

24. GUIDELINES FOR EVALUATING MITIGATION PROJECTS ON NRS RESERVES

Governmental regulations require that any unavoidable negative environmental impacts from a proposed development project must be mitigated by measures aimed at offsetting those negative impacts. Such mitigation measures are ideally carried out at the project site. However, *off-site* mitigation may be allowed when a project's environmental impacts cannot be mitigated on-site. In these cases, the developer is required to restore, create, enhance, or preserve similar habitat nearby, as compensation for the environmental damage at the project site.

As increased development diminishes the number of available sites that can reasonably support off-site mitigation, NRS reserves are increasingly sought after for this purpose. A development project may offer a reserve funding or in-kind donations for this off-site mitigation to be carried out on the reserve. Such mitigation may consist of actual work done on reserve lands, such as restoration, or simply the addition of new lands. (In either case, the goal is to compensate for environmental losses. By contrast, a project that would merely name an existing reserve as a mitigation site, but do nothing to create or protect new habitat, would be unacceptable to the NRS.)

Under what circumstances is it appropriate, or inappropriate, for a reserve to participate in mitigation activities? This determination always requires a balancing of considerations that address impacts both within the reserve and beyond its boundaries. Close to home, we are concerned with the potential impacts that the proposed mitigation will have on a reserve's programs, natural and cultural resources, budget, and liability. Looking beyond our boundaries, the NRS may evaluate whether the proposed mitigation will be effective in replacing the natural values eliminated by the development project. Because of the many variables involved in mitigation projects, evaluation must be on a case-by-case basis. It is, therefore,

wholly inappropriate to view NRS reserves as ready sites for mitigation, regardless of whether the project proponent is a private, government, or University developer.

To assist reserve managers and campus NRS administrators in making these determinations, the Universitywide NRS Advisory Committee recommends that the following considerations be taken into account when evaluating any proposed mitigation activity on a reserve. As a tool for evaluation, answers may be rated on a scale from 1 to 5, with 1 indicating an unfavorable outcome and 5 indicating a favorable result. This rating system is not intended as a way to quantify, in precise terms, whether a mitigation project is appropriate. Rather, it is intended to provide a system for balancing the myriad considerations, and to provide a general indication, both visual and numeric, of where a project stands. In general, the higher the overall total score, the more favorable the mitigation project.

While all the following factors are relevant, some may be more important than others, depending upon a reserve's particular circumstances. It may therefore be necessary in some cases to assign greater weight to certain considerations. For example, suppose the mitigation would preclude all future manipulative research in the affected area, therefore receiving a score of 1, indicating "highly restricted use." The full implication of this restriction will depend on the availability of other similar research sites on the reserve — if none existed, the impact would be far more serious. Various methods could be used to reflect this additional impact in the score, such as bonus points (positive or negative), or multipliers to give the question greater weight. Each evaluation should employ its own set of weights for the various considerations.

IMPACTS TO THE RESERVE

Programmatic Impact

- Does the mitigation project offer substantial benefits for the reserve’s research, instruction, and outreach programs?

No benefits	1	2	3	4	5	Substantial Benefits
-------------	---	---	---	---	---	----------------------

- Does the commitment of this area for the mitigation activity preempt other uses?

Note: Some restoration programs preclude researchers/reserve managers from manipulating restored habitat. Find out what the legal constraints would be on the future use and management of the mitigation area, and whether they would impact the ability to conduct manipulative research/management practices. Likewise, enrollment or participation in habitat conservation plans or natural community conservation plans may preclude certain research activities, access by classes, or infrastructure development.

Highly restricted use	1	2	3	4	5	No use restrictions
-----------------------	---	---	---	---	---	---------------------

- What kind of monitoring, assessment, and reporting will be required? Over what time-frame?

Note: The rating scale below reflects the concern that intensive or long-term monitoring requirements may impose a heavy burden on staff time. However, if adequate funding is provided to carry out these obligations, such monitoring requirements could be viewed as a benefit, rather than a liability, to a reserve. In such cases, the rating scale would be inverted. (See below: first two bullets under “Budgetary and Liability Impact.”)

Intensive/ long-term	1	2	3	4	5	Infrequent/ short-term
----------------------	---	---	---	---	---	------------------------

- Does the mitigation project require increased public access to the reserve? If so, to what extent?

Unrestricted public access	1	2	3	4	5	No public access required
----------------------------	---	---	---	---	---	---------------------------

Natural and Cultural Resource Impact

- What will be the likely overall impact of the mitigation on the reserve’s biota and cultural resources?

Negative impacts	1	2	3	4	5	Positive impacts
------------------	---	---	---	---	---	------------------

- What is the availability of other suitable mitigation sites off of the reserve?

Note: If the mitigation project could expand and protect habitat elsewhere, this might contribute to a net gain of protected habitat in the region and, possibly, to the healthy functioning of the reserve (for example, by enhancing wildlife corridors).

Alternate sites available	1	2	3	4	5	No alternate sites
---------------------------	---	---	---	---	---	--------------------

Budgetary and Liability Impact

- What are the projected costs of ongoing management, monitoring, and assessment of the mitigation area?

Note: Projected costs should be assessed based on a rigorous, in-depth cost analysis. Managers and campus advisory committees are encouraged to seek independent advice in preparing realistic cost estimates.

High cost	1	2	3	4	5	Low cost
-----------	---	---	---	---	---	----------

- What is the source of funding to carry out these obligations? Will an endowment or a permanent line item budget be established, sufficient to support both capital and ongoing funding needs?

No funding established	1	2	3	4	5	Funding established
------------------------	---	---	---	---	---	---------------------

- How likely is it that the stated objectives for the project can be successfully met?

Low chance of success	1	2	3	4	5	High chance of success
-----------------------	---	---	---	---	---	------------------------

- What are the legal consequences of failing to meet objectives?

Unlimited University liability	1	2	3	4	5	No University liability
--------------------------------	---	---	---	---	---	-------------------------

- Will the principles of adaptive management apply, so that there is flexibility to correct ecological “mistakes”?

No adaptive management	1	2	3	4	5	Adaptive management
------------------------	---	---	---	---	---	---------------------

DEVELOPMENT PROJECT CONSIDERATIONS

- Is the development project controversial? What are the views of the conservation community?

Controversial	1	2	3	4	5	Non-controversial
---------------	---	---	---	---	---	-------------------

- Will the proposed mitigation be effective in replacing the natural values eliminated by the development project?

Ineffective	1	2	3	4	5	Effective
-------------	---	---	---	---	---	-----------

- At what stage of the development project is the NRS getting involved?

Note: Of concern is the degree to which the NRS, by participating in mitigation, may be playing an instrumental role in the development project, thereby “enabling” environmental degradation to occur elsewhere. The earlier the NRS participates in a development project, the more instrumental our role might be. On the other hand, later participation — say, after permits have been issued — may provide a more desirable distance from the development project’s decision-making stages.

Early stage	1	2	3	4	5	Late stage
-------------	---	---	---	---	---	------------

DECISION-MAKING PROCESS

At its November 20, 2002 meeting, the Universitywide NRS Advisory Committee approved the establishment of an ad hoc NRS Mitigation Committee to provide guidance, upon request, to reserves and campuses that may be considering proposed mitigation projects involving NRS reserves. The following process has been adopted:

- 1) The reserve manager will make the initial evaluation of a proposed mitigation project, employing the guidelines outlined above. He or she will provide a written summation of the project, its specific pros and cons, and an overall recommendation.
- 2) If the reserve manager determines that further investigation of the project is warranted, then review and approval must be obtained at the campus level, from the faculty reserve manager, reserve advisory committee, campus advisory committee, and/or campus NRS director, in accordance with local campus NRS procedures. In addition, it is possible that some mitigation activities would involve

commitments by a campus that would require upper-level campus approval. These guidelines are intended to inform each level of the campus decision-making chain.

- 3) In the event that the campus NRS administration wishes to obtain an external evaluation of the mitigation project, the reserve manager will submit a request to the NRS Systemwide office. The Systemwide office will then select a three-member Mitigation Committee to conduct the review. In order to avoid potential conflicts of interest, the members of this committee will be from campuses other than the reserve's managing campus.
- 4) The recommendations of the Mitigation Committee will be advisory to the specific campus decision-making chain.

Prepared by Universitywide NRS Advisory Subcommittee: John Rotenberry, Maggie Fusari, Al Muth; and NRS Systemwide representative: Chen Yin Noah.
Approved by Universitywide NRS Advisory Committee on November 20, 2002.