

ENVS 6210 Bioregional Management & Planning
T-R - 1:30 - 4:20, NR 353D
W – 10:30-11:20, NR 353D
Dept. of Environment & Society

UTAH STATE UNIVERSITY
CNR – Spring 2008
Professors Richard E. Toth
Thomas Edwards

Upper Colorado River Ecosystems- Alternative Futures

INTRODUCTION—From Fall Semester Syllabus:

Management agencies such as the Fish and Wildlife Service (FWS) have traditionally focused on point-level processes, working to conserve and maintain ecological functions and plant and animal species at small spatial extents. Many of these efforts have been successful. However, there is growing recognition that to better manage systems and species of concern at the point level requires an understanding of the landscape context in which the system or species resides. As part of this growing awareness, the FWS R6 has embarked on a process of landscape-level planning (Alternative Futures), seeking to identify key resources within each identified ecosystem

Alternative futures modeling is an emerging field that integrates biophysical, socio-demographic, and economic information into a framework of models that can be used to assess the impacts of land use policies on cultural and ecological landscapes.

As a concept, alternative futures modeling opens the door to generating and assessing an endless number of future scenarios. Each “future” can be depicted via maps that facilitate the understanding and interaction among various stakeholders in a region. These futures can explore the impacts of different social, economic, and environmental policies, and can inform and initiate public debate about growth issues.

Our principal objective is to develop a process for characterizing ecosystems so that point-level management and conservation actions, be they ongoing or proposed, can be evaluated in an ecosystem context. Our proposed ecosystem for development of this process is the Upper Colorado River Ecosystem (UCRE), as defined by FWSR6. Our process will focus around three major elements.

- Characterize landscape-level biological and physical elements of the Upper Colorado River Ecosystem (UCRE).
- Organize existing data on selected plant and animal species, including but not limited to migratory birds, listed and sensitive species, fisheries, and important habitats.
- Identify current and potential stressors potentially affecting the identified landscape-level kinds, such as the expanding oil and gas explorations in the UCRE, point-source pollution, as well as of future potential urbanization and recreation.

The UCRE study will allow students and faculty to:

- Direct research and interdisciplinary studies to enhance data and knowledge needed for informed decision making within the UCRE.
- Engage faculty, students, and stakeholders in a comprehensive learning/research environment.
- Assemble a group of university faculty and environmental scientists who are able to work in interdisciplinary teams to address natural resources planning, management and policy issues.

OBJECTIVES

In order to meet the goals noted above, the study has the following objectives: 1) define criteria by which regionally-significant critical lands can be identified and evaluated with respect to future development, 2) resolve various boundary conditions with adjacent political jurisdictions in order to ensure that important cultural and ecological characteristics are integrated and protected in future growth and development of the

UCRE, 3) Produce a geographic-based information system that will organize data on the watershed to support informed decision making in the future 4) research and recommend various public and private implementation strategies to protect regionally-significant critical lands from future development, within the UCRE.

CONCEPT DEVELOPMENT- ALTERNATIVE FUTURES/CRITICAL WILDLIFE LANDS

Following from the program and objectives for the study area set out in the fall studio, the study group will be formed into teams, each having distinct and well articulated strategies for the resolution of future growth scenarios. These physical plans will be submitted for evaluation, first with respect to their accommodation of wildlife needs and projections, and second, with regard to:

- a. Resolution of objectives and stakeholders priorities
 - Feasibility of strategies
 - Feasibility of implementation
- b. Ramifications of implementation & strategies
 - New issue created
 - New implementation tools needed

CONCEPT EVALUATION/DOCUMENTATION

In the final phase of work a documentation of the performance of proposed scenarios will be made utilizing the full range of activity allocation and environmental evaluation models. This documentation will include broad recommendations for mitigation strategies to overcome identified shortcomings. There are three important aspects to be considered at this time.

- New strategies and/or alternative defined & developed
- New tools of implementation defined & developed
- New land use activities and evaluation models over and above those identified in the analysis phase will also be documented at this time for future consideration.

Documentation and production of final report (Fall and Spring Semesters)

Presentation of all phases to various stakeholders within the region

PROCEDURES AND PHASES:

8 January – 7 Feb – Phase I

As briefly outlined in the fall semester syllabus, the activities for this semester will focus on the development and refinement of future scenarios for the study area in order to assess the impacts of that development on projected open space needs, opportunities, and recommendations. The preliminary alternative futures identified at the end of last semester will be expanded and refined for spatial confirmation. The documentation and description of the models, including acceptable performance levels, will also be noted at this time. Weather and site conditions permitting, the models will be field checked for spatial accuracy and validity of objectives. Revised models will be presented to faculty associates on 24 January @ 2 p.m.

The preliminary assessment models will follow a similar program of refinement and documentation. They will also be field checked for spatial accuracy and validity of objectives. This work will constitute the first five weeks of the semester.

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12 February – 21 February – Phase II

The following two weeks will consist of a review and response to comments and recommendations from faculty associates. These may take the form of additional models, both futures and assessment. The models may have additional constraints placed on them or may have some criteria removed from those which may be overly constrained. Some of the recommendations may go beyond biophysical factors to include policy/ political agendas from various stakeholders. These will be discussed and resolved within the team, and in each case, will be presented to and discussed with faculty.

26 February – 6 March – Phase III

This two week period will focus on the final resolution of the objectives and benefits of the alternative futures and assessment models. This will also include variations in the proposed open space plan. The class will discuss and identify a range of feasible implementation and/or mitigation strategies for the models. These preliminary documentations will also include broad recommendations to overcome shortcomings identified in previous faculty reviews.

10 March – 14 March, Spring Break

18 March – 27 March – Phase IV

This three week period (which includes spring break) will allow each individual or team to research and investigate some of the implementation and/or mitigation strategies in more detail. These will cover those which fall under local jurisdictions (town or country), state, and federal. The primary objective is to suggest, by way of explicit criteria, recommendations for the proposed futures and assessment models. This research and documentation will be critical for presentations in the public arena.

1 April – 22 April – Phase V

The last phase of work will include three activities. The first will be the layout and preparation of the final report. This will include the compilation of written and graphic work from all phases of the study beginning fall semester. This will have to be completed in digital format by the 21st of April in order to have the reports printed. Portions of this work will, by necessity, also be taking place in the previous phase. The second item will consist of the production of presentation posters to be used as part of our final presentation. These are dependent upon the progress of the report (due 22 April). The third activity will be the design and construction of a power point program for our final presentation on Thursday, 24 April which should include the report and posters.

Evaluation

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| I. | Refinement of alternative futures and assessment models Posters and power point program. | 25% |
| II. | Review and response to recommendations from sub committee | 5% |
| III. | Final resolution – objectives and benefits – alternative futures And assessment models. | 15% |
| IV. | Research and documentation – implementation/mitigation strategies | 35% |
| V. | Layout and production of final report, posters, power point | 20% |

Additional Studio Activities:

Note- The class should be prepared for lectures and/visitor presentations on Tuesday from 1:30 - 3:00 p.m. The remaining time and class time on Thursday (1:30-4:30) should be reviewed as studio research and production activities. The class should also be prepared for guest lectures on Wednesday from 10:30-11:20

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a.m. Any changes to this schedule will be announced in class. In addition, you may also be required to attend special lectures and/or workshops on or off campus which develop during the semester. E.g., Stegner Symposium – U Of U.

Professor Richard E. Toth

Office phone: 797-0694

Email: Richard.toth@usu.edu

Office hours: Most anytime by appointment but try to work around Tuesday, 8:30-9:30, NR 336

Studio NR 353D, phone 797-1381.

Teaching Assistant Ellie Leydsman, Office: Q. Lawson, Phone: 797-8963, Cell: 801-913-0131, eleydsman@cc.usu.edu

Faculty Associates:

James MacMahon
797-2555, NR 314

jam@cc.usu.edu

Nancy Mesner
797-2465, NR360

nancym@ext.usu.edu

Mark Brunson
797-2458, NR 352
Brinsonm@cc.usu.edu
[u](#)

Thomas Edwards
797-2529, NR134
tce@nr.usu.edu

Doug Ramsey
797-3783, NR 355A
Doug.ramsey@usu.edu

Matthew Baker
797-2546, NR 354
mattb@gis.usu.edu