3-31-2006

Interagency Science and Research: Quarterly Progress Report, Period Ending March 31, 2006

Margaret N. Rees
University of Nevada, Las Vegas, peg.rees@unlv.edu

Follow this and additional works at: http://digitalscholarship.unlv.edu/pli_interagency_science_research_strategy

Part of the Environmental Sciences Commons, Other Public Affairs, Public Policy and Public Administration Commons, and the Science and Mathematics Education Commons

Repository Citation
Available at: http://digitalscholarship.unlv.edu/pli_interagency_science_research_strategy/4

This Report is brought to you for free and open access by the Educational Programs (PLI) at Digital Scholarship@UNLV. It has been accepted for inclusion in Interagency Science and Research Strategy by an authorized administrator of Digital Scholarship@UNLV. For more information, please contact digitalscholarship@unlv.edu.
Executive Summary

- Interim (Phase I) Science and Research Strategy under development, with target completion by early May 2006.
- Interagency Science and Research Team meetings conducted approximately every two weeks.
- Team extensively reviewed and approved plans, invitees, and timeline for two Ecosystem Health Assessment (Vital Signs) workshops scheduled for May and August 2006.

Collaboration with Interagency Team and Partners

Project Manager Debra Dandridge, who had been telecommuting half-time since November 1, 2005, began working full-time in Las Vegas on January 1, 2006. Dr. Dandridge immediately established contact with the Science and Research Team Lead Kent Turner (NPS). They held five meetings during the past quarter to formulate roles and establish a rapport. Individual meetings with U.S. Fish & Wildlife Service (USFWS), Clark County, and the Desert Research Institute (DRI) were also conducted in January, February, and March 2006 (see attached schedule).

This quarter, four meetings with the Interagency Science and Research Team (S&R Team) were held on January 20, February 9 and 24, and March 15, 2006 (see attached agendas and meeting notes). The S&R Team drafted Vision and Mission Statements and a working charter as directed by the Southern Nevada Agency Partnership Board. Two meetings with the SNAP Board were held on February 17 and March 10, 2006, to review the charter and the team’s 1-year and 5-year work plans (see attached). As a result of these discussions, the university proposed modifying its task agreement to more accurately reflect the current timeline and schedule for developing a Science and Research Strategy. That request is currently under review through NPS channels.

At the request of Kent Turner, Dr. Dandridge attended a three-day workshop sponsored by the Southern Nevada Water Authority (SNWA) in February 2006 to become familiar with water issues that will affect research efforts directed to the Mojave Desert ecosystem and federal agency lands. Lake Mead NRA is embarking on evaluations of the limnology of Lake Mead and associated watersheds such as the Virgin and Muddy River corridors which drain into Lake
Mead. Pollution of Lake Mead and maintaining water levels sufficient to meet downstream commitments are an integral part of any science and research strategy devised for the Mojave Desert Ecosystem. The Science and Team Leader therefore wishes to ensure that the project manager is included in significant discussions and has a general understanding of the important issues relating to water in Southern Nevada.

**Ecosystem Health Assessment Workshops**

Dr. Dandridge has been instrumental in facilitating meetings between the S&R Team and DRI’s workshop team, which has been contracted to conduct Ecosystem Health Assessment Workshops to provide information for the overall Science and Research Strategy. The Desert Research Institute is coordinating the logistics, planning, and implementation of two rounds of Mojave Ecosystem Health Assessment workshops (i.e. Vital Signs) that will evaluate the state-of-the-art of the Mojave Desert ecosystem research relative to the SNAP cooperating agencies. As reflected in the team meeting notes, during the past quarter the interagency team spent considerable time reviewing DRI’s proposed outline for the workshops and approved an organizational flowchart and timeline for the meetings (see attached), which are now scheduled for May and August 2006.

**Interim Phase I Strategy**

The S&R Team has initiated and is finalizing an interim (Phase I) science and research strategy. The short-term strategy is tentatively targeted to be in place by early May 2006 to guide the upcoming SNPLMA Round 7 call for proposals and evaluations. Discussions to organize a Science and Research Steering Committee comprised of academic and agency professionals has been initiated by the S&R Team. Meetings with the SNAP Cultural Resources and Recreation teams were conducted on March 28, 2006, to ensure that those values are addressed in the Ecosystem Health Assessment workshops as well as the science and research strategy in general.

**Research on Multi-Agency Initiatives**

Pursuant to conversations with SNAP Executive Director Jennifer Haley, Dr. Dandridge has been researching multi-agency initiatives undertaken in other parts of the country to learn what did and did not work in those initiatives. It is apparent that the SNAP members are interested in a productive science and research strategy that does not duplicate past or current efforts. The objective is to craft a model for advancing the state of knowledge of sustainable land management needs that are both practical at the management level and engender the best research practices and state-of-knowledge. A key aspect of such a global model addressing the Mojave Desert ecosystem is sharing research results to aid in advancing knowledge and management practices. As a first step to increase communication and cooperation across agency boundaries, a meeting is tentatively scheduled in early April 2006 with the Clark County science management analyst, Kent Turner, Debra Dandridge, and personnel familiar with landscape-scale, multi-agency projects. The objective is to assess the success and failures associated with those programs so as to engender workable inter-agency communication and cooperation.

Submitted by:

__________________________
Margaret N. Rees, Principal Investigator

March 31, 2006
Date
Meeting Schedule
January-March 2006
## Calendar of Meetings: January-March 2006

Debra Dandridge – Project Manager, Science and Research Strategy

<table>
<thead>
<tr>
<th>Month</th>
<th>Subject – Primary Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Project Managers Mtg – J. Haley</td>
</tr>
<tr>
<td>6</td>
<td>Progress Update – J. Haley</td>
</tr>
<tr>
<td>10</td>
<td>Preliminary Mtg – K. Turner</td>
</tr>
<tr>
<td>13</td>
<td>SNAP Board Mtg</td>
</tr>
<tr>
<td>17</td>
<td>DRI team</td>
</tr>
<tr>
<td>18</td>
<td>FWS – C. Martinez</td>
</tr>
<tr>
<td>20</td>
<td>S&amp;R Team Mtg w/ DRI</td>
</tr>
<tr>
<td>20</td>
<td>Clark County – S. Wainscott</td>
</tr>
<tr>
<td>23</td>
<td>Clark County MSHCP</td>
</tr>
<tr>
<td>23</td>
<td>Team charter – J. Haley</td>
</tr>
<tr>
<td>31</td>
<td>Roles/Charter – K. Turner</td>
</tr>
<tr>
<td>Feb</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Project Managers Mtg – J. Haley</td>
</tr>
<tr>
<td>9</td>
<td>S&amp;R Team Mtg</td>
</tr>
<tr>
<td>13</td>
<td>Water Partnership Mtg – K. Turner</td>
</tr>
<tr>
<td>14</td>
<td>Lake Mead task agreement Mtg – K.Turner/P.Rees</td>
</tr>
<tr>
<td>17</td>
<td>SNAP Board with S&amp;R Team</td>
</tr>
<tr>
<td>21-23</td>
<td>SNWA annual Mtg – Mesquite</td>
</tr>
<tr>
<td>24</td>
<td>S&amp;R Team Mtg</td>
</tr>
<tr>
<td>Mar</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Project. Managers Mtg – J. Haley</td>
</tr>
<tr>
<td>3</td>
<td>So. NV Home Builders Assoc – J. Haworth</td>
</tr>
<tr>
<td>9</td>
<td>Clark County w/ K. Turner</td>
</tr>
<tr>
<td>10</td>
<td>SNAP Board with S&amp;R Team</td>
</tr>
<tr>
<td>15</td>
<td>S&amp;R Team Mtg</td>
</tr>
<tr>
<td>28</td>
<td>Cultural Resources &amp; Recreation Teams w/ K. Turner &amp; P. Buck</td>
</tr>
</tbody>
</table>
Agendas and Meeting Notes
AGENDA

Science & Research Team Meeting
March 15, 2006
Interagency Building, 4701 N. Torrey Pines Drive

Date: March 15, 2006
Time: 9:30 a to 4:00 p

Attendees: S&R Team members and Craig Palmer

9:30 – 9:45  Topic: Agency questions/issues for workshops; need for Cultural Resources & Recreation/social issues/questions and break-out groups
Presenter: Team (DRI will not be present unless requested)
Desired Outcome: Ensure agencies are comfortable with workshop progress and process

9:45 – 10:30  Topic: Review of SNAP Board Meeting and Meeting with Clark County
Presenter: Kent
Desired Outcome: Team awareness of SNAP Board priorities and County priorities

10:30 – 12:00  Topic: Interim science delivery program for Round 7
Presenter: Kent & Debra
Desired Outcome: Team agreement for: 1) definition of science proposal; 2) solicitation and evaluation process for Science proposals for Round 7

1:00 – 3:00 Continue discussion for Interim delivery program if needed

3:00 – 4:00  Topic: Finalize Charter and Vision Statements
Presenter: Team
Desired Outcome: Finalize Science and Research Strategy Charter and Vision & Mission statements

Additional Instructions:

Please review attached proposed version of an Interim science delivery program/process.
Science & Research Strategy Team Meeting Summary  
3/15/06

Participants:  S&R Team:
  Kent Turner, NPS, Team Lead
  Cristi Baldino, FWS, National Refuges
  Susan Barrow, USFS
  Debra Dandridge, PLI, Project Manager

Guests:  Craig Palmer, UNLV Harry Reid Center

Upcoming Meetings:  Wednesday, April 05, 2006  9:30 – 4:00, IA Bldg, Conf. Room A  
Tuesday, April 18, 2006 – Tentative
  May 3-4, 2006 – Mojave Ecosystem Health Assessment  
  Workshop, Desert Research Institute

Action Items

At the last Science and Research Team meeting we developed an action item list:

1. Agencies need to review questions/issues lists developed for the Ecosystem Health Assessment workshops and ensure that any cultural resource and recreation/social issues have been included. Have any additional issues e-mailed to Debra no later than 3/31/06.

2. Debra will mail chapter 2 of the draft USGS/NPS Mojave Desert Network ecosystem model to the S&R Team.

3. All team members need to access the NPS Mojave Network Vital Signs web link and review the information about the process and the proposed model. Suggested links:
   - http://hrcweb.lvhrc.nevada.edu/mojn/workshop.htm  
     (thanks to Craig for this web link)

   - Concise summary of the Vital Signs Workshop Process -  
     http://science.nature.nps.gov/im/monitor/VitalSigns.cfm

   - Developing models (same web site as above)  
     http://science.nature.nps.gov/im/monitor/ConceptualModels.cfm

   - NPS powerpoint presentation explaining why do the models:  
     http://science.nature.nps.gov/im/monitor/PPT-Gallery.cfm
4. All team members need to review the Chapt. 2 Draft Mojave Desert model within the context of the upcoming Ecosystem Health Assessment workshops and decide if each agency is comfortable with the upcoming workshop process.

5. Debra will contact DRI and request a more detailed narrative on how each workshop will be conducted, i.e. Box 4 on DRI diagram.

6. Debra will: DRI will be asked to work with USGS to determine if NPS Mojave Network model applies to other agency lands. USGS will be contacted to determine if they will require additional funding to make this assessment.

7. S&R Team needs to review Attachment 2-b (How S&R Team interacts with Others) with the intent of appending it to the Team Charter. Attachment 2-b was handed out at the 3.15.06 team meeting and is bound into the burgundy report folder.

8. S&R Team needs to review the draft Team Charter and Attachment 2-b so that the Charter can be finalized at the April 5, 2006 meeting. If you have any concerns or comments, please e-mail them to Debra by March 30, 2006.

9. The team will decide at the April 5 meeting if a team meeting on April 18 is needed (Kent will not be available between April 19 and May 10).

10. The Team Leader or other member of the Cultural Resources Team will be invited to several of the S&R Team meetings so the CRT can contribute productively to the development of a comprehensive Science and Research Strategy.

11. Sue Wainscott from Clark County needs to be invited to a team meeting as soon as practical so she can share the current County emphasis on inter-agency cooperation.

**Interim Phase I Science & Research Strategy**

The following issues need definition for the Science proposal process:
- What is a “science” proposal?
- How do science proposals contribute within a larger context?
- Why are we addressing “X” proposal?
- A peer review protocol needs to be established.
- Submittal timeframes with firm deadlines need to be established, as is usual and customary (e.g. NSF, NATO, NASA, etc.)

Science Proposals will have these characteristics:
- It has a research component.
- There is a hypothesis (i.e. poses a question that needs to be answered)
- There is a defensible methodology.
- A disciplined approach to data collection and analysis is outlined.
- There is a comparative protocol.
- The hypothesis is tested (i.e. what is the treatment to address the problem; how is the result applicable to agency management)
- The results are reproducible/replicable

In addition, science proposals will have a cover page which contains the following self-evaluation:

- Is this a science proposal? Yes No
- What category does this project address:
  - Inventory
  - Monitoring
  - Research (i.e. does it address relationships?)
  - Other

**Evaluation criteria for Interim Science & Research Proposals**

Science & Research Team will evaluate:

1. Must meet definition for Science Proposal.
2. Must be relevant within the Mojave Desert Ecosystem.
3. Answer inter-jurisdictional questions relative to Mojave Desert productivity and sustainability (i.e. does it meet the sustainability mission; what is the significance of the resource proposed for investigation?).
4. Does the proposal promote SNAP cooperation or enhance collaboration between partners and/or agencies?
5. Does it apply to all cooperating agency lands or only one agency?
6. Will the product/results be applicable to all SNAP agencies; is it applicable outside of SNAP jurisdictional boundaries?
7. Does the proposal address any key vital sign of a healthy ecosystem; how can the results be applied to management practices; and, how would the Mojave ecosystem be better as a result of the research?
8. Does the proposal fall within the defined focus areas?
9. What is the prospect for resolution (i.e. does it bring conclusion to a defined issue; does it enhance management of public lands; does it result in the limitation of degradation)?
10. Must meet Appendix G criteria for Conservation Initiatives.
11. Is the proposal practical at the management level and are the results/methodologies transferable?
12. Technical soundness of the proposal will be evaluated (i.e. is the project plan well thought out and achievable; and, how will the data collection be handled, e.g. what data collection/storage/retrieval standards will be used?).
13. Is the proposal cost effective and is a planning schedule included?
14. What is the past performance and current capability of the principle investigators and is a letter of commitment included?
15. Does it aid in understanding other SNAP team’s objectives? Does it enhance interagency collaboration?

Peer Review Team (Science & Research Steering Committee) will evaluate (some criteria overlap both evaluation teams):

1. Nationally recognized scientists develop proposal (i.e. who is doing implementation; what are the qualifications and track record of investigators of doing similar projects?).
2. What are the qualifications of the principle investigators?
3. The competency of the investigators will be evaluated.
4. Technical soundness of the proposal will be evaluated (i.e. is the project plan well thought out and achievable; and, how will the data collection be handled, e.g. what data collection/storage/retrieval standards will be used?).
5. Is the proposal cost effective and is a planning schedule included?
6. What is the past performance and current capability of the principle investigators and is a letter of commitment included?
7. Is the proposal creative and display original thought? (i.e. is it re-inventing the wheel or does it push the boundaries of science; does it advance management knowledge or objectives?
8. What is the past performance and current capability of the principle investigators and is a letter of commitment included?
AGENDA

*** Subject to Change ****

Science & Research Team Meeting
Interagency Building, 4701 N. Torrey Pines Drive
February 24, 2006
9:00 a.m. to 4:30 p.m.

Date: Feb. 24, 2006 9:00 a to 4:30 p

Attendees: S&R Team members, DRI representatives, Craig Palmer (GIS interagency database project manager) (Kent Turner, NPS, will lead discussions; Debra Dandridge, PLI, will facilitate)

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Presenter</th>
<th>Desired Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00 – 9:30</td>
<td>Review outcome of SNAP Board meeting; address agenda and adjust as needed</td>
<td>Kent Turner and Team</td>
<td>Confirm meeting objectives</td>
</tr>
<tr>
<td>9:30 – 11:30</td>
<td>DRI will present a visual flowchart(s) of how the EHA workshops will operate (i.e., workshop objectives, expected participants, information needs to initiate workshops including logistics)</td>
<td>DRI</td>
<td>Agreement between Team and DRI on workshop objectives and the process that will be followed</td>
</tr>
<tr>
<td>11:30 – 12:30</td>
<td>Lunch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:30 – 3:00</td>
<td>Team Charter and Issues for SNAP Board on 3/10</td>
<td>Deb Dandridge/Kent Turner</td>
<td>Brainstorming and Team consensus on S&amp;R Team charter</td>
</tr>
<tr>
<td>3:00 – 4:30</td>
<td>Short-term S&amp;R Strategy/proposal evaluation process</td>
<td>Deb Dandridge/Kent Turner</td>
<td>Team consensus for a short-term strategy needs to be in place for Round 7 proposal evaluations (and possibly Round 8)</td>
</tr>
</tbody>
</table>

Additional Instructions:
Bring businesses cards and any other contact information you would like to share with the group
Bring your calendars for the scheduling phase of our agenda
Science & Research Team Meeting

General Summary – 2/24/06

(Meeting notes taken by J. Norton, edited by D. Dandridge)

Participants:
S&R Team:
    Kent Turner- NPS, Team Leader
    Shawn Goodchild- USFWS
    Cynthia Martinez- USFWS
    Gayle Marrs-Smith- BLM
    Susan Barrow- USDA-FS
    Debra Dandridge- PLI, Project Manager
    Jacques Norton- PLI (recorder)

Guests:
    Craig Palmer- PLI
    Paul Buck- DRI
    Judith Lancaster- DRI

Action Items:
- Discuss the topic of the cultural resources in the upcoming workshops
- The Final draft of the DRI workshops to be presented at next S&R Team meeting
- A mission statement must be completed
- Questions: Are science and research proposals adequately drafted?
- Look proposals and be assured that the right focus areas are being addressed:
  - SNAP Board said Science and Research team proposals are different from other conservation initiatives and should be approached differently. Evaluation criteria must be established.
  - If BLM, Fish & Wildlife, NPS, USFS have ongoing research projects, please let Debra know (either by USFS, Research Stations, contractors, etc.) so as to start preparing an analysis for PLI as required by task order deliverables.

Action Items – for DRI workshops:
- Paul is to contact the CR (cultural resource) team.
- Judith is going to clean up the lists and send them out to the S&R team.

SNAP Board meeting summary:
- After meeting 2/17 with SNAP Board, it was concluded that another meeting needs to be set on March 10, 2006 to discuss the issues with the workshop process.
- The S&R team needs to have a proposal process for round 7 soon.
➢ The request for a 6-7 month time frame to prepare a short-term (Phase I) strategy was denied. The round 7 call for proposals will probably be either April or May.
➢ A task order modification is being submitted to bring the S&R strategy timeline current.
➢ The science proposals for this year need to be more accurate in order to be more competitive for funding.

Desert Research Institute (DRI) discussion:
Documents and papers distributed*
  • Flow charts
  • Explanatory notes
*Note - A few changes have been applied to the flow chart, and extra money will been requested as well as additional time for the production of a popular publication resulting from the Ecosystem Health Assessment Workshops.

The Mojave Model:
  • There is a 50-page report for a draft Mojave model available through USGS/NPS
  • The idea is not to re-create any existing models
  • Incorporate and synthesize all models into one by the end of the workshops
    • Fish & Wildlife, and PLI suggest including categories for air quality and soils in the experts list.

Flow Chart:
  • Box 5 was added to the chart
  • List of experts for the workshops needs to be decided (volunteer experts are required who will be committed to the life of the workshop process)
*Note: volunteer experts will have transportation, housing, and meals handled and taken care of by DRI.

DRI categories and list of possible experts:
  • 3 suggested experts for each category (both discipline and issues) were agreed upon, DRI will contact the experts and extend invitations.
  • Categories and names of specialists were agreed upon.

Notes:
– Keep maximum number of persons to be involved in any category to 8 or 9
- Environmental contamination of Lake Mead will be covered in the Lake Mead hydrology workshops taking place this spring and summer
- The names on these different lists for Workshop 1 and Workshop 2 are nationally known.
- Bio-Diversity as a separate category has been dropped.
- The climate, per se, cannot be controlled therefore no team will be needed for that category. However at workshop #2, there will be information on the topic.
- DRI will provide update if necessary at next team meeting.
- DRI will bring in specialists, to have a sit down with agency personnel who are available for first round of workshops in early May.
- The third week in May, Paul is unavailable.

**Workshop information:**
- The DRI facility is under consideration.
- A catered lunch will be provided for those that attend.
- Workshop 2 still needs a venue.
- Mt. Charleston is being taken under consideration for workshop 2.
- The DRI facility is also being considered.
- Workshop 2 will take place in August.
- The 4th of August is the estimated set date for workshop 2.
- The workshop will take place for 3 days.

**S&R Team - Things that need to be discussed prior to or at the 3/15/06 meeting:**
- A short-term strategy needs to be made before round 7 call for proposals, which may be April early May
- Before SNAP board meeting on March 10, 2006, there must be proposed vision and mission statement.
- A brief explanation of the workshop goals will be discussed at this meeting as well as the outcome from the meeting with SNAP on March 10, 2006.

**Issues to be presented to SNAP Board on March 10:**
- Mission and Vision statements.
- Workshop process.
- Issues encountered by the Science and Research team.
- Progress of the short-term strategy.

**Vision/Mission Statements and Charter:**
There was brainstorming and detailed discussion of vision and mission statements. Drafts were compiled for consideration by the SNAP Board.

**Goals for short-term strategy:**
- The interim strategy (Boyd’s) needs to be reviewed and edited.
- The interim strategy is scheduled to be done by early May.
- The team has to create end-mind objectives to the focus area.
- Make the objectives in graphic format so it can be presented to the SNAP board.
- Include Round 7 proposals within a framework.
- The agencies’ specific proposals are wanted.
- Develop criteria for evaluation.
- **Note-** A rough draft for the strategy must be completed. Also examine Bob Boyd proposal and others will be assessed for short-term ideas by the next meeting.
- All science proposals need to be defined.
- Assess and modify focus areas
- Identify members for steering committee and their role.
Goals for Long-Term strategy:
- Science and Research teams continue to function within process
- Long-term strategy completed and implemented.
  - Strategy identified
  - Strategy beta test
  - Strategy implemented
- Steering committee assembled for the beta test.
- Reliable assessments of indicators of ecosystem health that agencies agree upon and implement
- Publication(s) - popular publications need to be a product of research initiatives as well as presentations at symposia (such as a “Mojave Desert Conservation Initiatives Results”)
- How S&R Team interacts with other teams: Help with science standards; coordinate data management; AMP for analysis, etc.

Issues for SNAP Board:
- The process needs to have a peer review
- Review proposals and make recommendations
- Decision making over goals, priorities, and types of projects, science needs to feed needs of agencies. (Those closest to the ground know the needs).
- Provide coordinated response to outside funding.
- Extraordinary opportunities can be addressed and recommended for emergency money outside of the normal proposal process.
- Prioritize by practical landscape management needs vs. lobby interests.
- Geographic boundaries are artificial, Mojave Desert Ecosystem is area of concern for integrated resource management of SNAP lands.
- Interested in coordination with other regional conservation programs to enhance management of the Mojave Desert ecosystem.
- Staffing for internal review and evaluation equivalent to project inspectors.
- If the team is to continue to function there will be a need to have sufficient specialist and administrative commitments (both staffing and funding).
- Geographic Boundary- activity coordinates with other countries as they enter the SNPLMA.
**AGENDA**

Science & Research Team Meeting

Interagency Building, 4701 N. Torrey Pines Drive

9:00 a.m. to 4:00 p.m.

Date: Feb. 9, 2006 9:00 a to 4:00 p

Attendees: S&R Team members, DRI representatives, Craig Palmer (GIS interagency database project manager) (Kent Turner, NPS, will lead discussions; Debra Dandridge, PLI, will facilitate)

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Presenter</th>
<th>Desired Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00 – 10:00</td>
<td>Topic: Agency questions/issues for workshops - Brainstorming</td>
<td>All agency representatives and DRI</td>
<td>Highlight common concerns and have a preliminary list of monitoring and research questions that DRI can incorporate into Environmental Health Assessment Workshops</td>
</tr>
<tr>
<td>10:00 – 12:30 (break around 10:45 for 10 minutes)</td>
<td>Topic: DRI will present a visual flowchart(s) of how the EHA workshops will operate (i.e., workshop objectives, expected participants, information needs to initiate workshops including logistics)</td>
<td>DRI</td>
<td>Agreement between Team and DRI on workshop objectives and the process that will be followed</td>
</tr>
<tr>
<td>1:30 – 1:45</td>
<td>Topic: GIS needs assessment</td>
<td>Craig Palmer, UNLV</td>
<td>Awareness for agencies of upcoming data needs for interagency GIS database</td>
</tr>
<tr>
<td>1:45-2:00</td>
<td>Topic: Team Work Plan</td>
<td>Kent Turner</td>
<td>Team consensus on work plan elements for the coming year</td>
</tr>
<tr>
<td>2:00 – 2:15</td>
<td>Topic: Short-term S&amp;R Strategy/proposal evaluation process</td>
<td>Deb Dandridge/Kent Turner</td>
<td>Team awareness that a short-term strategy needs to be in place for Round 7 proposal evaluations</td>
</tr>
<tr>
<td>3:45 – 4:00</td>
<td>Topic: Review issues and topics to be presented to the SNAP board on Feb. 17</td>
<td>Kent Turner</td>
<td>Team consensus for information presented to SNAP board</td>
</tr>
</tbody>
</table>
Science & Research Strategy Team Meeting Summary
Thursday – February 9, 2006

Participants:
S&R Team:
Kent Turner, NPS, Team Lead
Susan Barrow, Spring Mountains NRA, USFS
Amy LaVoie, F&WS
Cristi Baldino, Ash Meadows NWR
Kristen Murphy, BLM
Craig Palmer, PLI GIS Proj. Manager
Deb Dandridge, PLI, Proj. Manager

Desert Research Institute:
Paul Buck, DRI
Judith Lancaster, DRI
David Mouat, DRI

Upcoming Team Meetings:  
Friday, Feb 24, 2006 9:15 – 4:00  IA Building  
Program Managers Conference Room
Wednesday, Mar 15, 2006 9:15 – 4:00 IA Building
Wednesday, Apr 05, 2006 9:15 – 4:00 IA Building
Tuesday, Apr 18, 2005 Time TBA  IA Building

Action Items:

<table>
<thead>
<tr>
<th>Responsibility</th>
<th>Action Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>S&amp;R Team members</td>
<td>Review DRI proposed list of experts; add categories; suggest additional</td>
</tr>
<tr>
<td></td>
<td>experts/scientists; bring to 2/24 meeting</td>
</tr>
<tr>
<td>DRI/USFS</td>
<td>DRI will meet with USFS at staff meeting on 2/13 to assist in question/</td>
</tr>
<tr>
<td></td>
<td>issues formulation; What is the purpose of Ecosystem Health Assessment</td>
</tr>
<tr>
<td></td>
<td>(Vital Signs workshop); Why is a list of questions from each agency needed;</td>
</tr>
<tr>
<td></td>
<td>How are the questions prioritized?</td>
</tr>
<tr>
<td>USFS/PLI</td>
<td>After the meeting on 2/13 but by 2/21, Susan will e-mail USFS questions to</td>
</tr>
<tr>
<td></td>
<td>Deb for posting on GroveSite and forwarding to DRI</td>
</tr>
<tr>
<td>Team/PLI</td>
<td>Team members will forward each agency’s list of questions to Deb by 2/21</td>
</tr>
<tr>
<td></td>
<td>for posting on GroveSite; these are questions/issues critical to the Agency</td>
</tr>
<tr>
<td></td>
<td>and should include human aspect (e.g. cultural resources)</td>
</tr>
<tr>
<td>DRI/PLI/Team</td>
<td>By 2/21, DRI will forward to Deb a modified workshop flowchart which will</td>
</tr>
<tr>
<td></td>
<td>have a definition of end products for each box on current flowchart and</td>
</tr>
<tr>
<td></td>
<td>with text to explain each box; a review team aspect t as discussed at 2/9</td>
</tr>
<tr>
<td></td>
<td>meeting</td>
</tr>
</tbody>
</table>

17
<table>
<thead>
<tr>
<th>Responsibility</th>
<th>Action Item</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>will be added; the revised flowchart will be posted on GroveSite by Deb for S&amp;R Team review prior to next meeting on 2/24.</td>
</tr>
<tr>
<td>DRI/Team</td>
<td>DRI will contact each agency to set-up pre-workshop meetings for each agency to ensure that information required for workshops is consistent and useful to the process (i.e., Agency issues, research questions, etc.).</td>
</tr>
<tr>
<td>PLI</td>
<td>Deb will post the S&amp;R strategy Round 4 and Round 5 nominations on GroveSite</td>
</tr>
<tr>
<td>PLI</td>
<td>Deb will wordsmith Mission Statement and e-mail to S&amp;R Team for comment by 2/15.</td>
</tr>
</tbody>
</table>

**Issues for SNAP Board:**

1. How is S&R Team expected to overlap with other teams?
   a. Help identify thresholds
   b. Incorporate science into programs of work
   c. Help establish delivery pathways to access scientists
   d. Provide access for peer review re: technical assistance and soundness of research proposals
   e. Incorporate science within a holistic context

2. The Science and Research Team agrees that a Science and Research Steering Committee comprised of academic and agency researchers is a valuable asset to an overall Southern Nevada Federal Agency Science and Research program.

3. Is there recognition and acknowledgement that the S&R Team wants to do a good job of devising a Science and Research Strategy for the Southern Nevada Land Managing Federal Agencies, and it will take time to develop, it may take many months to fruition.

4. An on-going commitment to a Science and Research strategy requires administrative support to effectively address multi-millions of dollars of proposals.

5. There are administrative issues when working inter-group.

6. What distinguishes a “science” proposal from all other proposals?

7. Are agency proposals weighted the same as other research proposals when funding decisions are made?

8. Can SNAP Board provide timeframes for Round 7 proposals?
Vision and Mission Statement:

VISION:

Alternative A: The cooperating Federal agencies work collaboratively towards the successful implementation of a comprehensive science and research strategy to holistically manage the natural and cultural resources of southern Nevada public lands and contribute to the public’s social values for current and future generations.

Alternative B: The cooperating Federal agencies work collaboratively towards the successful holistic management of Southern Nevada public lands through a comprehensive science and research strategy. Successful holistic management and development of natural and cultural resources on public lands meets the needs of present generations without compromising the ability of future generations to meet their needs.

MISSION STATEMENT:

Alternative 1: The objective of a comprehensive science and research strategy is to encompass past, current, and future ideas, technologies, and methodologies from science and research sources to conserve and enhance the natural and cultural resources of the Southern Mojave Ecosystem. A fair and transparent process results in qualitative information that supports agency missions and enhances the conservation and enjoyment of the public lands in Southern Nevada. Data gathered on public lands benefits federal agencies in making wise decisions for better management of resources; provides quality assurance of data that results in quality improvement of overlapping land stewardship programs; and, adaptive monitoring and sound science identifies emerging science activities and technologies that benefit a holistic management environment.

Alternative 2: The mission of the Southern Nevada Public Lands agency partnership science and research strategy is to enhance management activities and decision making by providing guidance to the Federal public land managers through implementation of an adaptive management model based on sound science and research methodologies as well as emerging technology.

Alternative 3: The mission of the SNAP agencies science and research strategy is to provide guidance to the federal public land managers, enhance management and decision making though the implementation of an adaptive management model based on sound science, research and emerging technology through processes that are fair, reasonable, and transparent.

Alternative 4: A Southern Nevada Public Lands science and research strategy creates a comprehensive and holistic framework that is necessarily dynamic striving to establish standards that guide qualitative research responsive to natural and cultural resource needs while ensuring the quality of life that the public values in Southern Nevada. Processes that are fair and transparent aid in competent dispersal of funds ensuring that private, professional, scientific, and agency concerns and needs are adequately considered.
Other topics discussed:

9:30 a – 12:30 p
DRI discussion concerning the Environmental Health Assessment (vital signs) workshops
(Paul Buck, Judith Lancaster and David Mouat led discussion):

- DRI presented a graphic flowchart of two proposed workshops aimed at identifying critical research questions and needs of agencies.
- After lengthy discussion, the team requested DRI to have pre-workshop meetings with each agency to more clearly define the workshop process and adequately address agency concerns. First pre-workshop meeting will be with the USFS at weekly staff meeting on Feb. 13, 2006 to help develop questions and prioritize.
- DRI requested to present a timeline/milestones of tasks for workshops.
- F&WS and NPS provided DRI with a preliminary list of critical questions for synthesis and discussion at next team meeting.
- DRI presented a preliminary list of experts to help critical issues at workshops; and, requested team to review and comment for next meeting.

DRI workshops proposal is a three-step process:
1. What are the needs of the agency?
   a. Resource interests to be conserved
      What are the importance of species, communities, landscapes
   b. Process
      What makes for long-term viability?
   c. What are we protecting?
      What are the stressors effecting resources?
2. Problem synthesis
   a. Outline the important components for consideration
      i. Agencies what are the important elements that need to be considered?
         ii. What do the agencies perceive are stressors?
   b. First workshop provides management framework for the agencies
      i. Important protection considerations
      ii. Stressors
      iii. Mission needs
   c. Synthesis document based on 1a-c and 2a-b.
3. Second workshop
   a. What are the tasks agencies need to accomplish day-to-day?
   b. What are tasks that science and research initiatives can accomplish?

Relative to this discussion was a reminder of the salient points of the nominations for the S&R Team and the workshops:

Science and Research Team Nomination

- ID a process to develop an interagency delivery strategy and the scope of an interagency science delivery strategy.
Workshop Nomination:

- Determine the highest priority vital signs of ecosystem health in Clark County.
- Determine the highest priority research needs to support assessment of ecosystem health in Clark County.
- Engage a broad science community through workshops and informal discussions.
- Create a strategic basis for an ecosystem monitoring program and research program.
- Incorporate existing and required monitoring programs from federal land managing agencies and other on-going research programs.
- Other less salient items.

Additional comments by the team for workshops participation and results:

- All interests are appropriately represented.
- Priorities reflect reality.
- Feedback on workshop results.
- S&R Team will recommend science steering committee membership.
- The above points need to be added to DRI schema.

Team emphasis areas for workshops:

- There are two categories of management needs: Field/operational needs and Science & Research needs.
- There are agency mission specific requirements which are transcended by landscape-wide issues that affect all agencies – these need to be identified (what are the commonalities).
- The human component of ecosystem effects/needs must be addressed (e.g., recreation, carrying capacity, values, etc.).

- **GroveSite access** (Kent Turner led discussion)

- Team advised to use GroveSite to access SNPLA information.
- Cristi Baldino (NWR), and DRI representatives asked for access; advised to contact Chuck Williams for access privileges.

**GIS Needs Assessment** (Craig Palmer, UNLV/PLI led discussion)

- Team was asked to think about GIS needs for the team, which may included maps and/or data relative to other teams (two handouts distributed: Needs Assessment Outline and So. Nev. Agency Partnership GIS Team Draft Charter).
- A brief description of an interagency GIS database was provided which included:
  - Database infrastructure
  - Need for common definitions
  - Legacy data preservation so information is not lost due to personnel changes or technological changes
  - Need to protect sensitive data
- Benefit in sharing data between teams and agencies
- Advantages and services provided by a GIS service center
- Conceptually an interagency database will provide a broad framework for all the data collected by all the teams that can be shared as needed

Comments by F&WS:

GIS database enterprise should transcend SNPLMA.
How does and interagency database tie-in with agency national initiatives?
Individual geographic HCP information needs to be captured and centralized.
What are the GIS needs for the EHA work shops?
What are data mining overlaps the Sc & Res Team and GIS team?
There needs to be a holistic dataset to address landscape scale needs & values.

DRI was excused for the remainder of the meeting.
1:30 p – 4:30 p

Science & Research Strategy Topics summary:

Team workplan (Kent Turner presented)
- Need a timeline display.
- SNAP would like to see a charter at 2/17 meeting with a final draft by 3/1.
- For now the 9/30 date for a conceptual ecosystem model symposium will be postponed.
- Ecosystem Health Assessment workshops are dependent upon timeline provided by DRI but need this information to have a functional strategy in place for Round 8 proposals; however, Round 8 should be considered a beta test for any process proposed.
- The target for completing a fully functional Science & Research delivery system is 2008.
- An interim science and research strategy needs to be in place by 9/30/06 for Round 7 proposals.
- The S&R team’s initial priorities are: 1) Team charter, 2) Ecosystem Health Assessment (vital signs) workshops, 3) Round 7 interim strategy.
- S&R Team will coordinate with the SNAP GIS team for a data management plan cohesive with a S&R strategy (need to start with a information needs assessment in FY06).
- Team will address the establishing a S&R Steering Committee.

Short-term S&R Strategy (Kent Turner presenter)

- A proposal evaluation process needs to be in place for Round 7
  - Options:
    - Team will consider Bob Boyd’s proposal for Round 7 evaluation process
    - Reference 8/13/2004 team meeting which defined focus areas for Round 6 (this was only a preliminary effort)
Can SNAP Board provide a timeframe for Round 7 proposals process so S&R team can prioritize to produce an interim strategy

Possible strategies regarding needs for Round 7 –

A) Have guidelines for only evaluation of proposals or include a call for proposals
B) “A” above and a set of proposals (???) is important to the S&R Team for the team to evaluate prior to submittal to Managers is important to the S&R Team
C) A suite of criteria for determining highest priority needs regarding proposal evaluations
D) Team needs to define what a science proposal is by Round 8

The following items are minimal considerations for a short-term strategy:

E) An evaluation consideration should be agency overlap (defined from DRI workshops)
F) Ranking criteria should be provided to evaluation Round 7 proposals
G) The workshop synthesis document provided by DRI will help guide the proposal strategy process

Kent discussed a template for how S&R Team, the proposed Science & Research Steering Committee, and AMP process can be organized:
The meeting adjourned at 4:30. Next team meeting is scheduled for February 24, 2006 at 9:15 am to 4:00 pm at the Interagency Building in the Program Managers conference room.
SCIENCE & RESEARCH STRATEGY TEAM
AGENDA
1/20/06
Interagency Building – 4701 N. Torrey Pines

9:00 - 9:15 - Welcome and summary of the project manager role currently.

9:15 – 10:30 - DRI – Paul Buck, et al., will discuss Ecological Health Assessment /Vital Signs workshop(s)

10:30 – 10:35 – Break

10:35 – 10:55 – Discussion: S&R Team work plan and task order deliverables

10:55 - 11:10 – Address meeting schedule for team

11:10 – 11:30 – Discussion: Research proposal process and interim (short-term) strategy

11:30 – 12:00 – Team mission statement/charter – what is it?
The Science and Research Strategy interagency team met on Jan. 20, 2006 to begin work on a strategy to address science and research needs for the Southern Nevada area as specified in the Round 4 nomination. Representatives from the Desert Research Institute (DRI) were in attendance to ascertain agency direction for the Vital Signs workshops as specified in their Round 5 nomination task order. The meeting convened at 9 a.m. at the Interagency Building, N. Torrey Pines and adjourned at 12:30. The following is a summary of discussions that took place and items agreed to by the Team and Desert Research Institute (DRI).

1. Briefly summarized, the role of the project manager is to ensure that round 4 Science & Research Strategy deliverables are met; to facilitate meetings so that all agenda items are addressed; and, the it is expected the role will evolve as needs are identified.

2. Paul Buck introduced S&R Vital Signs workshop coordinators from the Desert Research Institute (DRI), Judith Lancaster and David Mouat:

   a. A group discussion ensued about the desired results and format of DRI’s Vital Signs workshops. An alternative name to “Vital Signs” was briefly addressed. The term “Ecosystem Health Assessment” is a more readily understandable term than “Vital Signs.”

   b. It was noted that all the agencies seem to be currently engaging in some sort of assessment of the lands they manage, e.g., USFS Spring Mtn. NRA has a Landscape Assessment underway and NPS (USDI) has engaged USGS to produce a Great Basin Ecological Model that will include the Mojave Desert NPS units.

   c. An agreement of the workshop objectives was discussed and the following objectives were minimally identified:

      - What is currently known about the Mojave ecosystem?
      - What are the key stressors/problems within the Mojave ecosystem?
- What are the current information gaps and/or needs to understand and maintain a healthy, sustainable ecosystem?
- How do all the elements work together? i.e., what are the parameters of the ecosystem puzzle and how do all the parts fit together?
- Agreement was reached that the mountain zones are included in the definition of “Mojave Desert Ecosystem” for the purposes of the workshop efforts.
- Research that could be applicable to the “Mojave Desert Ecosystem” but that is conducted outside of Southern Nevada, should be considered as important and relevant.

3. After a lengthy discussion, agreement was reached concerning the structure of the workshops:
   
   a. The agencies will brainstorm to create a list of questions that address each agency’s need for information to further current management regimes;
   b. DRI will synthesize these agency questions within the framework of more encompassing ecosystem knowledge;
   c. A series of small meetings can be organized between scientists and the agencies with the objective of identifying:
      
      - What do agencies think the current state of the Mojave Desert Ecosystem is?

      Start with one large meeting with all agencies participating; if necessary, breakout discussions will be organized to capture current agency knowledge.

      The information gleaned from this effort will be used to focus the organization of a more generic workshop/symposium in which scientists, including agency scientists, will be invited to share knowledge concerning “what is currently known about the Mojave Desert Ecosystem.”

4. Results of the “workshop” discussion and to do assignments:

   a. One – 2 day workshop organized by DRI will:

      - Bring together a group of scientists (list to be determined jointly by S&R Team and DRI) who will meet to synthesize agency issues with current state-of-knowledge of the Mojave Desert Ecosystem.
      - By the end of the 2 day workshop, an outline will be produced which will be a compilation of the state-of-science of what we (agencies and science community) know about the Mojave Desert/Southern Nevada ecosystem.
      - The outline will be circulated for comment/discussion between all the affected agencies and other identified scientists; the
objective of which is to identify gaps in knowledge. This information will assist the S&R Team in formulating a comprehensive Science and Research Strategy for the Southern Nevada area.

b. The scope of second and more comprehensive workshop/symposium will be defined at a later date, jointly, by the S&R Team and DRI.

c. By the next S&R Team meeting, February 9, the S&R Team will think about questions and issues that are currently important to each agency to help guide DRI’s efforts in organizing the workshops.

d. The team discussed having a goal of a science and research guidance document ready for Round 8 one year from now; a timeline will be developed in subsequent team meetings.

e. The S&R Team agreed to meet twice a month until immediate needs have been addressed. The next Team meeting will be with DRI on Feb. 9, 9:00 a.m. – 4:00 p.m. at the Interagency Building in the F&WS conference room to:

- Review the initial list of Interagency issues
- Develop a proposed list of scientists
- Review the workshop format(s)

f. The second meeting for the month of February is tentatively scheduled for Feb. 21, 9:00 a.m. – 4:00 p.m., at the Interagency Building.

5. There was also active discussion about an end product from the workshops. In general there is consensus that there needs to be a publication that can be circulated for peer review (see 4a above).

6. Following the workshop discussion the team agreed on the following:

a. A work plan and charter/mission statement need to be developed with timelines;

b. A regular meeting schedule needs to be agreed to so team members can include S&R team participation in their individual work plans;

c. An interim strategy that addresses the nomination focus areas, to handle Round 7 proposals, needs immediate consideration (this will be addressed in Feb. 9 or 21 meetings). Current issues include:

- Research community needs to know ASAP what guidelines will be used for Round 7 submittals;
- At a minimum, all science proposals should be reviewed by the S&R Team;
- The elements of a viable science proposal need to be defined;
- What differentiates a science proposal from other proposals?
- What type of process will be used to evaluate Round 7 science proposals?
7. **Action Items:**

<table>
<thead>
<tr>
<th><strong>Action Item</strong></th>
<th><strong>Responsible Individual(s)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop initial questions &amp; issues important to each agency</td>
<td>Entire Team</td>
</tr>
<tr>
<td>Draft initial charter/mission statement</td>
<td>Deb Dandridge w/ input from J. Haley</td>
</tr>
<tr>
<td>Draft team work plan</td>
<td>Kent Turner</td>
</tr>
<tr>
<td>Develop initial list of scientists to participate in workshops</td>
<td>Entire Team</td>
</tr>
<tr>
<td>Work shop template/format</td>
<td>Desert Research Institute Team</td>
</tr>
<tr>
<td>Brief USFS on team discussions</td>
<td>Deb Dandridge</td>
</tr>
<tr>
<td>February Team meetings 2/9 and 2/21, 9:00 a – 4:00 p, IA Building</td>
<td>Entire Team</td>
</tr>
</tbody>
</table>
Team Work Plans & Collaborative Interactions
Work Plan Elements
Interagency Science & Research Team

Primary Focus Areas for FY06

- Team charter and mission statement.
- Initial agency science questions for workshop process; synthesized by DRI.
- Ecosystem Health Assessment/Vital Signs Workshops:
  - An articulated science needs assessment, reflecting inventory, monitoring, and research that is prioritized and which identifies gaps in knowledge based upon ongoing work, agency mandates, and constraints.
- Interim Strategy:
  - Focus areas will provide the basis for project development, ranking, and a process for science proposal application and review for Round 7.
- Coordination with GIS team for science data and GIS needs assessment and assistance in workshops.

Longer Term Work Plan Elements

- Science Proposal Process for SNPLMA for Round 8 and beyond.
- Science Strategy and Delivery System:
  - How do we accomplish the identified priority gaps and needs?
  - Identify science providers and potential partners.
  - Develop mechanisms for effective delivery of overall science program with those partners that addresses agency high priority needs.
- Conceptual Ecosystem Model(s).
- Symposia.
- Coordination with other SNAP teams regarding science within their programs.
S&R Team Interaction with Others

1. SNAP Board Legacy Statement

We work with each other, our communities, and our partners to conserve and enhance the Federal lands of Southern Nevada for current and future generations.

2. Science Team Vision

The cooperating Federal agencies work collaboratively towards the holistic management of Southern Nevada public lands through a comprehensive science and research strategy. Successful management of natural and cultural resources on public lands meets the needs of present generations without compromising the ability of future generations to meet their needs.

“We don’t do all the science, but we make the science better.”

Box One: Science and Research Team Functions Relate To:
- Adaptive Management Plan (AMP) Process
- Science Steering Committee Development
- Peer Review Process
- Proposal development and review process
- Mechanisms for:
  - Holistic Picture
  - Science Assistance to other teams
  - Data management – global
- Science Delivery System:
  - Processes and Partners

Box Two: Science and Research Steering Committee
Guidance for science related to ecosystems and environmental health, cultural resources, sociological resources:
- Periodic analysis of results for holistic picture or condition assessment
- Suggestions on proposal process, priority of issues
- AMP Process
- Expanded partnerships for science
- Guidance and training to teams for improvement of methods relating to science
- Evaluation of quality of science within program or projects

Box Three: Adaptive Management Program (vice “Plan”)
Conservation Programs/Science Programs/Science Delivery Process that includes:
- Documented Strategy for Conservation Measures/Actions
- Documented Science and Monitoring Strategy
- Mechanisms for “Environmental Health Assessment” and “Resource Condition Assessments”
- Science Information Strategies
• Holistic Framework
• Outreach and Coordination Mechanisms (e.g. MSHCP, LCR MSCP, VR HCP)
• Feedback Loops/Evaluation of Effectiveness (resource action effectiveness and financial efficiency)
• Proposal Evaluation Process
• Science Delivery System
• Comprehensive Data Management Process
• Team Coordination, Standards, and Training for Science
SNAP Board Legacy Statement:
We work with each other, our communities, and our partners to conserve and enhance the Federal Lands of Southern Nevada for current and future generations.

**S&R Team Vision**
The cooperating Federal agencies work collaboratively towards the holistic management of Southern Nevada public lands through a comprehensive science and research strategy. Successful management of natural and cultural resources on public lands meets the needs of present generations without compromising the ability of future generations to meet their needs.

**S&R Team Interactions**

- **Science & Research Team**

- **Science & Research Steering Committee**

- **Adaptive Management Plan (AMP) Process/Science Programs**

- **Outputs**
Ecosystem Health Workshops
Flowchart
Ecosystem Health Workshops: Explanatory notes for flow chart

Large Box #1 – top left – Strategizing
Agency’s list questions and/or issues
- Questions may be broad or specific, at any temporal or spatial scale and may refer to existing as well as perceived, or future, issues.
- Questions should relate to Agency needs in the general topic of Ecosystem Health.
- Some prioritization at this stage will greatly expedite the process.

DRI coordinates Agency questions and/or issues
- DRI will go through these documents and integrate them where possible.
- This process will involve at least one ‘return to Agency’s for comment” phase.

Individual Agency meetings
- DRI to meet with representatives from each of the four Agencies to go over the questions/issues, workshop objectives/deliverables, ‘big picture’ concerns and any other business.
- The USFS meeting took place on February 13 and the other meetings will be scheduled for March.

Discussion of Experts list
- DRI circulates preliminary list of experts, by discipline and ‘issue’ (Feb 9).
- Agency personnel will review this list and make additions/deletions.
- The “final” list should include prioritization and will be discussed at the February 24 meeting.
- One expert from each discipline will participate in Workshop I (additional experts may be added as deemed necessary by Agencies).
- Suggested disciplines include, but are not limited to, groundwater hydrology, surface water hydrology, invasive plant and animal species, soil dynamics, habitat fragmentation, spring and riparian areas, ecosystem dynamics, climate and air quality, urban and social sciences. This list may be revised during the discussion process.

DRI contacts and invites experts
DRI will contact and invite experts by phone and email - including a brief description of the Task Order, Workshop objectives, expected outcomes and their role in the process.

Large Box #2 – top right – Workshop I
General notes
Final outcomes: A compilation of Agency questions relating to key management issues and concerns in the general context of Ecosystem Health, which is, in effect, a statement of the problems that need to be addressed and gaps in knowledge that hinder implementation of management strategies.

By discipline, a summary of state-of-the-science knowledge and pertinent research which will provide Agencies with a set of tools, or strategies, to address management issues and concerns.

Deliverable: A Synthesis Document comprising a state of the science summary of knowledge and new (pertinent) research in the selected disciplines, with a list of three to five key publications.
- Ideally this workshop will take place at the Interagency Building, for two days – provisionally during the week of May 1.
An estimated total of 14 people will attend all meetings, on both days. Plus four groups (one from each Agency), each of up to five people during Day 1.

Day 1 will be a discussion of questions, issues and the existing state of knowledge scheduled Agency by Agency in approximately 2-hour time slots.

On Day 2 the experts will draft the document that is the deliverable for the activity to date in this Task.

Lunches on both days will be catered in, and we have estimated 35 people on each day to include Agency participants. We see these lunches as an opportunity for less formal interaction and discussion.

A very preliminary cost estimate for this event is $15,000.00. This includes an honorarium for the experts, their airfares, accommodation and per diem, plus lunches on both days for 35 people.

The honorarium will cover experts’ participation in both workshops and resulting deliverables.

**Agency Representatives**
Those who have been attending regular S&R Team/DRI workshop organizational meetings, plus other Agency staff as necessary to cover the range of questions posed to the experts.

**Experts**
- One expert from each discipline will participate in Workshop I.
- Suggested disciplines include, but are not limited to, groundwater hydrology, surface water hydrology, invasive plant and animal species, soil dynamics, habitat fragmentation, spring and riparian areas, ecosystem dynamics, climate and air quality, urban and social sciences. This list may be revised during the discussion process.

**DRI**
Those who have been attending regular S&R Team/DRI workshop organizational meetings – Paul Buck, Dave Mouat and Judith Lancaster.

**Synthesis Document**
- Approximately two pages per discipline is envisaged, for no more than about 20 pages overall.
- The Introduction, which will be written with assistance from Agency personnel, will comprise a brief summary of each Agency’s mission – to set the context for the report.
- A draft, possibly missing key publications, introductory and closing paragraphs, is expected by the close of Day 2

**Large Box 3 – Synthesis Document through Review Stage**

**DRI compiles Synthesis Document**
- This document will be in draft form by the close of Workshop I.
- The compilation phase is expected to include preparation of introductory and closing paragraphs and consolidating of key references (reference documents).

**Review by Agency representatives and other experts**
- Agency personnel who attended Workshop I will be asked to provide a review of the document.
- Additionally, a team of three or four experts with a broad perspective on desert ecosystems, an ability to step back from issues and problems and see interactions and consequences of change, and substantive research experience, will be selected for the review process.
Provisional candidates include:
Walt Whitford, Emeritus, New Mexico State University and USDA ARS Jornada.
Vic Baker, University of Arizona.
Jim McMahon, Utah State University

**Large Box 4 – lower right – Workshop II**

**General notes**

**Final outcome:** Following this workshop, a report summarizing prioritized research needs for southern Nevada will be prepared. This report will provide guidance for Agency and Interagency response to proposals submitted to round 8 of the SNPLMA nominations, and provide a framework for future Agency management strategies.

**Deliverables:** there are three deliverables associated with this workshop: A list of stressors/problems by discipline; a list of information needs and gaps in knowledge by discipline; a preliminary draft of the components of a “Mojave Model”. Analogous to the barrier reef model described by Kent Turner, this will comprise notes and/or diagrams showing components of the natural and human systems in the Mojave, to provide material for a future project which will show how components fit together and respond to stressors.

- A two and a half day event is envisaged, at the Mt. Charleston Conference Center – or another location out of the city itself.
- If the workshop is at Mt Charleston, an estimated 65 people will participate. There are 51 rooms with one bed, and 14 with two, so, potentially 14 more people could be included if there was willingness to share rooms.
- This location is considered optimal because it is secluded, which will increase interactions among participants; and the number limit means that all organizers will focus on the “best” people to invite to ensure objectives are met.
- A cost of approximately $35,000.00 (depending on the number of participants) is estimated. This will include rental of conference facilities and transportation by minibus for all workshop participants. It will also include airfare, accommodation and per diem for the experts and also for three additional “keynote participants”. An honorarium for the “keynote participants” -who are preliminarily identified as the panel who reviewed the Synthesis Document - is also included.
- It is anticipated that no more than half of the first day will be given to formal “presentations” with one and a half days spent in breakout groups, and a half day of summary.

**Participants:** the experts, DRI and Agency staff involved in Workshop I – we estimate this will be about 35 people – plus the three “keynote participants”. Twenty additional participants will be invited from a combination of local Federal and non-Federal Agency personnel, a wider group of Mojave Desert scientists, National level Federal Agency personnel and Las Vegas area representatives. There will be facilitators who are responsible for organizing the Breakout Groups, recording and synthesizing results of discussions and presenting these in the final session.

**Presentation of Revised Synthesis Document**
No more than two from the original pool of experts will be selected to make this presentation, which will be approximately an hour in duration with an additional two hours for discussion, led by the keynote participants.

**Breakout Groups by Discipline**
Organized by facilitators, the breakout groups will be charged with three tasks:
A summary of stressors and/or problems their discipline faces in southern Nevada; the information needs and knowledge gaps that are impeding effective management of resources concerned with their discipline; and, in collaboration with the other breakout groups, a preliminary model (in text or depicted diagrammatically) of the different ecosystem and social system components operational in southern Nevada, as input for the Mojave Model referred to above.

**Prioritize Research Needs**

Formal workshop sessions will finish a little early on the second day to give facilitators time to prepare their synthesis for presentation on the final morning. This synthesis will be a preliminary draft of a document which will provide guidance for Agency and Interagency response to proposals submitted to round 8 of the SNPLMA nominations.

**After Workshop II**

The DRI team, in conjunction with the Resource Area Experts and Keynote Participants, will expand the results of the breakout group syntheses and prepare a document identifying research needs for southern Nevada. These needs will be prioritized, not necessarily individually but as specifically as possible. Upon completion of the first draft, the report will be sent to previously identified leads for each Agency for their review (or their organization of a review process within their Agency).

The Mojave Model is seen as important by all involved in this Ecosystem Health Workshops project. A valuable tool for education at all levels and a framework for natural resource management in the Mojave as a whole, we see the Model variously as a written document, a suite of graphic illustrations, interactive computer programs, and an evolving database. To take this component of the project to its fullest potential is beyond our current scope – however, we provisionally plan on expanding the current Task Order to permit its completion.
Ecosystem Health Workshops Timeline
## Ecosystem Health Workshops Timeline

<table>
<thead>
<tr>
<th>Agency Questions</th>
<th>Experts list</th>
<th>DRI Coordinate questions</th>
<th>DRI contact experts</th>
<th>Individual Agency/DRI meetings</th>
<th>DRI planning for Workshop I</th>
<th>Workshop I *</th>
<th>Prepare problem synthesis/synthetic document</th>
<th>Review problem synthesis/synthetic document</th>
<th>Discussions/planning for Workshop II</th>
<th>Finalize Workshop II</th>
<th>Workshop II **</th>
<th>Prepare research guidance document</th>
<th>Research guidance document to Agencies for review</th>
<th>Finalize research guidance document</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* See notes on Ecohealth Workshops document

** See notes on Ecohealth Workshops document