System**

## **Appendix F - Proposed Reserve Design Principles**

## **Appendix G - Maps of Reserve Design Alternatives**

### **1. Opening and Introductions**

Eric Hawkins, Facilitator, opened the meeting.

Marci Henson, DCP Plan Administrator, explained that because the CAC process has taken longer than expected, the facilitation budget is running short and some cost cutting measures need to be implemented. As a result, Eric will be facilitating the April, May and June meetings and she will try to bring the whole team back in July.

Eric noted that a quorum was present, and distributed a document at the request of Jane Feldman, Environment/Conservation, and Scot Rutledge, Environment/Conservation. Jane explained that the



document was the Executive Summary Growth and Sustainability Report contracted by the local Sierra Club, The Progressive Leadership Alliance of Nevada, and the Nevada Conservation League. She informed the committee that the full report could be found on line at [www.sonorainstitute.org](http://www.sonorainstitute.org). She reviewed the various topics covered by the report with the committee.

## **2. Approval of Meeting Notes From the March 2010 CAC Meeting - Action Item**

Eric asked the committee if it had any comments or suggestions for changes to the March notes. There were no comments. The committee accepted the March minutes by consensus.

## **3. Presentation on Mitigation and Reserve System - Informational Item**

Eric asked the committee if it had any comments or questions on the responses to the committee's concerns and questions from the March meeting. Mindy asked for clarification on the \$35-\$50 clearance survey fee noted in the responses to the March meeting questions. She wanted to know if the "additional species specific avoidance and minimization measures for Zone B" would be separate surveys over and above the \$35-\$50 fee. John Tennert, DCP Permit Amendment Project Manager, replied that they may or may not be depending on the particular species in question. Eric suggested that Mindy write that down to ensure that concern was addressed.

Eric reviewed the meeting agenda with the committee. He pointed out the four colored pieces of paper on the tables in front of the committee members and explained that the process for using these slips would be the same as that for the March meeting. Once Dr. Zippen finished his presentation, these slips would be posted on the wall and addressed.

John introduced Dr. David Zippen, ICF International. He commented that Dr. Zippen has been doing habitat conservation planning in the west for at least 20 years and is considered one of the foremost experts in the field.

Dr. Zippen reviewed the outline of his presentation (Appendix C) with the committee. He noted that he would give the committee a broad overview of the conservation strategy and then spend some time reviewing the reserve system design and results.

### *1. Conservation Strategy Overview*

Dr. Zippen emphasized out that the MSHCP amendment must meet the Endangered Species Act (ESA) regulatory standard:

- Minimize and mitigate impacts of take to the maximum extent practicable



He explained to the committee that a conservation strategy was a package of conservation actions designed to mitigate impacts to covered species:

- Avoidance and minimization measures
- Conservation actions

Dr. Zippen explained that the proposed conservation strategies for the amended MSHCP consists of a combination of:

1. Land preservation
2. Land management
3. Habitat enhancement and restoration

He reminded the committee that the current MSHCP funds species monitoring and management on public lands and that this process has not been as effective, efficient, or transparent as was originally envisioned. He stated that the planned solution to these problems is for the DCP to actually implement conservation actions itself through a reserve system rather than fund the actions of others.

## *2. Reserve System*

Dr. Zippen explained that the reserve system involved areas preserved and managed to support covered species. He stated that in many HCPs around the country, these lands are preserved in perpetuity as conservation easements. He stated that the situation might be a little different in the Las Vegas Valley in that most of the land is publicly owned. He pointed out that 56% of the land in Clark County is Bureau of Land Management (BLM) land, and this creates the best opportunity for creating a reserve system.

Dr Zippen reviewed the steps taken by ICF in the reserve design process.

- Identify the lands available for inclusion in a reserve system
- Identify species conservation targets
  - Upland species
  - Priority rivers and streams
  - Narrow endemic plants
- Apply biological goals and objectives
- Identify Reserve Areas
  - Upland reserves



-Riparian reserves

-Plant Reserves

- Develop Composite Strategy
- Incorporate from stakeholders, Permittees and others
- Finalize Conservation Strategy

Dr. Zippen discussed the process used by ICF to determine where the reserve units should be located. He explained that approximately 1.5 million acres, primarily BLM land, was considered available. He pointed out that existing species occurrence data for many of the covered species is very limited and often biased, with the exception of data for the desert tortoise. This situation required the use of habitat distribution models. He showed the committee the results for Clark County of the latest tortoise distribution model with actual occurrence points overlaid on the model predictions. Scot asked if the occurrence points shown represented one tortoise per point. Dr. Zippen replied that in general he believed so, but there were probably quite a few points that involved multiple occurrences.

Dr. Zippen then discussed the selection of the Upland Reserve alternatives. (See attachment)

1. Alternative 1 - Valley of Fire
2. Alternative 2 - Stump Springs
3. Alternative 3 - Combination of Valley of Fire and Stump Springs

Within each of these alternatives are various potential Upland Reserve Units:

1. Valley of Fire Units A and B
2. Meadow Valley Wash Unit
3. Stump Springs Units A and B
4. Colorado River Unit

Dr. Zippen conducted a Google Earth demonstration of the Upland Reserve alternatives for the committee. He blacked out the lands not available and possibly available and showed the committee what was available along with existing private land in Clark County. He overlaid the desert tortoise model on the available lands. He also demonstrated overlays of the occurrence data for Las Vegas bearpoppy, white-margined beardtongue, Pahrump Valley buckwheat, and Le Conte's thrasher as examples.

With respect to Alternative 1, he commented that the Valley of Fire Unit provides good connectivity and minimizes edges. He stated that the Meadow Valley Wash Unit also provides good connectivity, a lot of



desert tortoise habitat and good habitat for several upland birds. He stated that because the Meadow Valley Wash Unit is relatively small and occurs in such a high priority area for covered species it is included in all three Upland Reserve alternatives.

He pointed out that the Colorado River Unit was land Clark County already owned and presented an excellent opportunity for habitat restoration for riparian bird species like the Yuma clapper rail and the Southwestern willow flycatcher, depending upon what the development plans were for this area (if any).

With respect to Alternative 2, Dr. Zippen commented that the Stump Springs Unit was an area that was also very desirable for many species. It avoids a lot of the private lands but does include habitat for the Pahrump Valley buckwheat. He also commented that the unit contains excellent elevational gradients which will be important for future climate change impacts on species.

Dr. Zippen explained that Alternative 3 was a combination of Alternatives 1 and 2. In this alternative the Valley of Fire Unit and Stump Springs Unit were reduced in size while still preserving the highest value areas in each of those units. He commented that because there are species that occur either entirely or mostly in each of those units, Alternative 3 would most likely be the preferred alternative.

With respect to the riparian areas, Dr. Zippen pointed out that the riparian birds covered by this MSHCP had some very unique habitat requirements on the local, major river and stream systems and were going to need a different strategy. He stated that BLM transfers were not going to be feasible since BLM does not own a lot of riparian land. He commented that most of the breeding habitat for these birds is on private land.

After considering various options, the recommendation was to do restoration on public lands where possible and acquire private lands for this purpose from willing sellers along the river systems. Dr. Zippen commented that Clark County had already begun this process. He explained that ICF's proposal was to commit to a minimum amount of preservation to provide the US Fish and Wildlife Service (USFWS) assurance that preservation would take place and then apply a 1:1 ratio for mitigation and restoration. This means that for every acre of impact to habitat there would be an acre of preservation and an acre of restoration.

Dr. Zippen explained that Clark County would be continuing to discuss the proposal with USFWS and BLM, and the reserve unit boundaries will be refined based in part on committee feedback. Clark County is conducting field work to try to find populations of covered species in proposed units to ensure the proposed design is valid and is also developing a framework for managing the proposed areas.





#### **4. Discussion of Avoidance, Minimization and Mitigation Recommendations - Action Item**

Eric invited committee members to spend the next 10 minutes reviewing their informational materials and filling out the slips of paper in front of them. He explained that if there were aspects of this plan that they liked, those should go on the green slips of paper. Questions should go on the yellow sheets and concerns should be on the salmon-colored sheets. Other ideas should go on the blue sheets. Once the 10 minutes was up, the sheets would be posted in the appropriate categories on the wall for discussion. When the 10 minutes expired, Eric invited the committee members to post their responses on the wall and then take a few minutes to review what was posted. Once all the responses were posted, Eric reviewed them with the committee by category, then asked the committee if it had anything else it wanted to discuss.

Jim asked why the National Park Service (NPS) land was listed as unavailable on one of the responses. Marci responded that the ideal situation would be for land to be directly transferred from the appropriate federal agency to Permittee management and she felt it would be highly unlikely that NPS or Congress would authorize this type of transfer. John added that NPS lands are already managed at the highest possible level of conservation and therefore the Permittees would not get much credit from USFWS for these lands.

Alan Spooner, Business/Small Business, commented that he thought the purpose of the MSHCP was to preserve species and if NPS had a parcel large enough to ensure the future survival of the species, creating a whole separate process to preserve land should not be required.

Mike Ford, City of Mesquite, commented that he was not aware of any instance where NPS had surrendered control of any parcel of land under its jurisdiction. He commented that legislation would be necessary for BLM to transfer land to Clark County. There is no administrative method for doing this. Dr. Zippen added that most of the MSHCP covered species do not occur on USFWS land, so even if it were available, it would not be desirable land. With respect to NPS lands, those lands are already protected and, in the eyes of USFWS, the Permittees need to show that they are providing new protection for new impacts due to development in the Las Vegas Valley.

Mindy asked for clarification of Mike's comment concerning the process to transfer BLM land to Clark County. She wanted to know if the Southern Nevada Public Lands Management Act (SNPLMA), allowed BLM to transfer lands to Clark County. Mike responded that under the act, Clark County could buy BLM lands, but to transfer lands, legislation would be needed. Mike also stated that Clark County could not buy Valley of Fire land anyway as it was not identified as a disposal area.



Eric asked if the committee had anything else it wanted to add. There were no further comments or questions from the committee. Eric suggested that the committee now address the questions and concerns it had posted on the wall.

*1. Would BLM also maintain species protection in addition to the conservation strategy and reserve system?*

Jim responded that he thought this question had been answered. The BLM would not be maintaining species protection in the areas set aside as part of the reserve system. John agreed.

Mindy commented that her question, "Do existing programs stay the same or reduce?" was related to this question. She asked if actions being performed under the current MSHCP would continue, or are those programs going to be reduced and the new requirements inserted; or, were the current actions going to stay the same and the new actions required in addition. Scot replied that, as he understood it, the same amount of money would be spent on conservation actions but these actions would be taken on Clark County owned lands vice BLM lands. So, the efforts were not actually expanding, just moving. Mindy asked if that meant that MSHCP actions on BLM lands would then be reduced. Marci responded that the strategy being discussed today replaces the strategy of funding conservation actions on federal lands. Jim asked if it was known if this plan would cost more, less, or the same as the current plan. Marci replied that was not known at this time, but as soon as a reserve system design was decided on, determination of costs would be the next step. Mindy asked if SNPLMA money would still be available under the new proposal and Marci replied that it would be.

Dr. Zippen pointed out that there may still be some conservation actions that would be desirable for federal agencies to perform, and the MSHCP may fund them. Mindy asked if Dr. Zippen knew of any current BLM programs that would be desirable to keep in place. Dr. Zippen replied that BLM does own some land where riparian restoration opportunities exist, and it might be more cost effective to pay BLM to do that on their land. John noted that the reserve lands were adjacent to federal lands and that there was the potential that monitoring or restoration activities might cross federal and reserve system boundaries. Mindy said she understood that this meant there would be a significant reduction in funding of conservation actions on federal lands but it was likely some activities would still take place. Dr. Zippen agreed.

Jim asked if this arrangement would preclude funding any other efforts such as NPS monitoring and patrol programs. Marci replied that, in the case of NPS, yes. She stated that NPS was mandated to perform these actions and would need to fund them on their own.

Eric commented that he thought the committee had addressed the questions concerning continuing BLM conservation actions and whether current programs would change. The committee agreed. These questions





were moved to indicate they had been addressed. He also asked the committee if it felt the question concerning U.S. Forest Service (FS) and NPS lands being unavailable had been adequately addressed. The committee agreed and these questions were moved.

*2. State parks possibly available? Yet it is an important component.*

Jane Feldman, Environment/Conservation, clarified that her concern was that state park lands were listed as only possibly available, yet the Valley of Fire was an important component of all the reserve system alternatives. She wanted to know whether these lands were available or not. Dr. Zippen replied that the Valley of Fire State Park was not available. The unit being proposed as a reserve unit wraps around the state park.

Eric checked with Jane to see if this response addressed her question. She agreed that it did and Eric moved this question from the active list.

*3. What climate models were used for forecasting?*

Dr. Zippen replied that climate modeling was not incorporated in this design. The design included the current, generally accepted principal that many species will likely need elevational gradients to migrate in response to climate change. Jane replied that would not help the plants as they are not very mobile. Dr. Zippen replied that some plants are mobile as long as their habitat moves. He stated that for those species that do not have appropriate habitat at higher elevations, more intensive management may be necessary. Scot stated that he did not think a model had been used, he just wanted to understand from a climate change standpoint why the proposed areas had been chosen.

Eric asked Scot if this answer was satisfactory and Scot replied that it was. This question was moved to the bottom of the wall.

*4. Biased data - Unreliable or incomplete*

Jane clarified that this question was related to Dr. Zippen's earlier statement concerning the reliability of species occurrence data. She wanted to know whether this meant there were gaps in the data or was the data generally unreliable. Dr. Zippen replied that it was often a combination of both. Usually occurrence data is fairly reliable; however, older data is more uncertain for a variety of reasons such as changes to the habitat since the observation. However, using this data on a regional scale makes it much less reliable as there are no complete surveys of all of Clark County for any species.

Eric asked the committee if that answer was satisfactory. There was agreement that it was and the question was moved to the bottom of the wall.



*5. Are surveys for species other than tortoises included in the \$35 - \$50 cost per acre?*

Mindy clarified that this question was added at Eric's request as a placeholder. Eric asked if this had been adequately addressed earlier. Mindy agreed that it had and the question was moved to the bottom of the wall.

*6. Current HCP mitigates at much greater than acre for acre. Any credit for that?*

Terry Murphy, Developer/Homebuilder, commented that the proposed strategy discussed a 1:1 mitigation ratio and under the current HCP, desert wildlife and tortoise management areas have been established at much greater than a 1:1 ratio. Matt Heinhold, Gaming Industry, asked if the 1:1 ratio applied to the entire 200,000 acres or just to the riparian acres. Dr. Zippen clarified that this ratio applied for the entire acreage. He stated that this did not take into account habitat quality and this was one reason that he felt it was justifiable since the habitat that would be lost is lower quality than the habitat being protected. Thus, even though it sounds like an even trade, the plan is actually gaining more than it is losing due to habitat quality considerations. Terry stated the current HCP also gained more than was lost.

Dr. Zippen commented that the current HCP did not have ratios at all. Terry stated that though it did not have ratios the reserved areas were larger than what was allowed to be taken. Dr. Zippen replied that it depended on how you counted reserve acres. The current HCP funds actions on land that is already publicly owned so no new reserves are actually being created. The proposed MSHCP actually improves protection of some public lands. He commented that comparing the proposed MSHCP to the current MSHCP was kind of an apples and oranges comparison. He commented that a big advantage of the new MSHCP was that it gives USFWS more guarantees that there actually will be benefits on the ground for the covered species. It was very difficult to show that in the current MSHCP.

Matt asked if the proposed 1:1 mitigation/take ratio meant that if someone desired to develop 50 acres of land he/she would have to purchase 50 or more acres for mitigation purposes. Dr. Zippen replied no, the developer would pay the fee, and it was up to Clark County to implement the mitigation side of the process.

Mindy commented that the actual ratio was less than 1:1 since the highest reserve system acreage was 205,000 vs. 215,000. Dr. Zippen agreed and explained that the impact analysis has not been completed, and he expected it would come in slightly lower than 215,000 acres. Mindy asked why propose a 1:1 ratio if we do not actually have that amount of reserve land available. She wanted to know if this would create a problem. Dr. Zippen replied that he did not think so as the reserve design was flexible and the ability to increase the boundaries in both of the largest units exists.



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Mindy asked if this HCP was creating a precedent that would require independent HCPs also to include a 1:1 mitigation to take ratio. Marci replied that it is likely that independent HCPs would require much higher ratios. Mike agreed.

Jane pointed out that there was another way to think of the 1:1 ratio. If out of 430,000 acres you develop 215,000 and reserve 215,000, you are developing half the available acres.

Scot commented that one of the criteria for choosing land for the reserve system was that it was not very suitable for development due to things like lack of infrastructure, so it would probably remain habitat under any scenario. Dr. Zippen replied that was mostly correct. There is actually some overlap in the reserve system with BLM disposal areas. Thus, in that case, the program is recommending that some developable habitat be shielded. Marci pointed out that this relates to Scot's question at a previous meeting concerning designating go/no-go areas for development.

Mike pointed out that Valley of Fire is a multiple use area controlled by BLM. If it went to Clark County for the reserve system, it would receive a higher level of conservation. This would remove any future threat of renewable development, power lines, pipelines and off-highway use. Dr. Zippen commented that USFWS recognizes that as a significant benefit.

Terry asked how the transfer of the BLM lands to Clark County would relate to the pace of development. Dr. Zippen commented that the hope was that the transfer of all the required BLM land would occur at one time. He stated that the down side of this was that you suddenly have to manage 200,000 acres of land. John commented that Clark County has already begun planning for this. He stated that Clark County currently has a healthy fund balance which would provide a solid foundation for this process. He commented that one of the advantages of this approach compared to other programs is that a large portion of the funds of other HCPs goes to purchase land. In the case of this MSHCP, most of the funding will go to conservation actions.

Terry asked if the funding obligations under the current MSHCP would end when the proposed MSHCP took effect. Marci replied yes. Mike commented that under the proposed scenario, Clark County was going to incur an instantaneous management expense for 215,000 acres and that could be substantial.

Allison Stephens, City of North Las Vegas, asked for clarification concerning what happens to the lands involved in the current MSHCP. Marci responded that Clark County is spending a lot of time with USFWS to ensure that the current MSHCP is properly closed out. She pointed out that the current plan was not a reserve system plan. Clark County's obligation was to fund conservation actions on federal lands and that Clark County had already funded more actions than were required over the life of the current MSHCP.



Jane commented that the protected designation has to persist in perpetuity in order to satisfy the requirement to mitigate for past impacts, so those lands protected under the current MSHCP will remain BLM lands. Marci agreed. John commented that was true until BLM or Congress decides to change that.

Darren Wilson, Nevada Taxpayers Association, asked how this reserve system would be funded in perpetuity if all the take acres were to be used. Once all the take acres were used no more funds would be coming into the program. John explained that the current funding plan included the establishment of an endowment fund which would be used to fund conservation actions in perpetuity and the plan is to establish the same type of fund for the proposed MSHCP. Darren commented that the proposed MSHCP involves managing much larger areas and larger expenditures and it sounds like it would involve increased fees. Mindy agreed. She commented that the proposed plan would involve conservation actions and managing actual acreage, and she did not see how the committee could make any decisions on this proposal unless it knew what costs would be involved. Darren commented that the costs could be astronomical. John replied that Clark County was not without experience in this area. It has been managing 85,000 acres for 15 years. Darren asked what the costs for that were. John replied that it was a relatively small amount. Darren commented that this was a very large area and it would require lots of signs and one law enforcement officer would not be adequate.

Scot pointed out that in California, for instance, you have to spend money to buy land and then also spend money on mitigation. In this proposal the land would just be transferred to Clark County which would result in a huge savings. Also, owning the land under this proposal will increase accountability. Darren commented that to go back to his board with this proposal, he had to have some idea of cost.

Mindy asked if the 67,000 acres remaining on the current permit were incorporated into the proposed 215,000 acres. Marci replied that those acres had already been paid for. John added that the fees from the 67,000 acres would be applied to the new permit. Mike commented that \$500 an acre, including the proceeds from the additional 67,000 acres under the old permit, would generate around \$130 million to \$140 million that would have gone to the agencies under the old permit. This money could be used to manage the 215,000 reserve acres in the current proposal. Marci commented that those numbers also do not include the additional funds that can be accessed through SNPLMA. Mindy commented that she also liked the idea that under the proposed plan there would be better control of the funds.

Eric commented that one question that could not be dealt with completely at this time but needed to be addressed was the cost of the plan. Eric asked Terry if she had received a satisfactory answer to her question. Terry commented that she would like a better explanation of what happens to the process that is currently in place when this new process takes over. Terry explained that as she understood it, actions



funded on public lands, but the idea was that those actions would be maintained in perpetuity. Eric asked Terry to capture that idea on a piece of paper and post it on the wall.

Eric asked if Jim's question had been answered. Jim said he thought it had been answered. He stated that he understood that once the reserve system was established it would not be changed into something else. Marci agreed.

Alan Spooner, Business/Small Business, asked Mike to clarify that he was talking about funding, not cost when he discussed the \$130 million. Mike agreed. Alan commented that was too much money given the current state of the economy. He asked how much money is actually needed to meet the goals of the plan. Eric commented that question goes right back to the guiding principle which requires that the dollars spent be effective. Eric added a slip of paper to the wall that stated, "Not waste money." Allison commented that what she heard was not a comment about wasting money, but that there should be some kind of reasonable cost-benefit. She stated that the comment should say that the money is being spent in the most efficient way. Eric commented that what he was hearing was the committee repeating the ideas in its guiding principle on take.

Alan noted that he thought it would be prudent to reserve some of the take as an easement so that the Permittees are not locked into a situation where everything cannot be accomplished under a single-use permit. Marci clarified that what Alan was talking about was establishing a method in the plan to deal with such things as allowing a power transmission corridor to pass through the reserve. Alan agreed. Marci commented that it would not actually be a legal question but more a question of what the legal uses of these units would be. Scot asked if the likelihood of these situations occurring had already been taken into consideration. Dr. Zippen replied that things like utility corridors were not explicitly addressed in the development of the reserve units. He commented that above ground utility corridors tend to be low impact.

Mindy commented that she sees this as being part of the legislation language. The legislation would include language that states that utility corridors are compatible with the uses of these units. Mike replied that there is still a lot of vetting of these proposals that needs to go on. He stated that before the legislation accomplishing the transfer of the reserve units is enacted, Congressional staff would study the possible uses of this land. Jim commented that it would seem like BLM should have some idea of the cost of maintaining these lands. Mike replied that BLM could give you their budget, but on a per acre basis, management costs vary considerably.

### *7. Locking out public use*

Darren commented that as he understood it, public use could be completely locked out of these lands. Dr. Zippen and John disagreed. John replied that public activities could be similar to those allowed on the



Boulder City Conservation Easement. Mike commented that public use would not be excluded, but multiple use defined as uninhibited use would be limited. He commented that a better example than the Boulder City Conservation Easement would be the Red Cliffs Desert, which accommodates conservation and a variety of recreational uses.

Eric asked Darren if his question had been answered. Darren commented that he just wanted to point out that there would be issues over this topic. John asked Darren if he could list on one of the slips of paper what some of the uses were he thought should be protected and post it on the wall.

*8. What if there needs to be more agricultural space on the Colorado River units?*

Alan commented that he was concerned that more space may be needed in this area. Dr. Zippen asked for clarification. Darren replied that the unit is very close to an agricultural area and by designating it as reserve you would be taking it out of agricultural use. Marci replied that the reserve unit land was already Clark County land and the various uses that had been proposed for it did not include agriculture. Clark County needed to decide what to do with this land: whether to leave it as mixed use or designate it as conservation. Dr. Zippen pointed out that one of the advantages of this site is that it provides a lot of riparian restoration opportunities which are hard to come by in Clark County.

Eric asked Alan if he was satisfied with the response. Alan commented he understood that different people had different uses for the land and the cost vs. benefits needed to be weighed.

Eric reviewed the comments with the committee:

*9. How much will this cost, is all the BLM land free?*

Eric asked Mindy if this was her comment and if it had been adequately dealt with. Mindy agreed that it had by adding the question about cost to the Questions section.

*10. What happened to the burrowing owl?*

Jim commented that he had not seen the burrowing owl on any of the species lists in the meeting handouts. John pointed out that the species listed in the handouts were just examples. Burrowing owl habitat needs were analyzed along with all the other covered species for this design. With respect to the burrowing owl, its requirements are virtually identical with those of the desert tortoise.





*11. Stump Springs, mostly on private land. If so, let's leave it alone.*

Dr. Zippen responded that Stump Springs was not mostly on private land; in fact, it was almost entirely on BLM land.

Eric reflected that the committee's concerns had been cleared. Some questions still remain to be dealt with in the committee's recommendations, and there were some things the committee liked that would be captured in developing the recommendation. He invited the committee to take 10 minutes and add to the wall anything else it thought needed to be considered with respect to the avoidance, minimization and mitigation package as a whole.

Eric also asked the committee to address the zone concept and informed them that unless they added them to the concerns at this meeting, the assumption would be that the concerns they had brought up at the March CAC meeting had been adequately addressed. Once the comments were added to the wall, Eric reviewed them with the committee.

*12. Why the difference between Zones B and C?*

Mindy stated this was her question and it appeared to her that the basic difference between the zones would just involve tortoise fencing. She commented that this was also related to another question, "What is the reason for the surveys?" Allison commented that she really did not see a difference between the zones. John commented that the difference is related to the minimization measures required. In Zone A, no minimization measures would be required. Allison commented that she still did not see the difference. As soon as you develop in Zone B, it becomes Zone A. John replied that would not occur as soon as you develop - once 10% of the available acres had been developed or after five years the status could be adjusted.

Mindy asked if land that was released by the BLM to be auctioned off went through some kind of environmental assessment. Marci replied that the disposal process involved developing an Environmental Impact Statement (EIS). Using Inspirada as an example, Mindy asked if anything that has been released by BLM should automatically be Zone A since it has had an environmental assessment and is now inside the disposal boundary. Marci responded that there was the bureaucratic/regulatory aspect of the disposal process which involved the EIS and the MSHCP, but there was also the actual condition of the land involved, and this determines its zone status. Just because it has been released by BLM does not mean it is automatically Zone A.

Mindy asked if the disposal process actually looked at whether a piece of land being proposed for release was good habitat. Marci responded that it does. Jane commented that there were big holes in this process and brought up the example of the Upper Las Vegas Wash. She also stated that she felt that the initial EIS



associated with the release of lands by the BLM was just passing the buck to the Clark County MSHCP. Mindy replied that what she had heard made sense, but that there was not enough difference between Zones B and C to warrant classifying Inspirada as Zone C.

Eric commented that he was hearing that Zones B and C should be the same thing and he invited the committee to react to that proposal.

Terry replied that she did not agree with the zone concept at all. She stated the current MSHCP was adequate and she did not see any data that showed that the additional actions of surveys and clearances would benefit the species. Mindy agreed and referenced her previous question of why surveys were being required.

Eric invited Terry to propose alternatives or modifications to the zone concept.

Terry replied that she saw the zone concept as an unnecessary addition to the actions currently being taken, and she does not see any additional benefits to the species from these additional actions. Eric asked Terry how this related to her feelings about the reserve system. Terry responded that was a completely separate issue and she saw some advantages to the reserve system concept, but she wanted to be sure that the conservation areas established under the current HCP and the activities conducted there do not go away under the proposed HCP.

Eric asked Mindy what she wanted to do with her comment that Zones B and C be combined into one zone. Mindy replied that it was a suggestion.

Allison asked if she understood correctly that areas could change zone designation such as a Zone B area becoming a Zone A area after some period of time or amount of development. Marci replied that conceptually that was correct.

Eric asked the committee if it wanted to make a recommendation that Zones B and C be the same or include this as a suggestion in its recommendations.

Scott commented that he was not certain that this should be a recommendation. He stated he was not sure what the difference in mitigation requirements would be between the zones. He indicated that he was concerned the zone concept might be an over complication of an already challenging activity like mitigation. He stated that his initial concept of zones was as a mechanism for determining fees based on the cost of mitigation.

Mindy commented that the idea of combining zones was just one idea. She commented that Terry was suggesting having no zones, so she felt that the combination of zones idea should not be a recommendation.



*13. Could we have a map delineating the ultimate development boundary?*

Marci replied that could be done.

*14. How feasible the BLM would consider a reserve system?*

Jim commented that he had heard that some preliminary discussions on this matter had taken place. Marci replied that it was not possible to characterize the BLM position on this as discussions have just begun. She commented that the character of the discussions to date was that BLM was willing to listen, they understand the predicament the Permittees are in, and they have ideas of their own for addressing accountability and transparency and for making the current system work better. Jim asked what BLM's concerns were. Marci replied she could not characterize that at this time.

Jim commented that before shelving the previous system, more positive assurances were needed that the proposed plans would be accepted. Marci agreed. Marci informed the committee that USFWS has signed a Point of Tentative Agreement (POTA) with Clark County supporting the concept of the development of a reserve system as the basis of the MSHCP conservation strategy provided that all the conservation targets and biological goals of the plan can be met.

Mindy asked under this POTA who would run this reserve system. Marci responded that the POTA included language that the lands would be managed by Clark County.

*15. Upon what data does USFWS deem tortoise clearance beneficial to long term survival?*

Terry commented that she wanted a clearer idea that tortoise clearances would benefit long term survival beyond just USFWS saying so. Marci asked if Terry was looking for specific studies on this question. Terry replied yes. Marci stated that she could provide studies on tortoise translocation to the committee.

Dr. Zippen added that it was known that there was not a 100% survival rate in tortoise translocations. He stated that whether there was an adverse affect of translocation on wild populations depends on the design of the translocation effort. He commented that he felt that the benefits of translocation of tortoises at the margins of the urban areas outweigh the potential costs to the species. Terry commented that she was concerned that the margins keep moving, and as you continue to translocate tortoises you eventually have a densely populated area that may be detrimental to the species. Marci replied that the effects of translocation on the recipient population was a very important question and USFWS was concerned about this also. She stated that USFWS would not knowingly let the Permittees relocate tortoises to an already densely populated area. The strategy is to augment the populations of tortoises in low-density areas by translocating cleared tortoises into those areas.



Terry asked if development would be precluded in an area if a safe location for tortoise translocation from that area had not yet been determined. She pointed out that this was a complicated issue and there could be significant detrimental effects on specific businesses of requiring actions that do not necessarily have any long-term benefit to the species. Marci responded that the committee could recommend that tortoise clearance not be considered or it not be required if it would delay a project. She stated that if the plan could accommodate moving tortoises without delaying projects, the Permittees would be looking for the committee's support. Marci commented that the Permittees were sensitive to trying to develop a program that does not increase delays on a project site.

Terry stated that conducting surveys and moving tortoises already increases the costs of a project. Marci commented that where those costs sit, whether they stay with the developer or are funded out of the program, is up for debate. She stated that, as mentioned in the responses to previous questions, the program could be set up such that the developer does not carry those costs.

Dr. Zippen added that the situation today is different than it was 10 years ago. The USFWS is saying that in order to issue the permit, it needs to make a finding that the Permittees are minimizing impacts, and without any kinds of surveys, avoidance measures, or translocation efforts, it is difficult to make that finding. With respect to the lack of data on whether translocation works, USFWS and the courts will require that the Permittees provide evidence to support the contention that it does not work. He suggested that the plan contain provisions to determine the effectiveness of these actions.

Mindy asked for clarification that the Permittees have been told that USFWS will not issue a permit that does not include tortoise clearances. Marci agreed. Dr. Zippen added that if a data set existed that showed a particular action or actions was detrimental to the tortoise that would make a strong argument for not doing that action, but that data set does not exist.

Alan stated that there is strong evidence that, due to our mitigation plans, we are not further endangering the species because more land is being reserved as development is occurring. He asked why should a developer incur more costs to move a few tortoises. Mindy added that it seemed as though while a few tortoises are being killed overall the situation for the species is improving. Marci and Dr. Zippen agreed that some tortoises will inevitably be killed in translocation, but the regulatory requirement is to minimize this number. Alan stated that as he understood the conversation, to get the permit, USFWS will require developers to incur those additional costs to move tortoises.

Marci pointed out that Mindy had previously asked a question about the reason for having to move tortoises: was it public outcry or a USFWS requirement. She stated that it was a little bit of both. There is a public perception that tortoises are being cleared before grading takes place, and when the public finds out



that's not happening, there is a lot of negative feedback. John pointed out that the recent burrowing owl letter from USFWS resulted in part from public feedback. Mindy commented that the idea was not to be an environmental monster, but to determine where the most effective action for species recovery would be, on the front end or the back end. She commented that after 20 years there was still no known improvement in the species status and the program should be structured to fix that.

Jane asked if the current translocation site still had any capacity. Marci replied that an environmental assessment had been done on that site in 2005 and the determination was made that translocation into that area could continue. Jane asked if an active effort to find a second translocation site was still going on. Marci replied that Clark County was not working on a second site because translocation had been turned over to USFWS. Jane asked if this meant future translocations had to wait until USFWS determined a new translocation site. Marci responded that the strategy was to partner with USFWS to determine those sites up-front and early in the plan. Marci commented that there are other compliance programs involving USFWS identifying on an as-needed basis where tortoises get placed, but that is not an ideal situation.

John pointed out that the Permittees felt they had a broad outline of a plan that minimizes and mitigates the impacts of development to the maximum extent practicable and also makes a modest contribution to recovery. But, the desert tortoise is a species whose range covers four states and 50 million acres. The ability of this plan to have a significant effect on the recovery of this species is minimal. It is possible that even after thirty years there could be no significant improvement in the status of this species and Permittees would still be required to do habitat conservation, minimization and mitigation.

Dr. Zippen added out that the very few court cases on this subject revolved around the concept of "maximum extent practicable." He stated that in one of the few cases where an applicant lost its permit, it was because it could not demonstrate that it had minimized and mitigated to the maximum extent practicable.

The plaintiffs demonstrated that the applicant actually could have done more, and the plan did not demonstrate that what the applicant chose was best and why.

Alan commented that it seemed ridiculous that the plan's conservation strategy has to be crafted to deal with public relations vs. developing and implementing a technically efficient strategy.

Darren asked if anything had been done towards creating a breeding program with captive tortoises. Dr. Zippen commented that he was not aware of any breeding programs involving captive tortoises. Marci replied that a program was underway right now and a video had been produced. She stated that one of USFWS's key recovery programs was tortoise head-starting and population augmentation. Darren commented that he would like to see these proactive efforts be part of the HCP with funds set aside to



accomplish them. He stated that if these efforts are successful, there should be credits for each tortoise released.

Mindy commented that this goes back to the money discussion earlier. If the program has the money, why not include these programs in it. Marci commented that Coyote Springs had made a small contribution to this effort.

Darren commented that this program could potentially produce more tortoises than would be killed during development. Marci commented that this goes back to Terry's question on the effects of adding tortoises to the indigenous population. Whether you are moving tortoises or head-starting tortoises, you have the same effects on the recipient population.

*16. Whatever the plan ultimately is, no increase in fees - Period!*

Eric pointed out that this was Joe Pantuso's, Developer/Homebuilder, comment and was consistent with the position he had taken at the March CAC meeting.

*17. I do not agree with the impact zone concept.*

Eric commented that Terry had covered her reasons for this when the committee discussed the comment concerning the differences between Zones B and C.

## **5. Public Comment**

Cris Tomlinson, Nevada Department of Wildlife, commented that the Valley Fire Reserve Unit was a highly important desert bighorn sheep area. These animals are highly conserved but there are a few tags issued for hunting. The creation of this reserve unit and the effect on hunting needs to be explained. He suggested that someone attend the Clark County Wildlife Advisory Board and explain this proposal.

Cris commented that the limitations of models need to be included up front. Some models have better data than others. He stated that some of the models may predict that species are not present in certain areas when they actually are present.

Cris also stated that there are other, smaller areas that are key to some of the covered species that the program should consider including in the reserve system.

Eric asked if there was any other public comment. There was none.

## **6. Meeting Wrap Up and Closing**

Eric reminded the committee that the next meeting was in May, and the facilitation team would take the comments and concerns from this meeting's discussion and craft a proposed recommendation for the committee to consider in May. Following this, the committee will begin discussions on implementation





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structure at the May meeting. Eric asked the committee if it wanted to extend the May meeting to three hours.

There was committee agreement to extend the May meeting to three hours from 2:00 p.m. to 5:00 p.m.

The meeting was adjourned.



<b>Committee Members Present</b>	<b>Attendance</b>	
	<b>Clark County Staff</b>	<b>Others In Attendance</b>
Jane Feldman, Environment/Conservation	Jodi Bechtel	Michael N. Johnson
Mike Ford, City of Mesquite	Lee Bice	Sara Moffat
Matt Heinhold, Gaming Industry	Marci Henson	Carrie Ronning
Terry Murphy, Developer/Homebuilder	Ann Magliere	Cheng Shih
Joe Pantuso, Developer/Homebuilder	Mark Silverstein	Cris Tomlinson
Jim Rathbun, Education	John Tennert	Paul Yadro
Scot Rutledge, Environment/Conservation	Sara Zimnavoda	Ian Zabarte
Alan Spooner, Business/Small Business		Eric Hawkins (Facilitation Team)
Allison Stephens, City of North Las Vegas		David Zippen (ICF International)
Mindy Unger-Wadkins, City of Henderson		
Darren Wilson, Nevada Taxpayers Assn.		



## Flipcharts

Notes:

### Agenda

1. Opening and Introductions
2. Approve March Notes
3. Review and Adopt CAC Guiding Principle on Mitigation
4. Mitigation and Reserve System Presentation
5. Committee Discussion
6. Public Comment
7. Adjourn

### Goals

- To approve March notes
- Collect data and answer questions on mitigation
- Progress toward a recommendation on minimization and mitigation

### Discussion

#### Positives

- Certainty of management with ownership of land
- This should "force" BLM and others to once again "fully" fund
- Permanent land protection
- No need to purchase as much land (i.e., CA)
- Valley of Fire Unit A
- Meadow Valley Wash

### Discussion

#### Positives

- Reserve system with A-B-C zones looks compatible
- Thumbs up
- Taking the "possibly available" land off the table



## Flipcharts

Notes:

### Discussion

#### Positives

- Conservation strategy:
  - Land preservation
  - Land management
  - Habitat enhancement and restoration
  - Positive action
- Reserve system - positive

### Discussion

#### Questions

- Cost??
- Not waste \$ - cost benefit
- Why have a difference between Zones B and C?
- Could we have a map delineating the U.D.B?
- What climate models were used for forecasting?

### Discussion

#### Questions

- Would BLM also maintain species protection in addition to CS/RS?
- Will current mitigation measures on DWMA's, CMA's, etc., established in current HCP remain in perpetuity as contemplated in current HCP?
- What if there needs to be more agriculture space on Colorado River unit?

### Discussion

#### Questions

- Real reason surveys now needed ... USFW or public outcry?
- Upon what data does FWS deem tortoise clearance beneficial to long term survival
- How feasible whether BLM would consider reserve system?
- Are surveys for species other than tortoise included in \$35-50 cost per acre?



## Flipcharts

Notes:

### Discussion

#### Questions

- Do existing programs stay the same or reduce?
- Current HCP mitigates at much greater than acre-for-acre - any credit for that?
- Locking out public use?
- USFS not available?
- State parks available possibly, yet is major component
- Biased data - unreliable or incomplete

### Discussion

#### Concerns

- Whatever the plan ultimately is - No increase in fees - Period!
- I do not agree with the impact zone concept
- How much will this cost? Is all BLM land free?
- What happened to the burrowing owl?
- Stump Springs mostly on private land? If so, let's leave it alone

### Discussion

#### Other Ideas

- In 215,000 acre reserve uses public
  - Allowed - Existing main roads
  - Spelled out - camping, hunting, etc
  - OHV use to road system (where would we allow OHV use)
  - Species management - watering devices, etc.
  - Disallowed - Spelled out

### Discussion

#### Other Ideas

- Contribute to breeding and recovery efforts



## Flipcharts

### Notes:

### Notes

- Why BLM only - not NPS, Forest Service?
  - Very little occurrence of species
  - Already protecting vs. new protection
- SNPLMA
- Focus effort on land we can manage and reduce cost - replacement of current strategy
  - Costs to be shown

### Notes

- Any parts we want to keep in place?
  - Perhaps - areas where current efforts working
- Are we creating 1:1 precedent?
  - No - 3:1 more common in independent HCPs
- Develop = 215, Reserve = 215
- Reserve creates single-use for these areas

### Notes

- Timing on development of reserve
  - TBD: hoping early
  - Can be done as development occurs
  - Current fund balance allows us to get program started
- Current obligations go away, but new obligations created due to management of 215, 000 acres
- Creation of endowment fund allows for continuation in perpetuity

### Notes

- Cost still the missing piece
- Accountability potential high
- Build buffer/flexibility into reserve system
- Legislative language that allows for flexibility/appropriate uses
- Will require federal legislation





## Flipcharts

Notes:

### Notes

- Locking public out?
  - No - Similar to Boulder City Conservation Easement
  - Excluding multiple use as known by BLM: Red Cliffs Desert outside St. George
- B vs. C Zone - make the same?



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**Appendix A**  
**Meeting 15 Agenda**



## AGENDA

### Desert Conservation Program Community Advisory Committee Meeting County Of Clark, State Of Nevada

NOTICE IS HEREBY GIVEN that a meeting of the Desert Conservation Program Community Advisory Committee (CAC) has been called and will be held on Thursday, April 8, 2010, beginning at 2:00 p.m. at the Regional Transportation Commission Building, 600 Grand Central Pkwy, Room 108, Las Vegas, Nevada. Below is an agenda of all items scheduled to be considered. Unless otherwise stated, items may be taken out of the order presented on the agenda.

1. **Opening and Introductions**
2. **Approval of Meeting Notes from the March 2010 CAC meeting - Action Item**
3. **Presentation on Mitigation & Reserve System - Informational Item**
4. **Discussion of Avoidance, Minimization and Mitigation Recommendations - Action Item**
  - Goal:**
    - To continue discussions regarding mitigation recommendations required for an amended MSHCP
    - To develop a recommendation on the Conservation Strategy for the amended MSHCP
5. **Public Comment**

No action may be taken upon a matter raised under this item of the agenda until the matter itself has been specifically included on an agenda as an item upon which action will be taken. Speakers are asked to sign in to speak. Speakers are asked to introduce themselves with their name and affiliation, if any, before speaking. Each speaker will be limited to three minutes.
6. **Meeting Wrap Up and Closing**
  - Goals:**
    - To recap meeting results and identify follow-up activities
    - To outline agenda topics for the next meeting
7. **Adjourn**

*continued on next page*



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Committee members are asked to remain at the meeting until adjournment so that items requiring action are able to be heard as needed. Reasonable efforts will be made to assist and accommodate physically handicapped persons desiring to attend the meeting. Please call Ann Magliere at (702) 455-3536 in advance so that arrangements may be conveniently made.

MDH:aem

Dated: April 2, 2010

The above notice/agenda of a meeting of the Multiple Species Habitat Conservation Plan Desert Conservation Program Advisory Committee scheduled for Thursday, April 8, 2010, at 2:00 p.m. was posted on or before the third working day before the meeting per Open Meeting Law requirements at the following locations:

Clark County Government Center Lobby  
Clark County 3rd Street Building Lobby  
Clark County Courthouse Annex  
Laughlin Community Center  
Sahara West Library

Las Vegas Library  
Paradise Community Center  
Winchester Community Center  
Searchlight Community Center



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**Appendix B**  
**Response to Feedback from**  
**Committee**



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On March 18, 2010, the Community Advisory Committee (CAC) received a presentation on species evaluated for minimization measures, the development of potential impact zones and the proposed minimization measures for the amendment of the Multiple Species Habitat Conservation Plan (MSHCP). Staff agreed to review the feedback gathered at this meeting and provide written responses to the CAC for its consideration.

Two categories of feedback are addressed in this response: 1) What Additional Information Do You Need? and 2) What Concerns Do You Have?

**Cost**

- *No increase in fees!*

The Permittees have made no assumption that fees need to increase. The Permittees are following a step-wise process to determine what the impacts of the take will be and what measures to minimize and mitigate the take are needed to meet issuance criteria and be legally defensible.

Once we have a complete conservation strategy, a thorough cost estimate will be prepared and compared against the available funding and existing revenue streams. This will allow the Permittees to determine what, if any, additional revenue will be required.

If additional revenue will be required, several options are available, including but not limited to: 1) re-evaluating the acres of take, 2) re-evaluating the covered species list, 3) re-evaluating the conservation strategy, and 4) seeking additional revenue. This is an iterative process that will require re-evaluation of preliminary recommendations as new information becomes available.

- *How much more will B and C cost to developers?*

The Permittees agree that it is important to understand the costs, both direct and indirect, to the Program and to property owners and developers as soon as possible. Staff is currently working on a Request for Quotes to understand the costs associated with the minimization measures described for Impact Zones B and C. This Request for Quotes is anticipated to be sent to environmental firms in early April with responses due back by April 30. In staff's limited review, the cost of conducting tortoise and burrowing owl surveys and clearances appears to run far less than \$100 per acre in Clark County. The costs for such clearances appear to run in between \$35 and \$50 per acre depending on location, terrain and clearance protocols.

- *If fees don't increase, how do we fund?*

It is premature to assume that fees will need to increase. If the cost estimate reveals that additional revenue is needed, several options are available, as described above. In general, the Permittees recognize the need to review revenue sources and potentially diversify the funding of the Program. The Permittees look forward to the CAC's deliberations and recommendations on funding and sources of revenue.



- *Money for AMMs - Who funds activities under B? Developer performs and pays?*

The Permittees are currently evaluating the feasibility of streamlining the coordination and implementation of minimization and mitigation as part of the overall operation of the program. It may be possible that from a developer/property owner perspective, implementation is similar to the current model where property owners pay their fee and Clark County, as Administrator, is responsible for coordinating all minimization and mitigation, including clearance surveys.

Staff is currently preparing a Request for Quotes from environmental firms with experience in species specific minimization measures, particularly desert tortoise and burrowing owl clearances. This is being done to estimate costs and design an implementation strategy that maximizes effectiveness and efficiency from both a biological and financial perspective.

### **Accountability**

- *Accountability of \$ any future project. Pre- and post-accounting!*

The Permittees strongly agree that accountability is an essential element of the amended plan. We look forward the CAC's questions, deliberations and recommendations on ways to increase accountability and reporting.

Significant progress has been made within the constraints of the current implementation structure to ensure that project work is conducted in compliance with contracts and scopes of work and to ensure that projects are completed on time and within budget. Staff has also completely overhauled its cost accounting for conservation expenditures and significantly increased the transparency and accuracy of the current Program.

The Permittees have also made significant strides to improve project selection, design and implementation. This has not been easy and staff has received significant pushback from state and federal implementing agencies for its efforts to improve projects and increase accountability.

Until such time as the plan and implementation structure change, the Permittees have to rely largely on the implementing agencies to prioritize, select, design and implement projects that demonstrate permit compliance, result in the intended environmental outcomes for covered species and their habitats and inform programmatic effectiveness.

While the Permittees are ultimately responsible and accountable for the Program's accomplishments and effects, the current structure significantly limits their authority to select projects and to design and implement those projects to ensure they have the intended environmental outcomes and inform the Program's effectiveness.

### **Minimization vs. mitigation**

- *Impact of minimization vs. mitigation. How much do we get out of minimization techniques vs. just doing mitigation?*
- *Is it possible that \$ spent on surveys and avoidance [are] better spent on mitigation in the wild? How do we know?*

It depends on the habitat and the species being addressed, which is why the biological consultant was tasked with developing criteria and evaluating appropriate species and habitat locations where minimization measures make sense biologically and financially. In general, minimization completed on the front-end of a program reduces the amount of mitigation required to offset the residual impacts. For example, recent informal inquiries

indicate that clearance surveys for desert tortoise and burrowing owls range from \$35 to \$50 dollars per acre. In comparison, restoration of habitat in the Mojave Desert can be upwards of \$24,000 per acre based on estimates provided by the Bureau of Land Management. Ultimately, the conservation strategy will be a package of minimization and mitigation that will be evaluated against the FWS issuance criteria.

- *Definition of terms-need to revisit “minimize vs. mitigation”*

The CAC is welcome to revisit the definitions of “minimize” versus “mitigate”. These terms need to be clear to the CAC.

Section 10 of the Endangered Species Act (ESA) requires applicants for an incidental take permit to specify steps to minimize and mitigate the impact of the taking. The distinction between minimization and mitigation for purposes of the ESA is measures done to reduce potential impacts versus measures that are implemented to compensate for any remaining residual impacts. While the distinction is imprecise, it is often useful in helping to distinguish among different elements of a conservation strategy.

### **Impact Zones**

- *Future growth boundaries change the rules*

The proposed impact zones are not growth boundaries. Growth and development can occur within all three zones at the discretion of individual property owners and subject to the land use planning policies and regulations of the individual jurisdictions.

- *Is zone designation fluid along the continuum?*

Staff is not sure what is meant by this question and we may need clarification before we can provide a more complete response. In general, the impact zones would be established based on the criteria proposed at the CAC meeting on March 18. The boundaries would be set and a hard line map would be included in the amended MSHCP. For Impact Zones A and B, the Permittees propose that the boundaries would be revisited every five (5) years and/or once 10 percent of the take allowance has been reached, whichever comes first. The original zone map in the amended MSHCP would be updated as a result of this analysis. This would allow for the intent of the impact zones to be realized across the entire term of the new permit as conditions change.

- *Are there going to be incentives (financial or otherwise) to concentrate development (1) Zone A, (2) Zone B, (3) Zone C?*

Indirectly the impact zones and minimization measures proposed within each zone equate to an incentive. Developing property in Zone A requires less minimization than in Zone B which requires less minimization than in Zone C.

- *Is it legal to designate “zones” for avoidance? - On future lands – public*

This is less a legal question than a question as to the scope of the CAC. The Permittees and biological consultant are reviewing all available lands for their potential to serve as reserve areas in the conservation strategy for the amended MSHCP. In this analysis, public lands were evaluated. The results of this analysis will be provided to the CAC for its consideration beginning at its April meeting.

- *What is the real difference between A and B as relates to habitat?*

The rationale behind distinguishing between Zones A and B is the likelihood of finding individual animals within Zone A as compared to Zone B, primarily as a result of intensive development nearby and barriers to wildlife movement, such as freeways, block walls, etc. While there may be habitat within Zone A, the likelihood of finding occupied habitat within Zone A is predicted to be low. Based on the low probability of finding individuals within Zone A, requiring minimization measures such as surveys and clearances within this zone does not appear to be biologically fruitful or cost effective. Dollars spent looking for animals that are not likely to be in Zone A can be better spent on conservation of occupied and higher quality habitats elsewhere.

- *Flexing zones - why have a baseline then?*
- *Flexing the zones over 50 years could result in very little conservation*

The boundaries for Zones A and B would originally be set based on the criteria presented at the CAC's March 18 meeting. A hard line map of these zones would be included in the amended MSHCP. For Impact Zones A and B, the Permittees propose that the boundaries would be revisited every five (5) years and/or once 10 percent of the take allowance has been reached, whichever comes first. The original zone map in the amended MSHCP would be amended and updated as a result of this analysis. This would allow for the intent of the impact zones to be realized across the entire term of the new permit as conditions change.

Re-evaluation of Zones A and B does not affect the amount of minimization and mitigation ultimately required. The permit will assume take of 215,000 acres; in the Las Vegas Valley this assumes full development of the Ultimate Development Boundary. As development (take) occurs and Zone B becomes less and less suitable habitat for covered species, the likelihood of finding individual animals in this habitat decreases. At some point, the costs of requiring minimization in this zone will outweigh the conservation benefits. However, the amount of minimization and mitigation required and conservation achieved over the course of the plan does not diminish. The emphasis on minimization decreases while mitigation and conservation elsewhere increases.

### **Minimization measures**

- *What is a limited survey?*

Survey and clearance protocols will be designed to balance cost and effectiveness. For example, the most recent desert tortoise protocol published by the FWS's Ventura, California Office requires that applicants conduct 100 percent clearance surveys of the project site with a minimum of two (2) passes in opposite directions at 15-foot transects. If a tortoise is found during the second pass, the applicant may be required to complete a third pass. For Zone B, what is meant by "limited survey" is to propose a less rigorous clearance survey limited to a single pass and wider transects, as an example. In addition, the standard protocol requires the installation of tortoises exclusionary fencing; the Permittees will likely recommend exclusionary fencing only in Zone C and only in instances where there is a substantial gap in the time between when the clearance survey is done and when the land disturbing activities will take place.

- *What end of the scale - AMM (hard to detect or easy to detect; large range or small range)?*

The criteria vary by species.

- *Are tortoises detectable? What is the criteria?*

It is important to distinguish between range-wide detectability of desert tortoises and site-specific detectability of desert tortoises. There is a significant difference in the methods used to conduct range-wide desert tortoise monitoring and site-specific tortoise clearances.

Established protocols for conducting site-specific desert tortoise clearances involve walking and inspecting virtually every square meter of a project site to identify both burrows and desert tortoises. This simple and intensive protocol results in a detection rate of roughly 95 percent of the tortoises on site. Monitoring protocols for the purpose of range-wide population estimate are not so intensive.

- *What does “Additional species specific avoidance and minimization measures” mean for zone B?*

These measures will apply primarily to rare plants, riparian birds and potentially bats. For plants, possible minimization measures might include seed and/or soil salvage or transplanting. For birds, additional measures may involve surveys for nests if disturbance is planned to occur during the breeding season.

### **Effectiveness**

- *How do long term survey and relocation benefit long term survival in the wild?*
- *How has the lack of survey and relocation in LVV impacted long term survival?*

When successful, relocation can allow individuals to contribute reproductive effort and genetic diversity to the local wild population, in turn increasing the potential for the population to withstand stochastic (random) events, such as fires or droughts, and persist long term. The FWS deems tortoise survey, clearance and relocation as a potential solution to preserving individual wild tortoises and wild tortoise populations when their habitats are going to be lost to development. Most major development projects occurring today in desert tortoise habitat are implementing desert tortoise survey clearance and relocation as a means to minimize project impacts and preserve individual wild tortoises and as a means to augment existing tortoise populations.

- *What problem is driving the addition of avoidance measures?*

The FWS has issued a number of incidental take permits covering desert tortoise over the last decade and has written numerous biological opinions for projects on federal land that have the potential to impact the desert tortoise and its habitat. Almost without exception, the FWS has required applicants to survey and clear desert tortoises and/or burrowing owls prior to authorizing ground disturbing activities. The assessment of the Permittees is that it will be difficult to meet issuance criteria without including minimization measures that salvage individual wild tortoises from development sites. With respect to burrowing owls and riparian birds, heightened awareness and enforcement of the Migratory Bird Treaty Act is a driver for consideration of these measures.

In addition, not including species surveys and clearances may unnecessarily erode the general public's support for the amended MSHCP.

- *Have relative impacts of amount of take to date been measured?*

This question needs clarification before it can be fully answered. The biennial Adaptive Management Report provides an accounting of the following:

1. How many acres of habitat have been lost during the term of the take permit;
2. How many acres of habitat loss have occurred in each of the MSHCP's management categories; and

3. The spatial extent of habitat loss per ecosystem per management category.

- *How/when/why has the burrowing owl now on par with the desert tortoise?*

Below is a summary of the letter from the FWS to the Southern Nevada Homebuilder's Association regarding burrowing owls. The burrowing owl has been petitioned to be listed in southern California and is likely on the radar screen of advocates here locally. This is why Permittees and the CAC have preliminarily recommended considering burrowing owl on the revised covered species list. In the event it does become listed, we would have a guaranteed take permit with no delay to the regulated community.

The letter also appears to accurately describe the authority and responsibility of the FWS to enforce the Migratory Bird Treaty Act (MBTA). Compliance with the MBTA is an obligation of private property owners and can be enforced by the FWS. The measures outlined in the letter appear consistent with what's required under the MBTA. The problem is that locally the FWS has been inconsistent in its enforcement of the MBTA. Therefore, most locally haven't been aware of the MBTA and its requirements. In other communities, compliance with the MBTA is a more common practice than it has been here. Jody Caico from FWS explained that the FWS is becoming increasingly concerned about the status of the owl, its likelihood of listing and are taking their responsibilities and obligations to enforce the MBTA more seriously as a result.

- *Rehabilitation breeding programs to propagate species credit back to HCP.*

According to its Draft Revised Recovery Plan for the Mojave Population of the Desert Tortoise, the FWS intends to augment depleted tortoise populations through a strategic program, which will include tortoise head-starting and translocation. The plan includes the following description:

3. *Augment Depleted Populations through a Strategic Program*
  - 3.1. *Develop protocols and guidelines for the population augmentation program, including those specific to head-starting and translocation.*
  - 3.2. *Identify sites at which to implement population augmentation efforts.*
  - 3.3. *Secure facilities and obtain tortoises for use in augmentation efforts.*
  - 3.4. *Implement translocations in target areas to augment populations using a scientifically rigorous, research-based approach.*

Staff has commented on this draft plan specifically with regard to the need for a detailed, timely, and cost-effective strategy for putting this program in place. The FWS intends to execute this program out of its Desert Tortoise Recovery Office with the assistance of the United States Geological Society and Science Advisory Committee.

Other

- *Table 1 needs legend: source info and reference too*

A legend has been added.

- *Too many unknowns e.g. - rescue a Gila monster by moving her but will she survive? For how long?*

No minimization measures are proposed for Gila monsters.

- *Not sure what Flood Control based Ultimate Boundary on*

The ultimate development boundary defines the area of developable land in the Las Vegas valley and was created as part of the Clark County Regional Flood Control District's 2008 master plan update by PBS&J (<http://acequia.ccrfcd.org/FileLibrary2/FileLibrary.aspx>). The master plan describes the UDB as follows:

“The study area for Las Vegas Valley MPU is divided into ten hydrographic planning areas or watersheds to facilitate the implementation of the flood control plan. Each watershed is analyzed using consistent criteria and methodology. The 2008 MPU and previous MPUs are based on assumptions about future growth and development in Las Vegas Valley in order to represent the ultimate hydrologic condition and to aid in the planning and preliminary design of future flood control facilities. The ultimate hydrologic condition uses land use data that represents the full build out condition and to facilitate the use of this condition, an Ultimate Development Boundary (UDB) was generated for the Las Vegas Valley. This boundary is based on the mountainous terrain that surrounds the Valley and the locations of protected lands. Future land use is used in conjunction with the 100-year frequency flood event and soil data to develop hydrologic models that establish peak flow rates and flow volumes for drainage corridors. These peak flow rates and flow volumes are then used to analyze the flood control system to identify deficiencies in the existing flood control plan. The final flood control facility plan is then recommended to mitigate these identified deficiencies.”

- *In my experience “experts” have such vested interest in their species that they are never really objective*

Agreed.





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**Appendix C**  
**Presentation on Mitigation**  
**and Reserve System**



## Clark County MSHCP Amendment Preliminary Conservation Strategy

April 8, 2010

David Zippin, PhD

Passion. Expertise. Results.

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### Presentation Outline

- Conservation strategy overview
- Reserve system
  - Upland reserve design and alternatives
  - Riparian reserve design
- Questions and discussion



## Conservation Strategy: Overview

- MSHCP Amendment must meet Endangered Species Act regulatory standard
  - Minimize and mitigate impacts to the maximum extent practicable
  
- **Conservation strategy** = package of conservation actions to mitigate impacts of covered activities
  - Avoidance and minimization measures
  - Conservation actions (mitigation)
    - Land preservation
    - Land management
    - Habitat enhancement or restoration

3



## Conservation Strategy: Overview (cont'd)

- Original MSHCP Conservation Strategy
  - FUNDS species monitoring and management on public land
  - After 10 years, not as effective or efficient as envisioned
  - Actions difficult to verify and track; lack of transparency
  
- MSHCP Amendment Conservation Strategy
  - IMPLEMENTS species monitoring and management
  - Focus on reserve units that support covered species
  
- Reserve design process needed to identify MSHCP reserve units

4



## Reserve System

- HCP Reserve System = area preserved and managed to support covered species
- Often preserved in perpetuity with conservation easement
  - Similar to Boulder City Conservation Easement
- Traditional mitigation for HCPs
- Provides best guarantee to FWS of mitigation
- Allows local agencies to manage land effectively

5

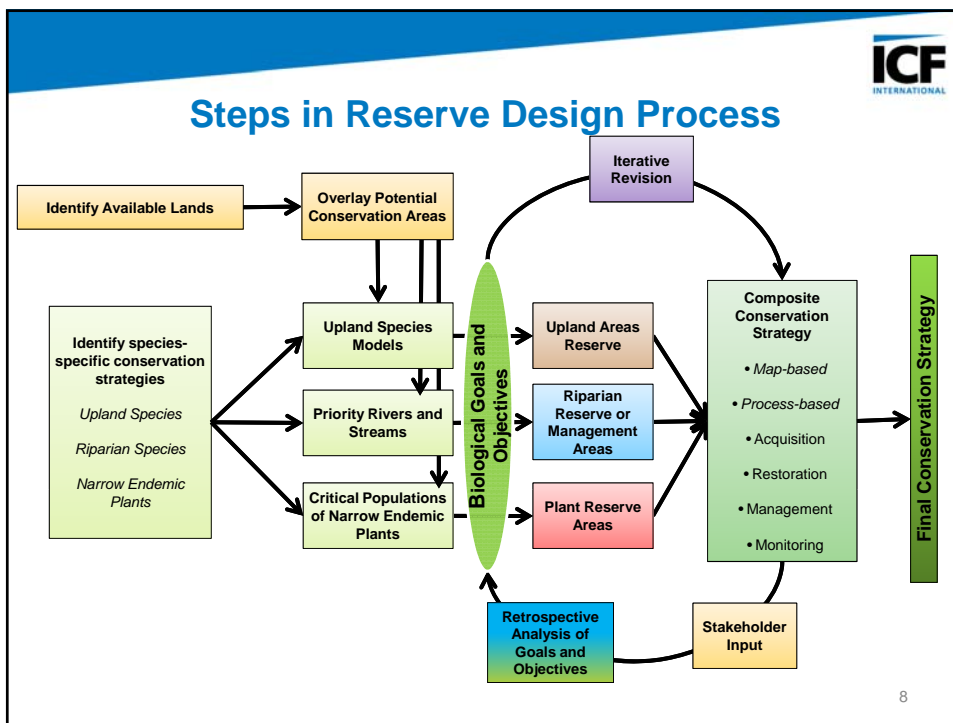
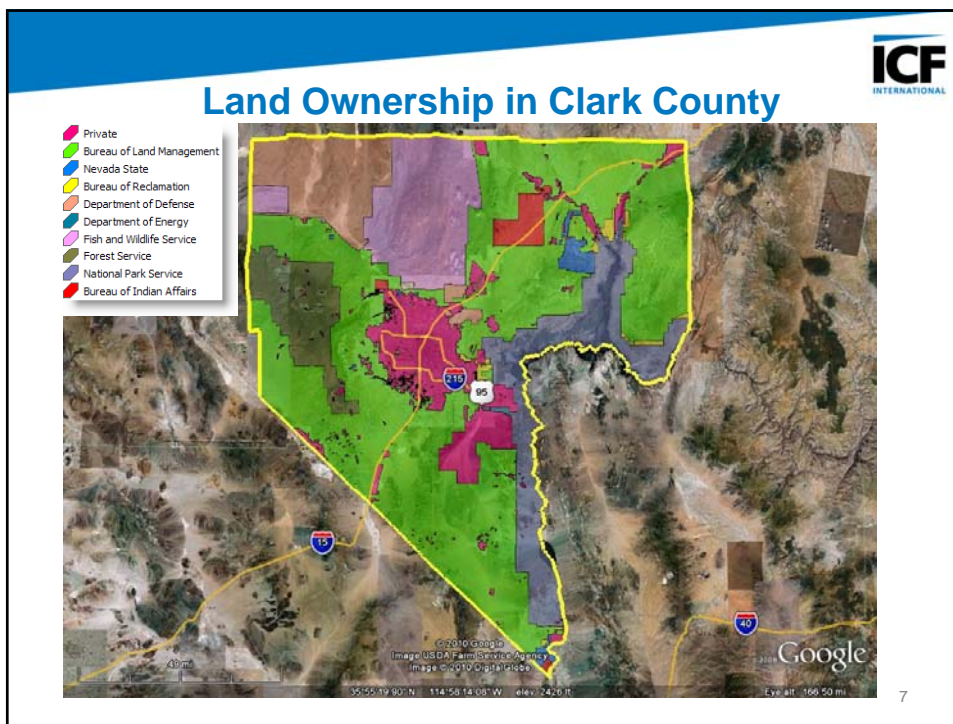


## Reserve Units Primarily on BLM Land

**Reserve Unit** = Area identified for focused monitoring and management of covered species

- 89% of Clark County is federal land
- Not enough undeveloped private land to create reserve system to mitigate impacts
- 56% is BLM land
- Species and habitat monitoring and management on BLM land typically not well funded or consistent
  - Creates opportunity for MSHCP

6





## Step 1: Identify Lands Available

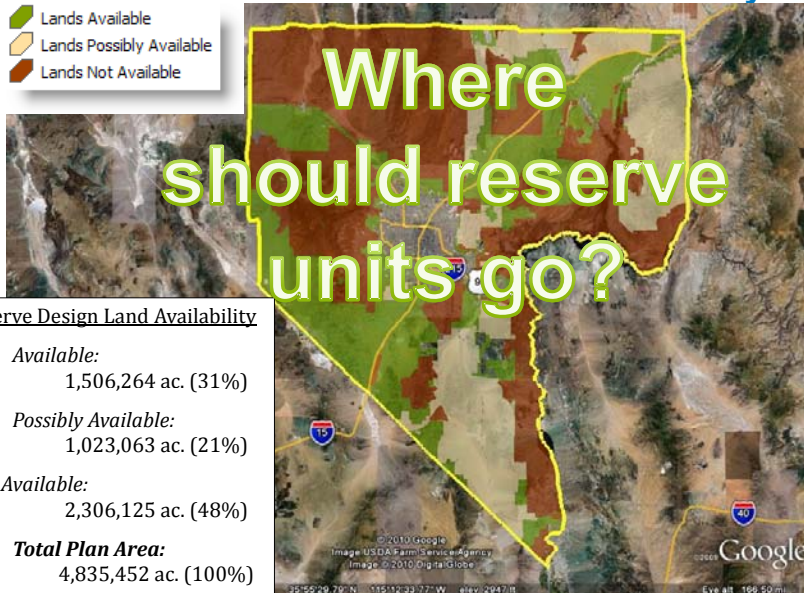
- Available Lands
  - Most BLM-owned lands
  - Most state-owned lands
  - Most County-owned lands
  - Some City-owned or easement lands
  - Private-owned lands
  
- Not Available Lands
  - Other federal-owned lands
  - Tribal-owned lands
  - Special use BLM lands
    - BLM Wilderness
    - BLM active recreation areas
    - Planned solar or wind energy areas

9



## Conservation Lands Availability

- Lands Available
- Lands Possibly Available
- Lands Not Available



### Reserve Design Land Availability

*Available:*  
1,506,264 ac. (31%)

*Possibly Available:*  
1,023,063 ac. (21%)

*Not Available:*  
2,306,125 ac. (48%)

**Total Plan Area:**  
4,835,452 ac. (100%)

10



## Step 2: Conservation Target and Guidance

- Conservation Target based on expected mitigation needs
- Covered projects may impact up to 215,000 acres
- Assume ~1:1 mitigation ratio
- Initial conservation target = 200,000 acres

Reserve Unit Selection Prioritization:

	Protects >2 Covered Species	Protects 1 or 2 Covered Species
On Available Land	HIGHEST	MODERATE
On Possibly Available Land	MODERATE	LOWER

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## Reserve Design Process

- Applied conservation criteria
  - High-quality habitat
  - Large enough to support species
  - Connectivity or serve as buffers
  - Provide a diversity of environmental gradients
  - Opportunities for habitat enhancement/restoration
  - Minimize edges

12





### Step 3: Determine Habitat of Covered Species

- Modeled habitat distribution
  - Best available scientific data
  - Knowledge of the ecological and habitat associations
  - Best available GIS data
- Known species occurrence data
  - Strongest evidence of habitat suitability

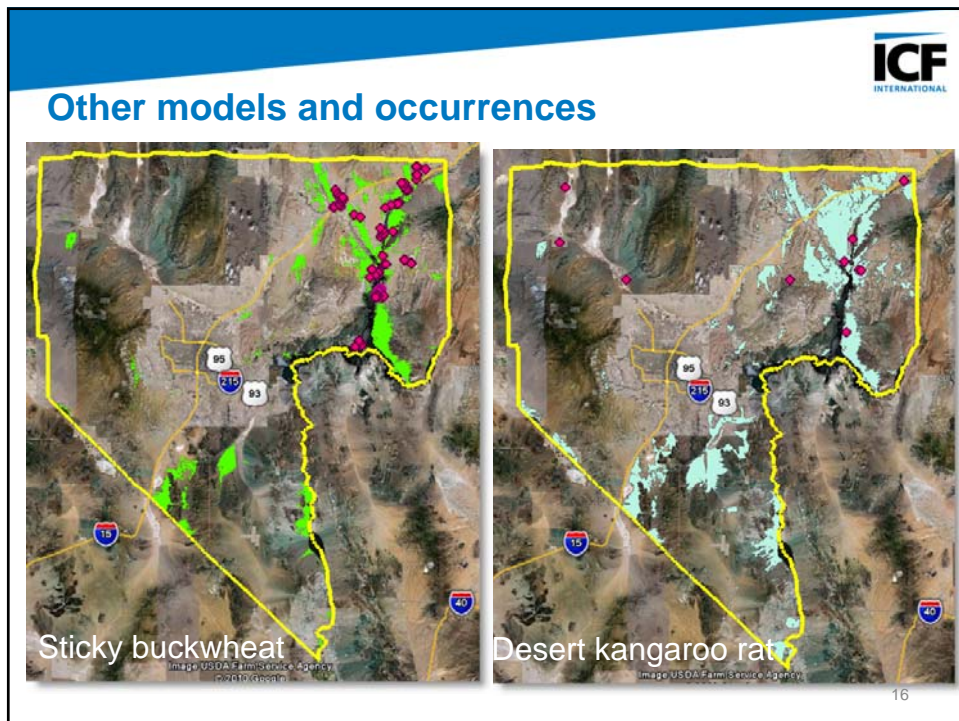
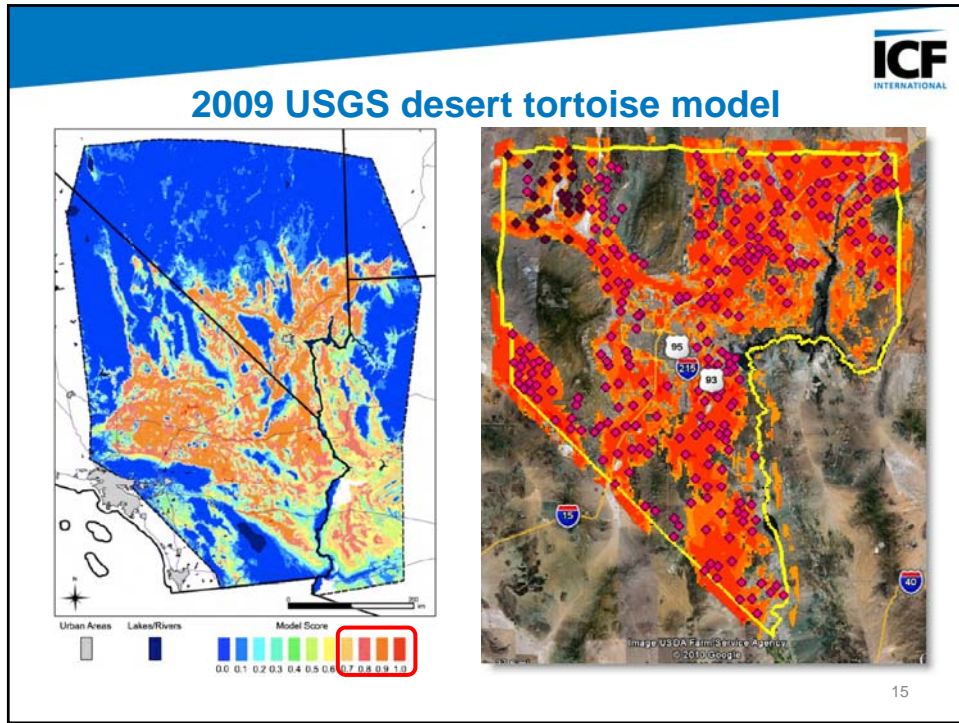
13



### Updated Species Models

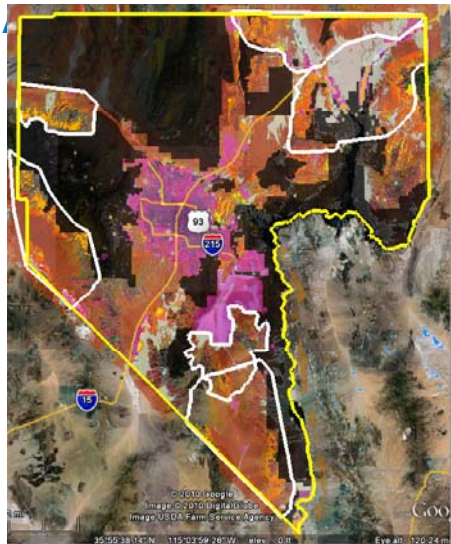
- USGS: Desert tortoise (2009)
- DCP: Sand and gypsum-dependent species
  - 6 of 7 covered plants
  - Desert kangaroo rat, desert pocket mouse
- PBS&J: Riparian birds: vireo, cuckoo, flycatcher, clapper rail
- ICF: Spotted bat, LeConte's thrasher, Bendire's thrasher

14





### Step 4: Select Upland Reserve Units



- Based on the principles of reserve design
- Select Available Lands first
- Supplement as needed with Possibly Available lands
- Selected reserve unit areas between 100,000 and 300,000 acres

17



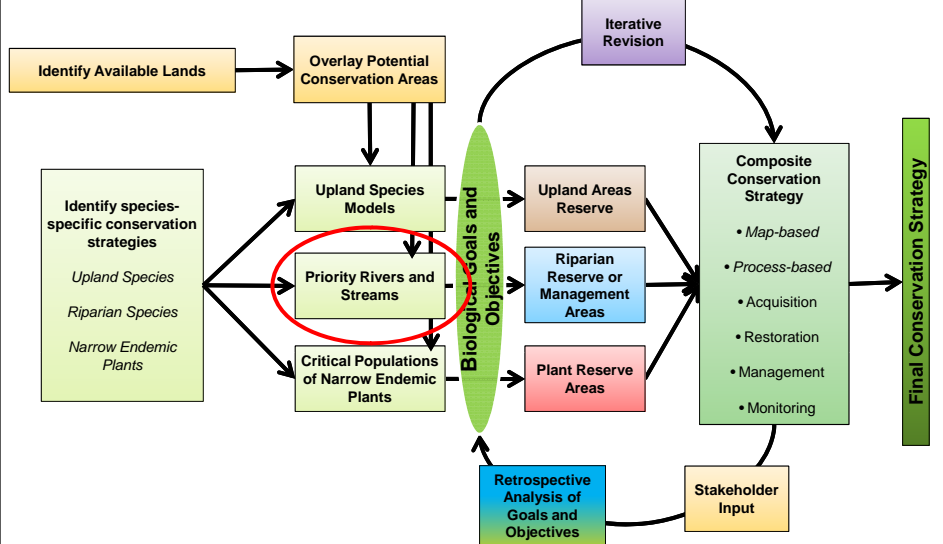
### Step 5: Develop Reserve System Alternatives

Reserve Unit	Alt.1: Valley of Fire	Alt. 2: Stump Springs	Alt. 3: Combination
Valley of Fire	150,696	--	97,261
Stump Springs	--	155,060	64,336
Meadow Valley Wash	42,229	42,229	42,229
Colorado River	1,387	1,387	1,387
<b>Total</b>	<b>194,312</b>	<b>198,677</b>	<b>205,214</b>

18

# RIPARIAN STRATEGY

## Steps in Reserve Design Process





### Riparian Covered Species

- Four bird species largely limited to riparian systems
- Yellow-billed cuckoo and SW willow flycatcher only breed in plan area in desert riparian areas
- Yuma clapper rail only breeds in heavily vegetated wetland in riparian systems



Arizona Bell's vireo



Yellow-billed cuckoo



Southwestern willow flycatcher



Yuma clapper rail

21

### Major River Systems

- Habitat for riparian birds found largely on four river systems:
  - Virgin River
  - Muddy River (including Meadow Valley Wash)
  - Las Vegas Wash
  - Lower Colorado River

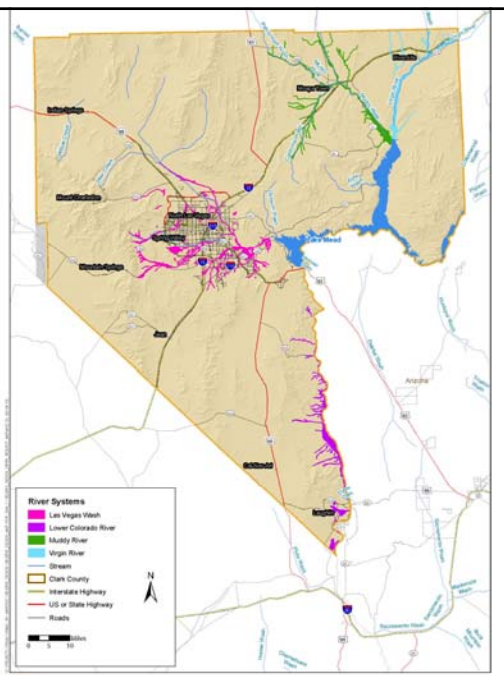


Figure X  
Clark County River Systems





## Species Habitat on River Systems

- ~50% of modeled habitat on four major river system
- Actually more due to model parameters
  - Springs
  - Almost all breeding habitat on river systems

Species	Total in Plan Area	Total on Four Major River Systems	Total on Private Land
SW willow flycatcher	27,937	14,679 (53%)	6,765 (24%)
Yellow-billed cuckoo	29,814	14,548 (49%)	6,857 (23%)
Arizona Bell's vireo	29,673	14,549 (49%)	6,857 (23%)
Yuma clapper rail	26,059	12,531 (48%)	4,640 (18%)



## Why Unique Strategy for Riparian Systems?

- BLM transfers likely not be feasible
  - 50-60% of suitable habitat on public land, less owned by BLM (less for breeding habitat)
  - BLM land ownership is not contiguous
- Greater threat and impacts to riparian systems requires mitigation beyond BLM transfers
  - Limited breeding habitat on BLM land
  - Most breeding habitat on private land
  - No net loss standard → active restoration needed
  - Few opportunities on BLM land for active restoration
- Riparian covered species highlight need for mitigation



## Mitigation Options

1. Continue approach of MSHCP:  
fund actions on public land
2. Habitat restoration on public land:  
convert tamarisk or restore ag lands
3. Preserve existing habitat: buy fee title or easements on  
private land
4. Combination

25



## Riparian Habitat Restoration

- Tamarisk stands not mapped -- restoration opportunities unknown
- 3,197 acres of agricultural land in the four river systems
  - 26% on state/federal land
  - 74% on private land
  - County land on Lower Colorado River
  - Small amount on Las Vegas Wash
- Ag restoration opportunities
  - Muddy River, Meadow Valley Wash
  - Virgin River

26





## Riparian Conservation Strategy Proposal

- Commit to minimum amount of preservation and restoration
  - County acquiring land from willing sellers in river systems
  - Similar to Lower Colorado River Multi-Species Cons. Plan
- Beyond minimum, scale preservation and restoration to impacts: 1:1 preservation AND 1:1 restoration
  - Preservation = acquisition of fee title or conservation easement from willing sellers
  - Restoration ensures no net loss of habitat
  - Preservation offsets temporal loss of habitat
  - Same purchase could achieve both targets
  - Similar to Southeast Lincoln County HCP

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## Next Steps

- County to discuss proposal with BLM, FWS
- Determine best upland reserve system alternative
- Refine reserve system
  - Boundary adjustments
  - Verify adequate species mitigation
  - Field work
- Develop management and monitoring framework within reserve system
- Determine reserve system costs
- Working draft conservation strategy chapter

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## Questions and Discussion



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**Appendix D**  
**Flowchart on Reserve Design**  
**and Conservation Strategy**  
**Process**

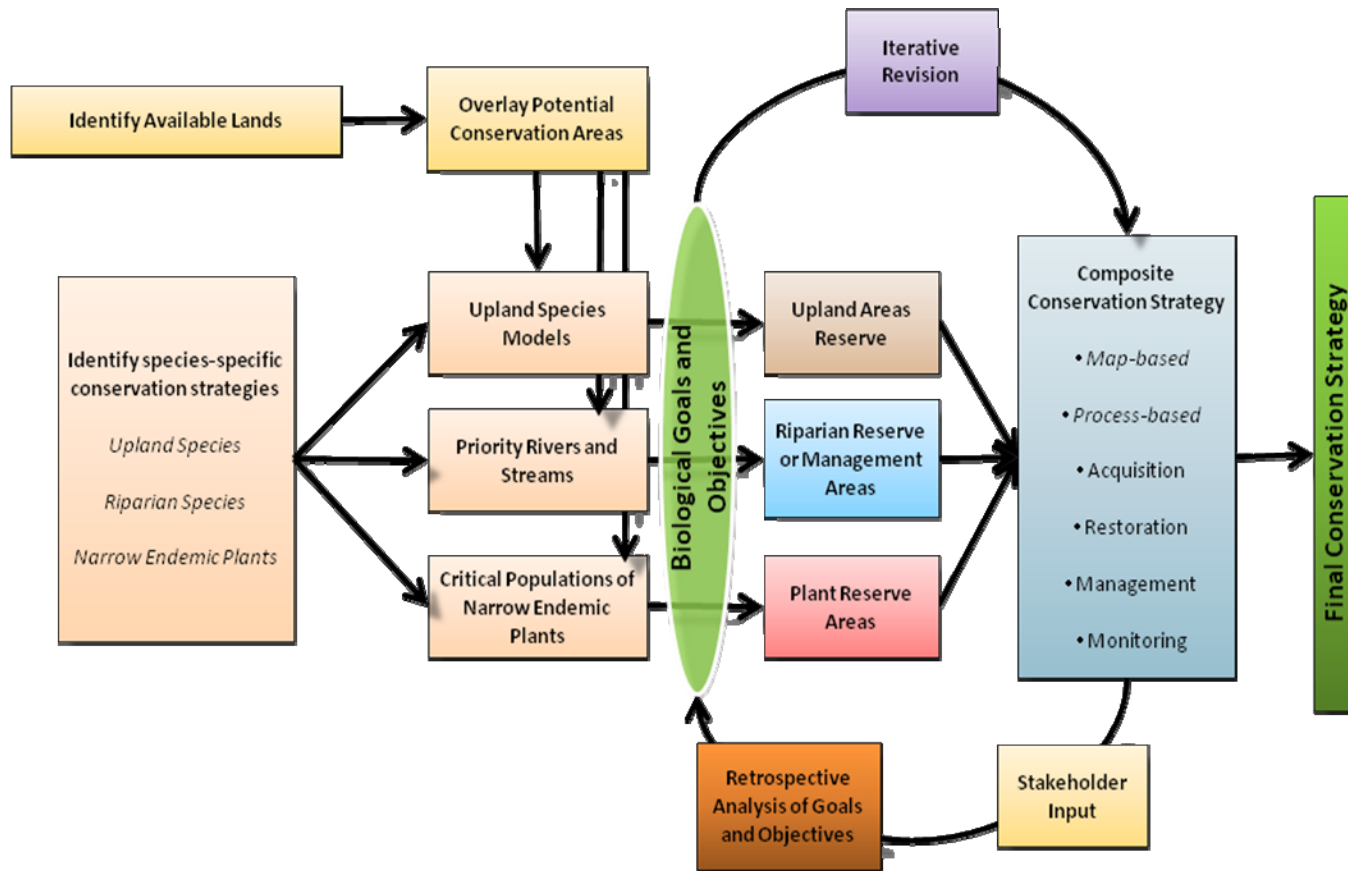


Figure 1. Reserve design and conservation strategy process. Lands available for conservation are selected based on their ability to support covered species. Iterative review refines the conservation strategy.



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**Appendix E**  
**Classification of Land**  
**Availability for Proposed**  
**Reserve System**

**Table 1. Classification of land availability for proposed reserve system.**

Available	Possibly Available	Not Available
<ul style="list-style-type: none"> <li>• County-owned land</li> <li>• Private lands with willing sellers</li> <li>• Disturbed lands with restoration potential</li> <li>• Inside BLM Disposal Boundaries outside the Las Vegas Valley</li> <li>• Inside BLM Disposal Boundary in Las Vegas Valley</li> <li>• Ivanpah Airport Noise Compatibility Area (NCA)</li> <li>• Desert Tortoise Conservation Center lands (BLM lands)</li> <li>• Power line rights-of-way (ROW) but consider in priorities (many powerline ROWs lower priority)</li> <li>• “less likely” BLM solar or wind energy development sites</li> <li>• BLM land not otherwise excluded</li> <li>• No elevation limit</li> <li>• Within city limits of:               <ul style="list-style-type: none"> <li>• Las Vegas</li> <li>• North Las Vegas</li> <li>• Henderson</li> <li>• Boulder City</li> <li>• Mesquite</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• BLM Areas of Critical Environmental Concern (ACEC)</li> <li>• State Parks and State Wildlife Management Areas (NVST)</li> <li>• Boulder City Conservation Easement (for restoration/enhancement only)</li> </ul>	<ul style="list-style-type: none"> <li>• Indian Reservations (Bureau of Indian Affairs)</li> <li>• Bureau of Reclamation land (BOR)</li> <li>• Department of Defense facilities (DOD)</li> <li>• National Forest of any designation (USFS)</li> <li>• Wildlife Refuges (USFWS)</li> <li>• National Parks or Monuments of any designation (NPS)</li> <li>• Highway ROWs</li> <li>• Highways and material sites</li> <li>• Disturbed lands with no restoration potential</li> <li>• Ivanpah Airport boundary</li> <li>• BLM Wilderness</li> <li>• BLM National Conservation Areas</li> <li>• BLM “more likely” solar or wind development sites</li> <li>• BLM Recreation Areas</li> </ul>



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**Appendix F**  
**Proposed Reserve Design**  
**Principles**



## Proposed Reserve Design Principles

The following design criteria are proposed to guide the reserve design process for the Clark County MSHCP Amendment. These criteria are based on established principles of conservation biology (Soule and Wilcox 1980; Soule 1986; Primack 1993; Noss et al. 1997; Margules and Pressey 2000; Groom et al. 2006). All land selected for the reserve system must meet one or more of the following criteria; most lands will meet multiple criteria. The criteria are listed below with explanations for each one.

1. **Provide high-quality habitat for covered species.** *High quality* is defined using various parameters and differs by species. High-quality habitats are frequently characterized by a high abundance and diversity of native species, intact natural processes, and few roads or other evidence of human disturbances.
2. **Be large enough to support sustainable populations of covered species.** The reserve system should be as large as possible within funding and management limits. It must be large enough to mitigate impacts of covered activities. A large reserve system is important to ensure viable populations of covered species and to maximize the protection of biodiversity. Large reserves tend to support more species for longer periods of time than small reserves. Large reserves are also generally easier and more cost-effective to manage on a per-acre basis and also better allow for large-scale management treatments and the maintenance of natural disturbance regimes such as flooding.
3. **Provide connectivity to other high-priority conserved lands for covered species or serve as buffers between high-value conserved lands and areas where impacts are likely to occur.** The reserve system should link existing protected areas and proposed reserves inside and outside the plan area to maximize habitat connectivity. This will maintain and enhance the ability of organisms to move between reserves; facilitate exchange of genetic material, species migration, dispersal, and colonization; and increase the integrity of the network of reserves (e.g., reducing the extent of reserve edge that is in contact with adjacent land uses). Linking reserves may require acquisition of disturbed habitats that can be restored to facilitate better habitat and wildlife movement value. Preserving connectivity will also tend to minimize habitat fragmentation. When adjacent to existing urban areas or planned urban areas, the reserve system should include buffer lands within its boundaries. The purpose of this buffer land is to reduce indirect effects on covered species and ecosystems from urban development.
4. **Provide a diversity of environmental gradients to accommodate shifts in species distributions.** The reserve system should include a range of contiguous environmental gradients (e.g., topography, elevation, soil types, geologic substrates, slopes, and aspects) to allow for shifting species distributions in response to catastrophic events (e.g., fire, prolonged drought, severe flooding) or anthropogenic change (e.g., climate change).
5. **Provide opportunities for habitat enhancement and restoration for the long-term benefit of covered species.** Degraded communities will need to be preserved to capture unique

habitats or populations of covered species, to link preserve areas together or with other protected sites, or to provide opportunities for habitat restoration.

- 6. Minimize the length of edges land uses that are detrimental to the reserve system such as urban development, highways, and mines.** The reserve system should share a minimum amount of edge (i.e., should have the greatest possible area-to-perimeter ratio) with non-reserve land, especially urban development, to minimize the indirect effects of adjacent land uses on the reserve resources and to minimize management costs. For example, reserves should tend toward round or square configurations rather than long and narrow ones. In some cases, however, reserves with low area-to-perimeter ratios may be appropriate to protect linear features with high biological value such as riparian systems.

We look forward to receiving feedback from the MSHCP participants on these proposed and recommended approaches to the conservation strategy and reserve design.

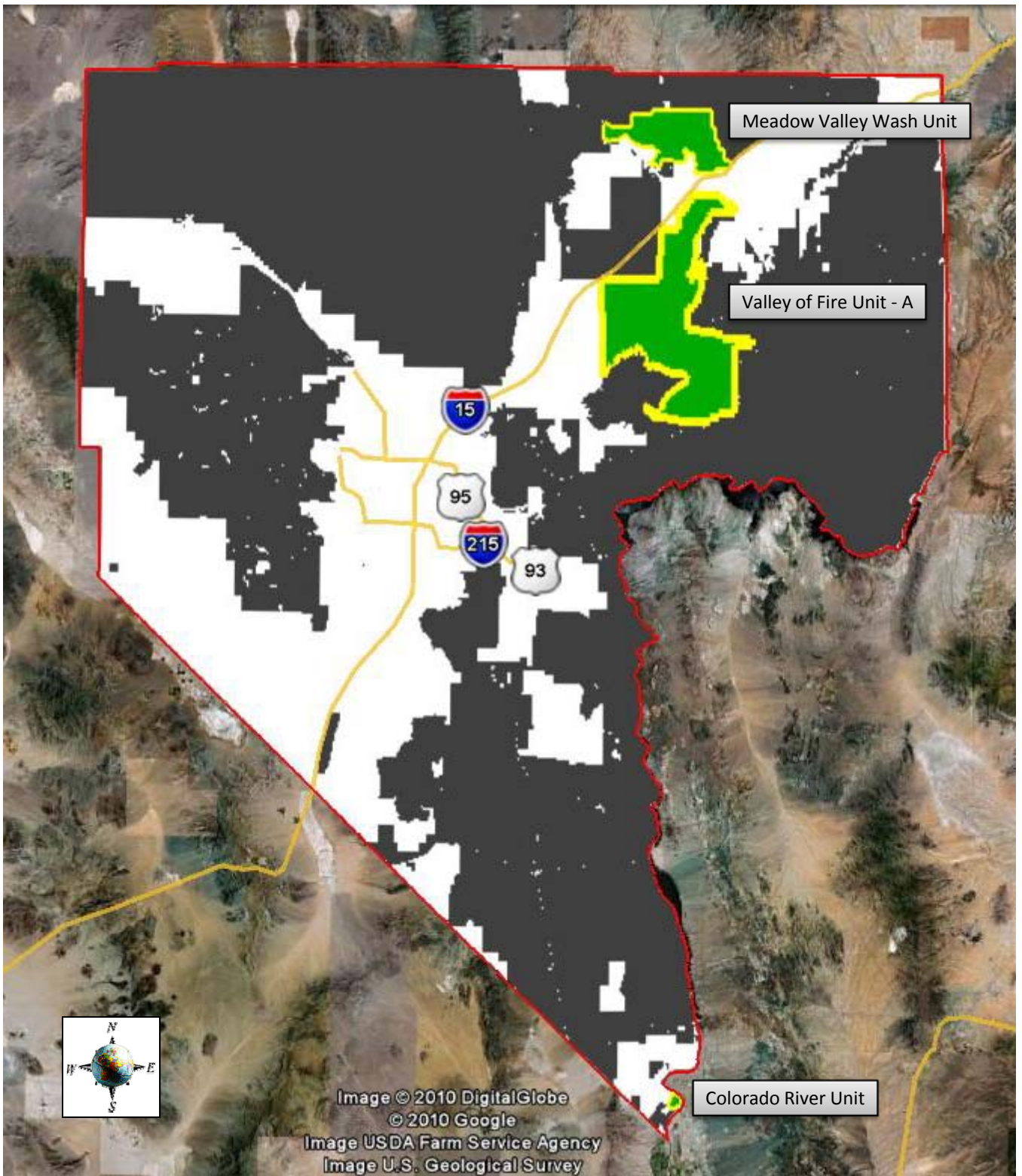
## Literature Cited

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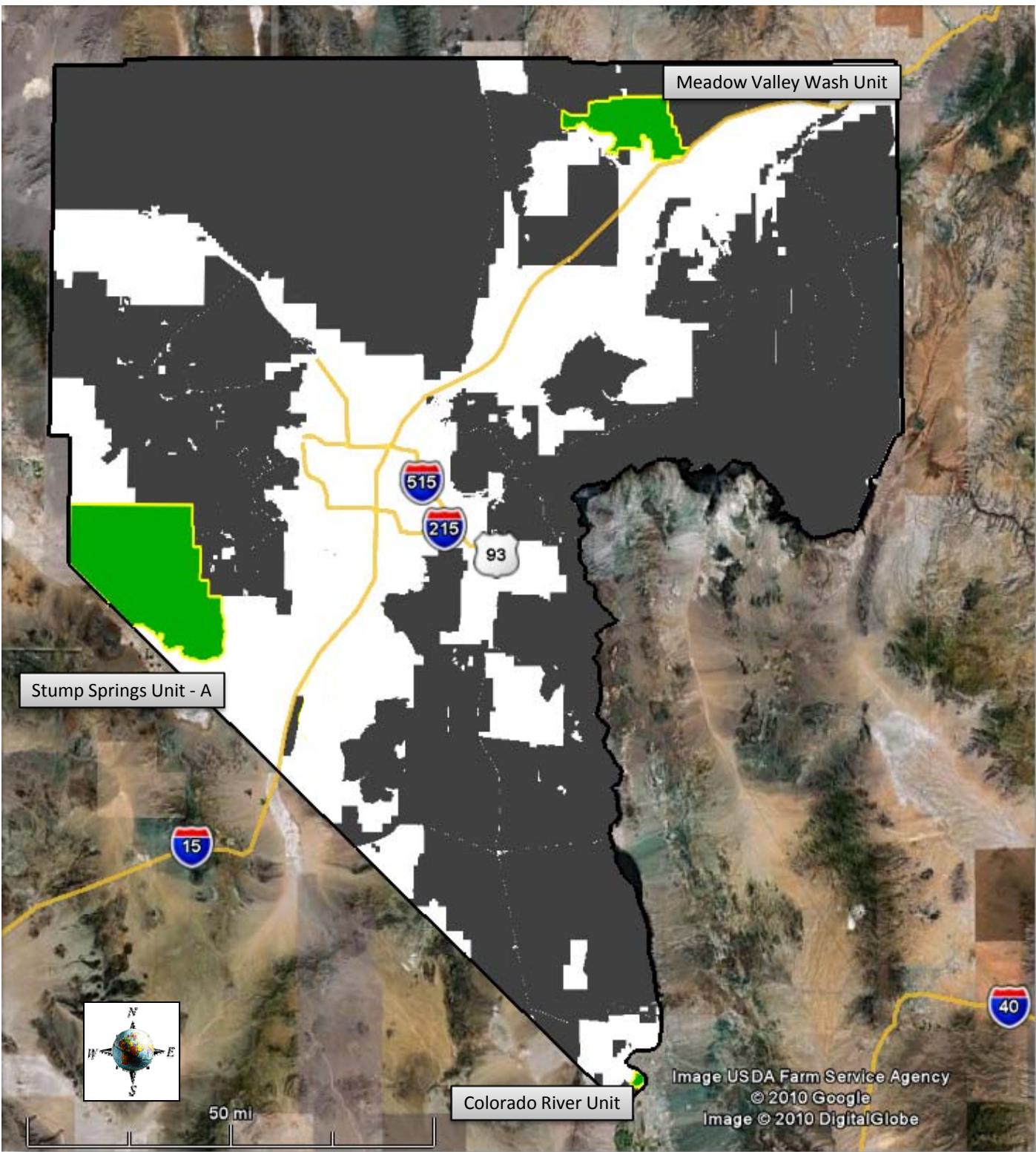
**Appendix G**  
**Maps of Reserve Design**  
**Alternatives**



## Clark County MSHCP Amendment Reserve Design Alternatives

### Reserve Portfolio Alternative 1

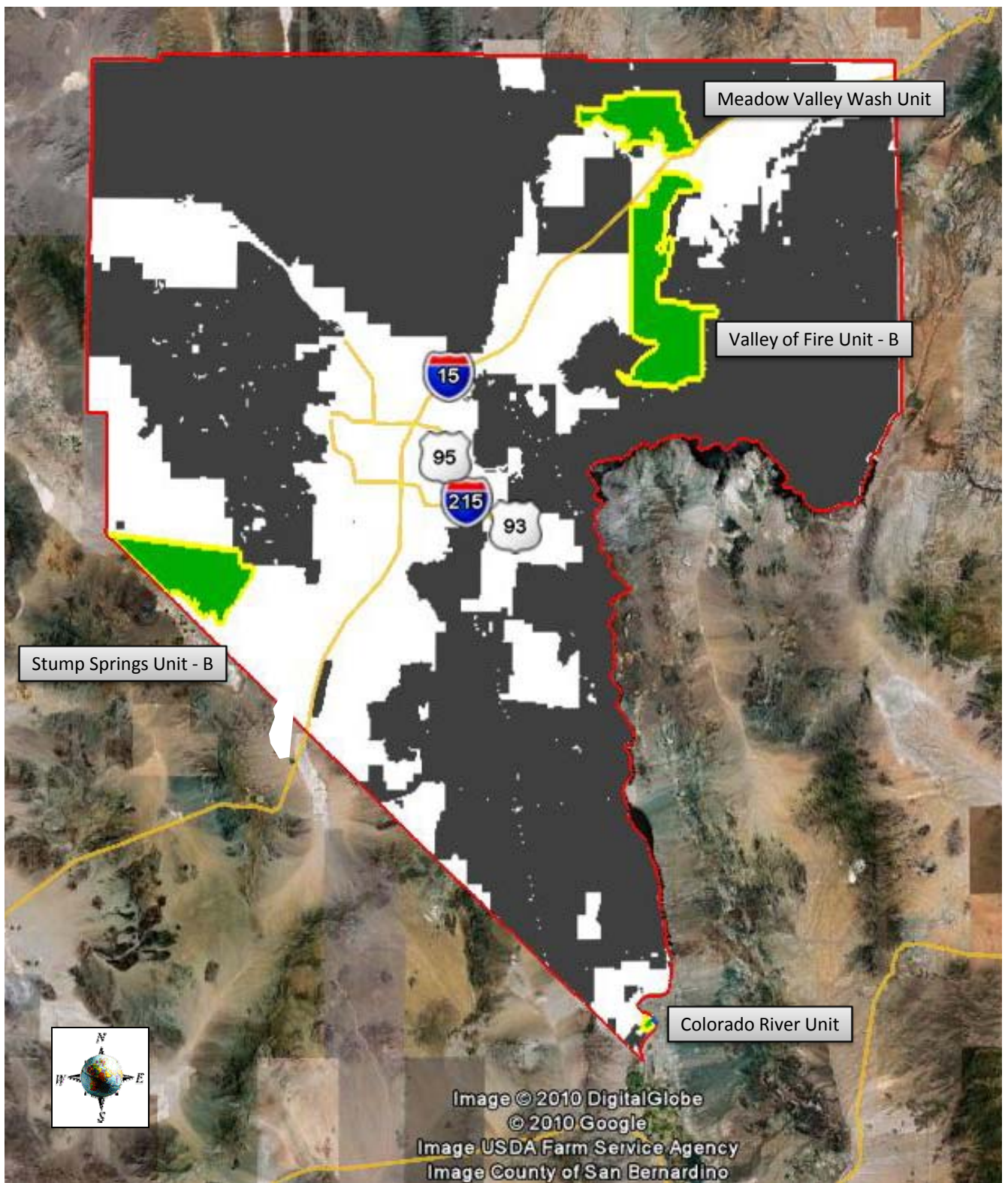




## Clark County MSHCP Amendment Reserve Design Alternatives

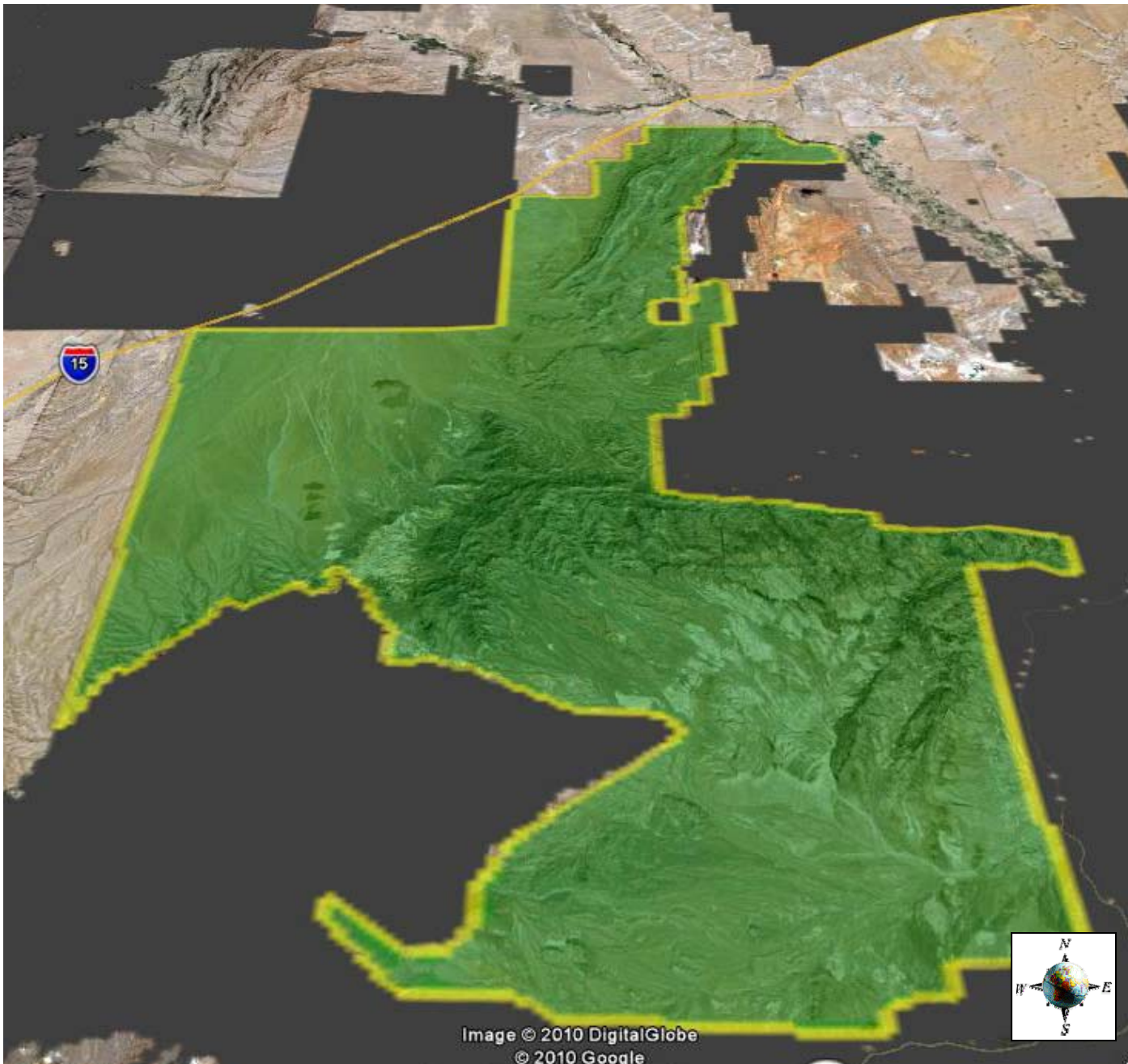
### Reserve Portfolio Alternative 2





## Clark County MSHCP Amendment Reserve Design Alternatives

### Reserve Portfolio Alternative 3

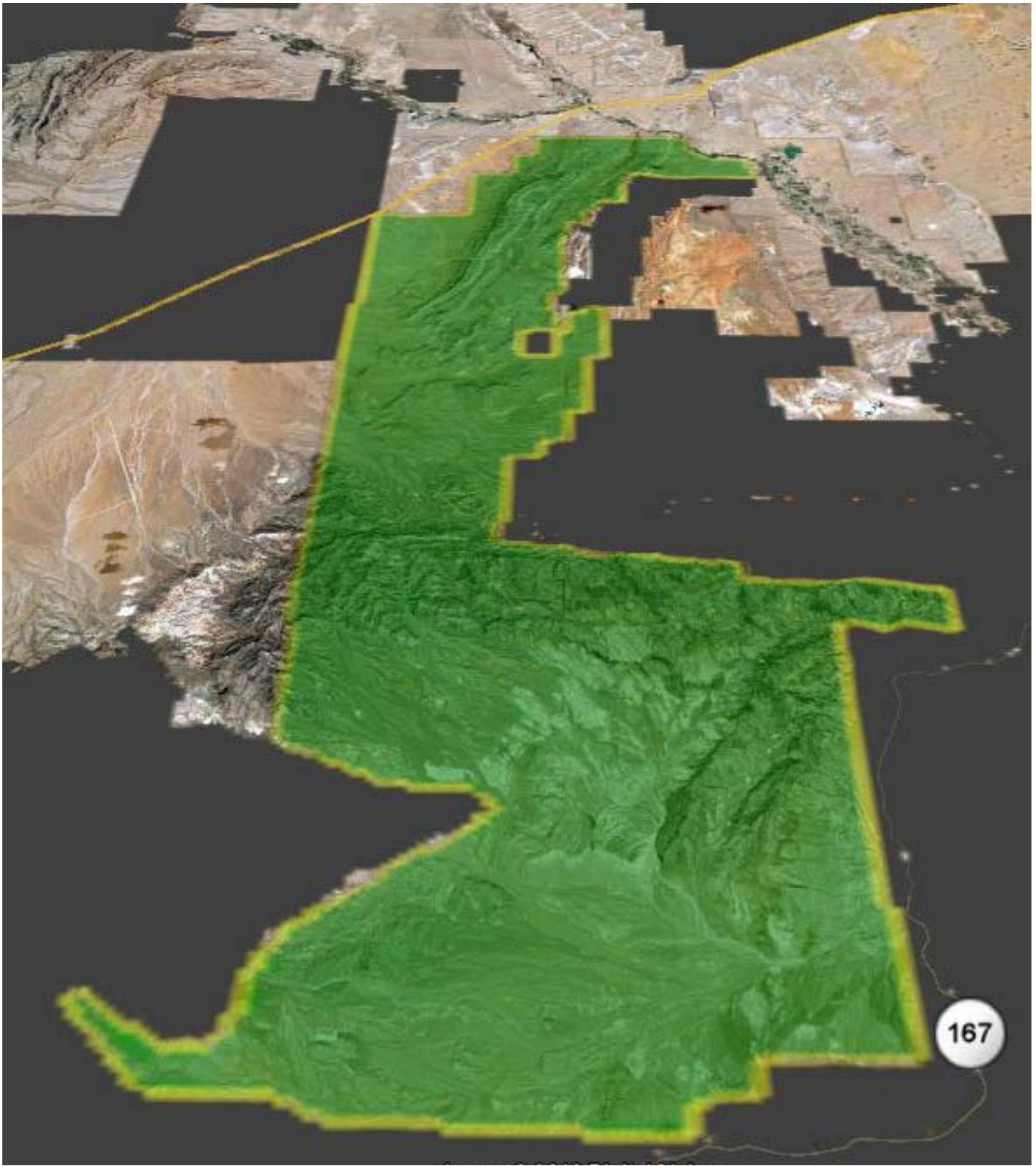


# Clark County MSHCP Amendment Reserve Design Alternatives

Valley of Fire Unit - A

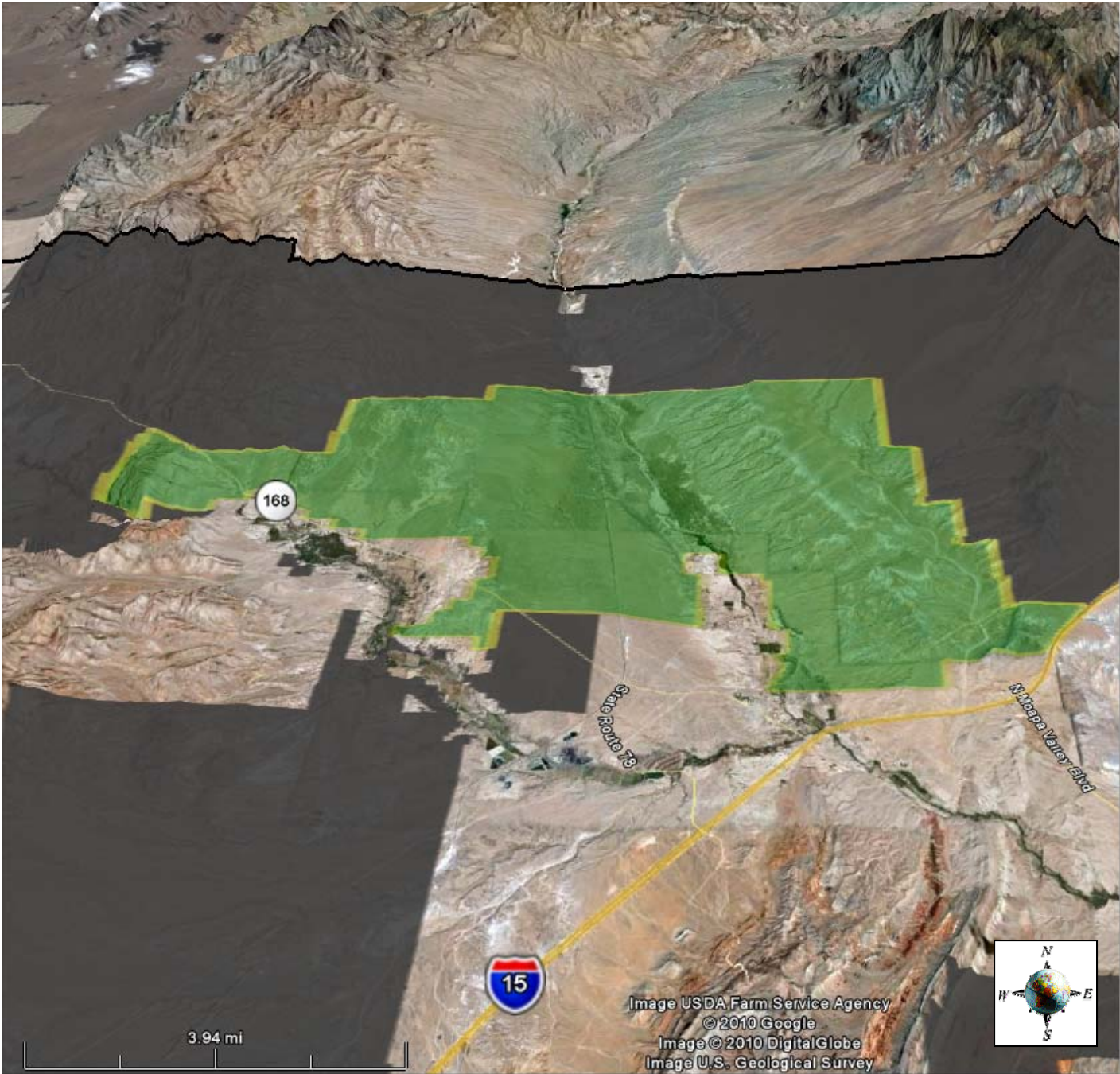






## Clark County MSHCP Amendment Reserve Design Alternatives

Valley of Fire Unit - B



## Clark County MSHCP Amendment Reserve Design Alternatives

### Meadow Valley Wash Unit

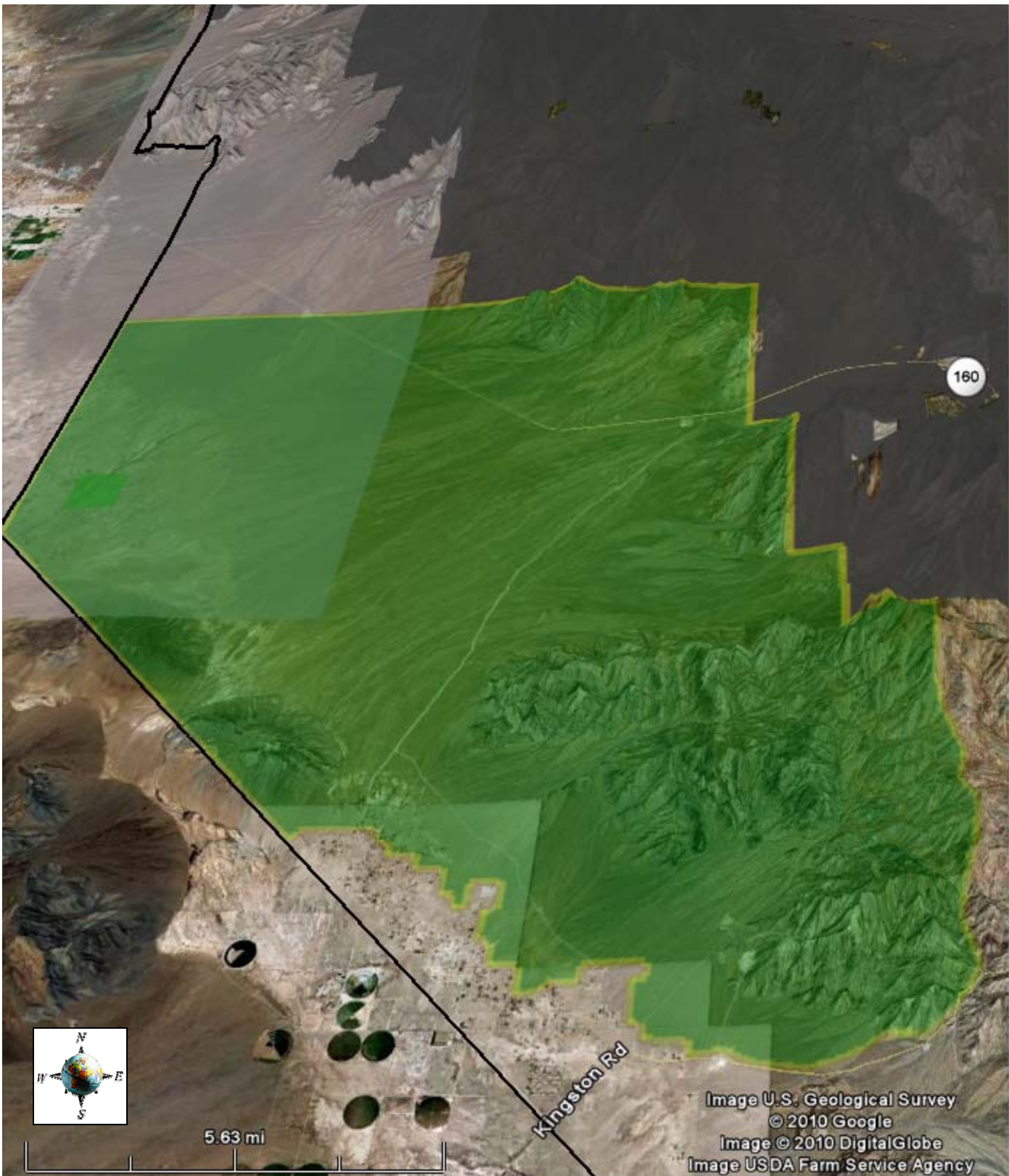




# Clark County MSHCP Amendment Reserve Design Alternatives

Colorado River Unit





## Clark County MSHCP Amendment Reserve Design Alternatives

### Stump Springs Unit - A

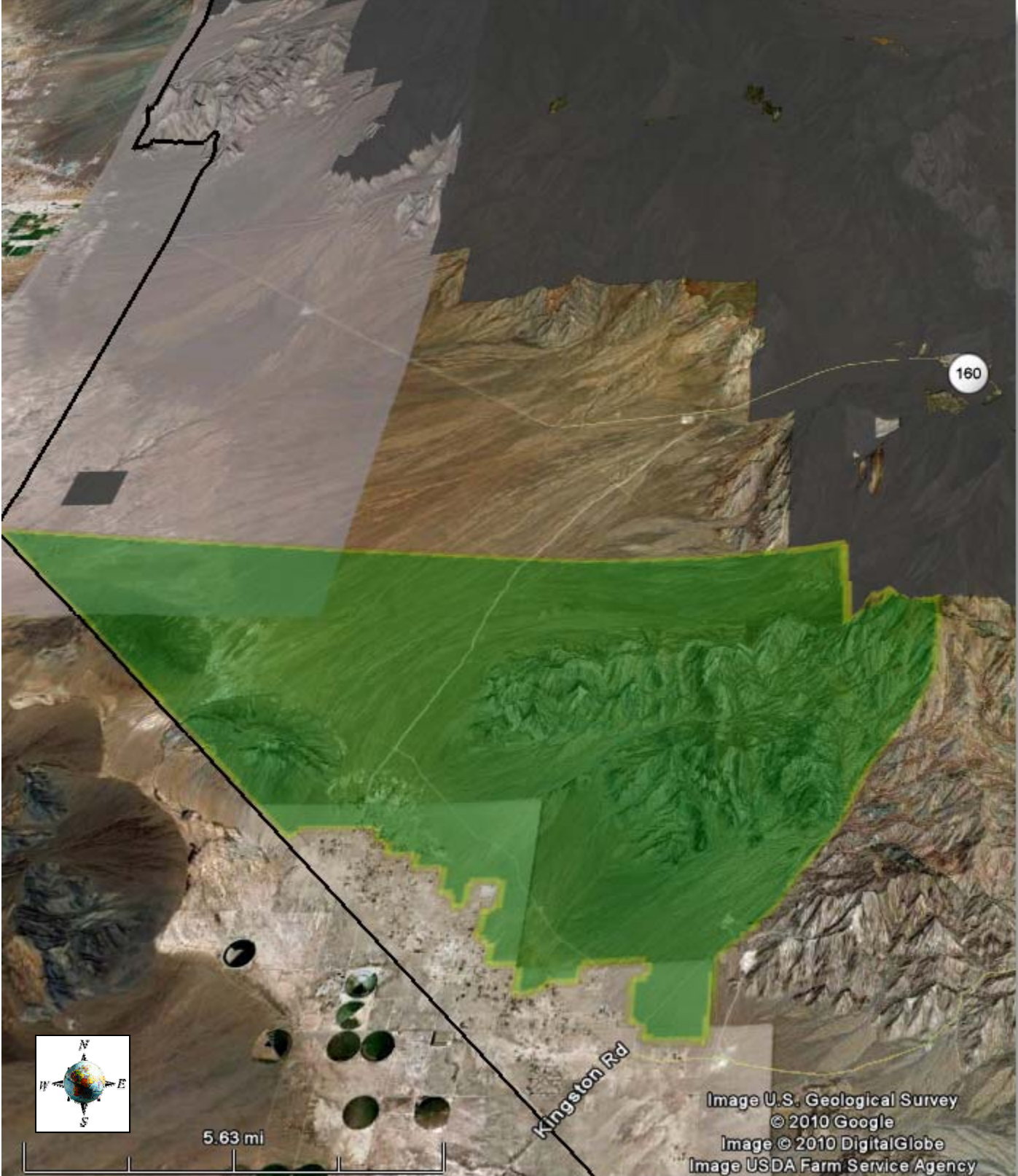


Image U.S. Geological Survey  
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# Clark County MSHCP Amendement Reserve Design Alternatives

## Stump Springs Unit - B

