Framework for Evaluation of Proposals for Research and Scientific Activities

Worksheets and Instructions

Worksheets and instructions are provided for each of the filters in this evaluation framework. These worksheets may provide an important part of the administrative record for decisions about proposals for scientific activities inside wilderness. Before using these worksheets they should be modified to fit local circumstances and judgments, but once modified they should not be modified for individual proposals.

**Cover Sheet – Proposal for Scientific Activity**

Wilderness:

Title of proposal:

Date­­ proposal received:

Application #:

Name of person submitting this proposal:

Contact information person submitting proposal

Affiliation:

Address:

Phone number(s):

Email:

Optional topic(s) or keyword(s) to categorize proposal:

Name of agency staff evaluating this proposal:

**Final recommendation:**

**Date of final recommendation:**

Record of communication between manager and scientist:

**Initial Review Filter**

Date\_\_\_\_\_\_\_ Application # \_\_\_\_\_\_\_\_\_\_\_\_ Short Title \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Instructions: The questions included in this worksheet likely apply in most wildernesses, but local staffs should review these and delete any that aren’t applicable and add any that are. After reviewing the proposal, agency staff would check the appropriate “yes” or “no” box for each question. Any “yes” answers indicate that the proposed scientific activity may raise significant problems and need to be returned to the scientist with an explanation of the problem, or the proposal would likely require significantly more time to evaluate.

|  |  |
| --- | --- |
| **Initial Review Question** | **Yes or No** |
| 1. Does the proposal include any activities requiring a use that is legally prohibited by Section 4(c) of the Wilderness Act? | 🞎 🞎 |
| 2. Would the proposed activity degrade wilderness character even if it is legally permitted? | 🞎 🞎 |
| 3. Would the proposed activity likely be controversial with any publics? | 🞎 🞎 |
| 4. Would the proposed activity pose other legal or policy problems? | 🞎 🞎 |
| 5. Would the proposed activity interfere with management operations? | 🞎 🞎 |
| 6. Would the proposed activity pose consultation issues over listed species or cultural and heritage resources? | 🞎 🞎 |
| 7. Would the proposed activity require collecting plants or other natural resources, or the handling or removing of animals, or the introduction of plants or animals into the wilderness? | 🞎 🞎 |
| 8. Would the proposed activity pose timing or location problems, such as occurring in a sensitive area or time for particular species? | 🞎 🞎 |
| 9. Would the proposed activity pose additional impact in an area that already has an unacceptable level of cumulative impacts or is close to an unacceptable level of cumulative impacts? | 🞎 🞎 |
| 10. If the submitter has conducted work in the area before, were there any problems with completing administrative requirements (such as submitting reports, removing installations and other debris from the activity, completing curatorial and specimen documentation requirements) in a timely and professional manner? | 🞎 🞎 |
| *OTHER QUESTIONS* |  |
|  |  |
|  |  |

Explanation for all “Yes” answers (list by question number):

General Comments or Notes:

**Initial Review Filter — How Much Analysis is Needed?**

Instructions: This tool helps determine whether more or less analysis is needed to evaluate a proposal. Pick a point on each of the 4 sides of the graph based on a review of the proposal. The placement of these points is based on a quick assessment that at this stage is more art than science. Next, connect the two points that are on opposite sides of the graph with a line, yielding two lines, one that is left to right and one that is top to bottom. Where these two lines intersect should reflect the degree of analysis required. If this intersection is in the red or yellow zones, further detailed analysis is needed following the remaining worksheets included here. If this intersection is clearly in the red zone, the likelihood of the proposal being approved is small and this should be communicated to the proponent as soon as possible. If this intersection is clearly in the green zone, documenting assignment of the 4 points on this graph may, depending on local office protocols, be sufficient for evaluation of the proposal with no further analysis needed. This graphical tool is not a substitute for an agency authorization or permit because the policies and authorization process required by each agency must still be followed.



Explanation for assignment of points along each of the four sides of this tool:

**Quality of Proposal Filter**

Date\_\_\_\_\_\_\_ Application # \_\_\_\_\_\_\_\_\_\_\_\_ Short Title \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Instructions: The questions included in this worksheet likely apply in most wildernesses, but local staffs should review these and modify them as deemed appropriate. After reviewing the proposal, agency staff would check the appropriate “yes” or “no” box for each question. Any “no” answers indicate that the proposal is insufficient and may need to be immediately returned to the scientist with an explanation of the problem.

|  |  |
| --- | --- |
| **Quality of Proposal Questions** | **Yes or No** |
| 1. Is the proposed scientific activity sufficiently well designed to accomplish its stated purpose, thereby providing the intended benefits to management or science? | 🞎 🞎 |
| 2. Does the proposal describe the potential benefits of the proposed activity in terms of the Benefits Assessment described in the Impacts and Benefits Filter? | 🞎 🞎 |
| 3. Does the proposal describe the potential impacts of the proposed activity in terms of the Impacts Assessment described in the Impacts and Benefits Filter, and show how these will be minimized or mitigated? | 🞎 🞎 |
| 4. Does the proposal describe how the results and any reports will be communicated to local management staff? | 🞎 🞎 |
| *OTHER QUESTIONS* |  |
|  |  |
|  |  |
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Explanation for all “No” answers (list by question number):

If necessary, describe action taken to ensure independent review of the proposal:

General Comments or Notes:

**Legal and Policy Filter**

Date\_\_\_\_\_\_\_ Application # \_\_\_\_\_\_\_\_\_\_\_\_ Short Title \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Instructions: The steps included in the worksheet should apply in all wildernesses, but local staff should still review these steps to make sure that they are applicable, and add any steps as appropriate for compliance purposes and for the administrative record. Several of the steps require subjective evaluation, and in such cases the rationale needs to be carefully documented, especially for proposals that might be controversial.

Step 1: Does the proposed activity include any actions or uses that are prohibited by Section 4(c) of the Wilderness Act?

If no, skip Steps 2 – 3, check this box 🞏 and go to Step 4.

If yes, go to Step 2 and describe the actions or uses:

Step 2: Are the prohibited actions or uses necessary? To answer this question, answer the following the questions:

1. Does the proposed work address an urgent or important health and safety concern?

If yes, check this box 🞏 and go to Step 4.

Explain the health and safety concern:

If no, check this box 🞏 and go to Step 2.B.

1. Can the prohibited actions or uses be conducted only inside the wilderness?

If yes, check this box 🞏 and go to Step 2.D.

Explain why the prohibited action or use can by conducted only inside the wilderness:

If no, check this box 🞏 and go to Step 2.C.

Explain why the prohibited action or use can by conducted outside the wilderness:

1. If the prohibited actions or uses can be conducted outside the wilderness, will the benefits to wilderness stewardship (i.e., preserving wilderness character) or to science be reduced?

If yes, check this box 🞏 and go to Step 2.D.

Explain how the benefits will be reduced:

If no, check this box 🞏 and deny the proposed work.

Explain how the benefits of the prohibited actions or uses will not benefit wilderness stewardship or science:

**Legal and Policy Filter (continued)**

1. Are there any legislated exceptions that allow the actions or uses that would normally be prohibited?

If yes, check this box 🞏 and go to Step 2.E.

Describe the legislated exception that would allow the normally prohibited action or use:

If no, check this box 🞏 and still go to Step 2.E.

1. Will the proposed actions or uses help preserve wilderness character?

If yes, check this box 🞏 and go to the Impacts and Benefits Filter.

Explain how the actions or uses will help preserve wilderness character:

If no, check this box 🞏 and go to Step 3.

Explain how the actions or uses will not help preserve wilderness character:

Step 3: Return the proposal with an explanation of why it is being returned. If a revised proposal is submitted, it should include an explanation of changes from the previous proposal. Begin at Step 1 of this Legal and Policy Filter with the revised proposal.

Step 4: Is there a restriction in law, policy, or management plan that would prevent the actions or uses, or limit where or when they could be used?

If yes, check this box 🞏 and go to Step 3.

Explanation of the restrictions in law, policy, or management plan:

If no, check this box 🞏 and go to the Impacts and Benefits Filter.

**Impacts and Benefits Filter — Benefits Assessment Worksheet**

Instructions: There are two worksheets, one for the benefits assessment and one for the impacts assessment. Once the worksheets are completed, the benefits and impacts decision table is used to determine a provisional decision. Based on the outcome of this decision, the proposal is either returned for revision or is evaluated for its contribution to cumulative impacts. After this cumulative impacts assessment, a final recommendation about the proposal is given to the decision maker.

The benefits and impacts assessment worksheets require substantive staff review and *must* be modified from what is shown here to be relevant to the local wilderness. To use these worksheets, local staff:

1. Prepare the worksheets
   * + - 1. Review the category descriptions (bold text at the left of each row in both worksheets) and modify them as appropriate for their local setting, but in most cases the ones offered here should fit most wildernesses.
         2. Review the text descriptions for each level of impact or benefit that are under the numerical scores, and modify them to fit local needs. For the benefits assessment worksheet, the text descriptions are written generally and would likely be applicable in most wildernesses. For the impacts assessment worksheet, the text descriptions strongly reflect conditions within the Yosemite Wilderness and *must* be modified to fit the context of the individual wilderness.
         3. For the benefits assessment worksheet only, develop weighting factors that reflect local perceptions about the relative importance for each category (rows in the worksheet). The sum of all 11 weighting factors should equal 10 so that when the scores are multiplied by the weighting factors and summed, the maximum total assessment score cannot be greater than 100. These weights should be developed once to fit local needs and not modified for individual proposals.
         4. Develop the cut-offs for low, medium, and high total benefits and impacts assessment scores. These cut-offs will be used to broadly categorize the benefits and impacts; these cut-offs should be developed once and not modified for individual proposals.
2. Conduct the assessments
   * + - 1. Reading across each row, circle the appropriate statement for the level of benefit or impact.
         2. From the circled statement, read up the column to derive the numerical score.
         3. Record this number for the row under the column titled “Score”
         4. For the benefits assessment, multiply this score with the weighting factor to derive the row total.
         5. Add all the individual row totals to derive the total assessments score.
         6. Based on the cut-offs that were identified earlier, assign the overall assessment of low, medium, or high.

**Impacts and Benefits Filter — Benefits Assessment Worksheet**

Date\_\_\_\_\_\_\_ Application # \_\_\_\_\_\_\_\_\_\_\_\_ Short Title \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

| **Benefit Category** | **Numerical Score of Benefit (0 = no benefit, 10 = high benefit)** | | | | | | **Score** | **Weighting Factor** | **Row Total** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **0** | **2** | **4** | **6** | **8** | **10** |
| **Benefits to Wilderness Stewardship (managing wilderness to preserve wilderness character):** | | | | | | | | | |
| **Would the results address an *urgent* stewardship issue?** | Not urgent | Not urgent now but might be in the future | Urgent now but threat or issue appears to be static or decreasing | Urgent now and threat or issue likely to continue at its current state | Urgent now and threat or issue likely to accelerate | Present crisis that may be at the point of irreversibility |  |  |  |
| **Would the results address an *important* stewardship issue?** | Not important | Not important but might be in the future | Important but occurs over a relatively small area or timeframe | Important and occurs over a relatively large area or long timeframe | Important, affecting one or more key biophysical or social aspects over a large area or long timeframe; potential concern for human health/safety | Important, affecting irreversible changes to key biophysical or social aspects over a large area or long timeframe; major concern for human health/safety |  |  |  |
| **Would the results be applicable *immediately* to stewardship?** | Basic research that does not appear to be applicable to a current stewardship issue | Basic research that has slight apparent applicability to a current stewardship issue | Basic research that has moderate apparent applicability to a current stewardship issue | Applied research that has slight to moderate apparent applicability to a current stewardship issue | Applied research that has moderate to high apparent applicability to a current stewardship issue | Research is specifically designed to answer a current stewardship issue |  |  |  |
| **Would the results likely be applicable to *future* stewardship issues?** | Basic research that is highly unlikely to be applicable in the future | Basic research that is unlikely to be applicable in the future | Research that is unlikely to be applicable in the future except as a baseline to assess future change | Research is moderately likely to be applicable in the future | Research is likely to be applicable in the future | Research is highly likely to be applicable in the future |  |  |  |
| **Would the results allow *effective action* on a stewardship issue?** | Managers would likely not be able to take any actions that affect the issue | Managers could affect the issue only by trying to influence broad societal changes | Managers could take effective action only by changing management priorities | Managers could take effective action only with significant costs to other wilderness values | Managers could take effective action with minimal cost to other wilderness values | Managers could easily and immediately take effective action with no cost to other wilderness values |  |  |  |
| **Would the results improve stewardship of this *local wilderness*?** | Results are not applicable to the wilderness in which the research is conducted | Results are slightly applicable to the wilderness in which the research is conducted | Results are slightly to moderately applicable to the wilderness in which the research is conducted | Results are moderately applicable to the wilderness in which the research is conducted | Results are highly applicable to the wilderness in which the research is conducted | Results are specifically applicable to the wilderness in which the research is conducted |  |  |  |
| **Benefits to Science:** | | | | | | | | | |
| **How broad *geographically* will the results benefit science?** | Results benefit science in only a small geographic area or portion of the wilderness | Result benefit science in the whole wilderness | Results benefit science in the whole region | Results benefit science in the whole country | Results benefit science in similar bioregions globally | Results benefit science across the entire planet |  |  |  |
| **How far over *time* will the results benefit science?** | Results provide a short term benefit | Results provide a short to moderate term benefit | Results provide a moderate term benefit | Results provide a moderate to long term benefit | Results provide a long term benefit | Results provide a permanent benefit |  |  |  |
| **How many different *people* or types of people will benefit from the results?** | Results benefit only a few scientists and managers | Results benefit only visitors, scientists, or mangers in the specific wilderness | Results benefit visitors, scientists, and managers in any wilderness | Results benefit local visitors, residents, scientists, and managers | Results benefit regional visitors, residents, scientists, and managers | Results benefit people nationally or globally |  |  |  |
| **How *important* is the activity to the scientific field of study?** | Similar research has been conducted many times before and attempts to answer relatively trivial questions | Similar research has been conducted many times before and attempts to answer relatively minor questions | Research expands slightly on previous work and attempts to answer relatively minor questions | Research expands significantly on previous work and attempts to answer major questions | Research is groundbreaking or precedent setting for the field and attempts to answer major questions | Research is groundbreaking or precedent setting for the field and attempts to answer fundamental questions |  |  |  |
| **What is the *breadth* of scientific inquiry?** | Research is conducted on a single, minor component of the ecosystem or social system with little affect on other components | Research is conducted on a single component of the ecosystem or social system with little affect on other systems | Research is conducted on a single process of the ecosystem or social system that affects a moderate number of other components | Research is conducted on a single process of the ecosystem or social system that affects many components | Research is conducted on many ecosystem or social processes and components | Research is conducted on ecosystem or social processes and components comprehensively |  |  |  |

**Total Benefits Assessment Score =**

**Benefits Assessment (Low, Medium, High) =**

**ALASKA Impacts and Benefits Filter — Impacts Assessment Worksheet (May 2010 version)**

Date\_\_\_\_\_\_\_ Application # \_\_\_\_\_\_\_\_\_\_\_\_ Short Title \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Impact Category** | **Numerical Score of Impact (0 = negligible Impact, 10 = high Impact)** | | | | | | | **Score** |
| **0** | **1** | **3** | **5** | **7** | **10** | **Notes + or -** |
| **Untrammeled Quality** | | | | | | | | |
| **Manipulation** | None | Low |  | Moderate |  | High |  |  |
| **Natural Quality** | | | | | | | | |
| **Disturbance** | None | Low |  | Moderate |  | High |  |  |
| **Collection: Scarring** | None | Unobtrusive |  | Obtrusive |  | Very obtrusive |  |  |
| **Collection: Amount & Rarity of Specimen** | None | Any amount; common |  | Moderate amount; uncommon |  | Any amount; rare |  |  |
| **Undeveloped Quality** | | | | | | | | |
| **Transport- helicopter** | Human only | Low: 1-3 flights and/or landings | 4-5 flights and/or landings | Moderate: 6-10 flights and/or landings | 11-15 flights and/or landings | High 15+ flights and/or landings |  |  |
| **Transport - OHV** | None | Low |  | Moderate |  | High |  |  |
| **Transport-fixed wing, snowmachine, motorboat** | Human only | Low |  | Moderate |  | HIgh |  |  |
| **Equipment-generators, power tools, chainsaws, etc** | None | Any amount of unobtrusive use-(non-motorized) |  | Some amount of motorized use |  | High amount of motorized use |  |  |
| **Installations:**  **Obtrusiveness** | None | Low discernability |  | Low to moderate discernability |  | Moderate to high discernability | Account for number of installations |  |
| **Installations: Duration** | None | Short duration |  | Moderate duration |  | Long term duration | Account for number of installations |  |
| **Solitude or Primitive and Unconfined Quality** | | | | | | | | |
| **Group Size** |  | 1-6 |  | 7-12 |  | 13+ |  |  |
| **Person-Days/ Season** |  | 1-10 | 11-30 | 31-90 | 91-120 | 121+ |  |  |
| **Area of Influence** | None | Managed as higher use zone |  | Managed as moderate use zone |  | Managed as low use zone |  |  |
| **Timing Sensitivity** | None | Low: affects a low number of visitors |  | Moderate: affects multiple parties or a moderate number of visitors |  | High: affects many visitors |  |  |

**Total Impacts Assessment Score =**

**Impacts Assessment (Low, Medium, High) =**

**Instructions:**

**Manipulation:** This includes manipulation of processes or conditions. Area, intensity and permanence of this manipulation would all be considered. The “low” impact class might be used to score experimental campsite restoration techniques or trampling studies involving small areas. The “moderate” impact class might be used to score a small prescribed burn. The “high” impact class would be used for studies proposing actions that may have long-lasting cascading effects, such as introduction or eradication of species. Much of the scientific value of wilderness lies in its untrammeled state and manipulation reduces that value, so this category should also consider the impact to the future scientific value of wilderness. High scores in this category will reflect the primacy of untrammeled wilderness in the Wilderness Act.

**Disturbance:** This involves manipulating individual organisms or specific areas rather than processes or conditions and is often more of an impact to the social and symbolic values of wilderness than to ecological or scientific values. This may include such activities as feeding, trapping, sampling, marking banding, collaring, or instrumenting animals. Repetitive small disturbances to a large number of animals can result in a large cumulative effect, particularly if it affects critical life stages such as calving, nesting, predator avoidance, resting or migration. Disturbance may also affect particularly symbolic entities such as very old or iconic trees, large rare fierce predators, other iconic or historic features, or areas or species sacred or otherwise of cultural importance to Native Alaskans. Two aspects of disturbance would be considered. The first is the magnitude or intensity of insult and attempts to gauge the reduction of wildness to the individual, the reduction of the power of the symbol of wildness, and the sacrilege to sacred places or species that would result from the proposed activity. The second component in this category considers the amount disturbed, and this would be considered both absolutely and as a percentage of population size. Due to the abstract nature of this category, the condition classes are purposefully left vague. One useful way to consider scoring this category might be to consider the amount of protest that would ensue if the proposal were publicized.

**Collections:** Scarring: Collection sometimes leaves a scar, such as tree notches or bedrock drill holes. Scarring is considered separately from the actual collection, and is scored by obtrusiveness, permanence, and amount. Some research may involve scarring that is not incidental to collecting; that is scored here as well. Removal of highly visible fossils from commonly seen locations would also be considered scarring, even when the rock face retains a natural appearance. However, collecting may also be an appropriate mitigation measure when important specimens are at risk of loss from natural erosion or unauthorized removal.

**Collections: Amount and Rarity of Specimen:**

Rarity—rarity is a complex topic because a particular resource may be globally, regionally, or locally rare, it may be endemic or non-endemic, it may face various types of threats, and it may be distributed in ways that make it more or less vulnerable. All of these factors should be considered when assigning scores for collecting. Rarity is divided into four broad categories:

* + Common: This would include water, common rocks and soil, and common plants.
  + Uncommon: This would include species at higher trophic levels including most higher vertebrates. Well-preserved exposures of most types of invertebrate and plant fossils are uncommon.
  + Of concern: Not rare, but might be at risk or is a member of a declining population, or of particular importance to ecosystem health. This could include species with unknown local population size.
  + Rare: The high scores for the rare category reflect the seriousness of removing rare species or materials from the ecosystem. The rare category includes more than just listed species; a species may be rare only locally rare or it may be moderately common locally but threatened or declining at a larger scale and it would still be scored as rare. Well preserved fossils of higher vertebrates and soft invertebrates (as compared to shells) are rare in most areas.

**Amount**: The impact classes are intentionally left vague as the amount is somewhat dependent on rarity. Amount should be considered both absolutely and as a percentage of population size. An unknown population size (for instance, a research proposal that entails collecting two of every species regardless of rarity, including possible new species) would be scored as “of concern” or “rare”. As with the transport and equipment categories below, more than one column may be appropriate, in which case the individual column scores are summed to obtain the total.

**Transport - Helicopters and OHV:** This category will take into account the number of landings, the duration of flight(s) or trips, the number and frequency of flights, the number of vehicles, the route and timing of flights or motorized use, and how dispersed the use is. A park will need to evaluate this category based on existing park zoning (if any), topography and vegetation (affecting noise impacts), affect on sensitive resources etc. A suggested range of impacts for helicopters would combine flights and/or landings to determine a score. The use of newer or smaller types of helicopters that have reduced noise impacts would reduce the score for those aircraft. The use of OHV is rare in Alaska and would be scored high for use except in frozen conditions or on existing trails.

**Transport - Fixed wing, motorboat, snowmachine:** This category will measure use days of the three ANILCA permitted motorized transport in wilderness. The fact that ANILCA allows these types of motorized use in the parks and wilderness does not mean they are not having an effect. A park will need to examine their own administrative use and look at existing cumulative effects to the wilderness in order to make valid numerical assignments ranging from low to high.

**Equipment:** Impact Scores are 0 -10. These scores represent a combination of 1) visibility, 2) sound, and 3) technological sophistication/power leverage. This latter aspect attempts to get at the reason why motorized equipment was included as a Section 4(c) prohibition in the Wilderness Act—that wilderness is a place where we are “without our mechanisms that make us immediate masters over our environment” (Zahniser 1956). Impact scores should also consider frequency and duration of use, and examples are:

* 0– non-motorized, small, simple, silent, (e.g., tape measure, binoculars)
* 1 – non-motorized but larger (e.g., mist net), more noise (e.g., star drill), could include small solid-state electronics
* 3 – electric motor (small, not too loud; e.g., cordless electric drill) for short term use
* 5 – louder and/or longer-duration (e.g., chainsaw, portable generator)
* 10– multiple uses of loud motorized equipment for longer durations

**Installations - Obtrusiveness:** Installations are any plot markers, instruments, clusters of instruments, or structures that are left unattended for more than a few days. Technological sophistication should also be considered when scoring installations. For example, a small rock cairn or small piece of wood would usually be preferable to a metal or plastic pole for use as a plot marker.

Installations are divided into four categories:

* Barely discernable—includes buried rebar, camouflaged tree tags, and other tiny markers or micro-instruments. While these are installations, this scoring system recognizes that a single installation of this type has a negligible impact by itself. Rather, the impact lies in the cumulative effect of many such installations. Thus, it takes many such installations to rise to the level requiring an MRA.
* Unobtrusive—includes larger instruments and plot markers that are easily visible from a short distance but generally not noticeable from greater distances. This category includes things like rebar with large end caps; PVC wells or piezometers that protrude a foot above the ground surface, or brightly-colored plastic flagging or survey tape, which may be quite small but highly visible.
* Obtrusive—includes larger instruments that are visible from a greater distance such as water or air samplers, medium to large boxes sheltering electronics, etc.
* Very obtrusive—includes clusters of instruments, towers, solar panels and antennas, and buildings. Components that move and thereby eye-catching (e.g., anemometer or wind turbine) very often will place an installation into this impact category.

**Installations -Duration**: Permanence is grouped into three categories. These categories can be modified for each area, but the following are a good starting point: short duration is up to one year; moderate duration is one to five years; long duration is over five years. For simplicity only three categories are used but this also means that interpolation and extrapolation are often necessary and appropriate.

**Group size:** Note that these are based on real commercial services permit numbers as well as GMP numbers from several parks.

**Person days/season:** This takes into account the total number of persons times the days they are in the field. For example a field camp of 5 persons for three continuous weeks would be 105 person days. The score can be lower if a camp is to be in one location but on a durable surface or tent platforms are used under communal tents etc. A higher score could be given where short or longer term affects might be expected from the duration of use.

**Area of Influence:** This factor should take into consideration the size, scale, location and magnitude of the proposed activity or project and in what zone(s) it would occur. Does the activity take place in an area managed for more use, or is it proposed for the wildest spectrum on the management scale? How long would one area be affected? For example, if a field camp is in place, for how long would it be in one location as opposed to moving to different locations during the project? Note that this category is not related specifically to if someone is there or not, but when it is occurring and if someone is there, what is the area of influence.

**Timing Sensitivity:** This category considers the temporal effects of the proposal. Does it affect visitors, if so, when, and how much? Is it at a time of year when there is little to no visitation?

**Impacts and Benefits Filter — Explanation of Assessment Scores**

**Explanation of Benefits Assessment Scores**

Benefits to Stewardship:

Benefits to Science:

**Explanation of Impacts Assessment Scores**

Impacts to the Untrammeled Quality:

Impacts to the Natural Quality:

Impacts to the Undeveloped Quality:

Impacts to the Solitude or Primitive and Unconfined Quality:

**Impacts and Benefits Filter — Benefits and Impacts Decision Table**

Date\_\_\_\_\_\_\_ Application # \_\_\_\_\_\_\_\_\_\_\_\_ Short Title \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Instructions: The benefits and impacts decision table is used to weigh the expected benefits against the impacts of the scientific activity. Before it can be used, local staff *must* prepare the table by assigning “Provisional Approval,” “Provisional Denial,” and “Uncertain” to each of the cells of the table. These assignments are fundamentally subjective, reflecting discussion and consensus among local staff. These assignments should be developed once and not modified for individual proposals.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | BENEFITS | | |
| **Low** | **Medium** | **High** |
| **IMPACTS** | **Low** |  |  |  |
| **Medium** |  |  |  |
| **High** |  |  |  |

In the prepared Benefits and Impacts Decision Table (see instructions), circle the intersection between the assigned benefits and impacts assessments.

If “Provisional Denial,” check this box 🞏 and return the proposal to the scientist for revision with an explanation of why it is being returned.

Explanation of why the proposal was provisionally denied:

If “Provisional Approval,” check this box 🞏 and go to the Cumulative Impacts Assessment.

Explanation of why the proposal was provisionally accepted:

If “Uncertain,” check this box 🞏 and discuss concerns with other management staff (as needed) and the scientist to determine if the benefits and impacts were properly assessed, re-assess the proposal if needed, then go to the Cumulative Impacts Assessment.

Explanation of why there was uncertainty about whether to deny or accept the proposal:

**Impacts and Benefits Filter — Cumulative Impacts Assessment**

Date\_\_\_\_\_\_\_ Application # \_\_\_\_\_\_\_\_\_\_\_\_ Short Title \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Instructions: Local staffs need to identify the types of cumulative impacts that are relevant to the wilderness and determine how the proposed scientific activity would be evaluated for its potential contribution to these impacts.

Are the additional impacts of the proposed scientific activity acceptable when viewed in the context of all the other impacts in the wilderness?

If yes, check this box 🞏 and the proposed activity is recommended for approval.

Explanation of why the cumulative impacts are acceptable:

If no, check this box 🞏 and return the proposal to the scientist for revision with an explanation of why it is being returned.

Explanation of why the cumulative impacts are not acceptable: