

ORGANIZATION ENVIRONMENTAL IMPACTS CHECKLIST

Proposal Number: _____

PI: _____

If applicable, Collaborative Proposal Number(s): _____

Organization: _____

Proposal Title: _____

Part I. Does the Proposal include any of the following activities? (Check all that apply.)

<p>Box A</p> <p><input type="checkbox"/> Interior alterations/renovations</p> <p><input type="checkbox"/> Theoretical and/or laboratory research</p> <p><input type="checkbox"/> Data analysis/Modeling</p> <p><input type="checkbox"/> Planning/conducting scientific workshops/conferences</p> <p><input type="checkbox"/> Conducting day-to-day management activities of federally funded research and development centers</p> <p><input type="checkbox"/> Field work not affecting the environment</p> <p><input type="checkbox"/> Acquisition, installation, and/or operation of scientific instrumentation not affecting the environment</p>	<p>Box B</p> <p><input type="checkbox"/> Field work affecting the environment</p> <p><input type="checkbox"/> Drilling of the earth, excavation and/or use of explosives</p> <p><input type="checkbox"/> Weather modification</p> <p><input type="checkbox"/> Use of techniques that may alter or cause a major disturbance to the local environment</p> <p><input type="checkbox"/> The release of biological-control agents</p> <p><input type="checkbox"/> Construction (other than interior alterations)</p> <p><input type="checkbox"/> Transition of technology from the development stage to large-scale commercialization</p>
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Part II. Are any of the following associated with this Proposal?*

Yes	No	Unknown	A. Potential impacts (including direct, indirect, and/or cumulative impacts):
			1. on sensitive biological resources (aquatic, marine, or terrestrial) or their habitat
			2. on historic, cultural, or archaeological resources
			3. on coastal uses or resources
			4. on air quality (e.g., emissions that could affect local air quality or generate greenhouse gas emissions)
			5. on soils or geological/topographical features
			6. on water quality or quantity/streamflow characteristics (including impacts to wetlands or floodplains)
			7. on socioeconomic interests (i.e., on the local economy, schools, employment, housing, etc.)
			8. on existing land use
			9. on existing infrastructure
			10. on existing viewsheds or other visual resources
			11. on existing noise levels
			12. on minority or low income populations
			13. that increase environmental and/or safety risks to children
			14. that result from the production of hazardous/solid waste or use of hazardous material
			B. An activity or activities proposed to take place on lands or waters in which Native Americans, Alaskan Natives, or Native Hawaiians have an interest or connection
			C. An activity or activities proposed to take place on lands or waters managed by a local, state, federal, or foreign governmental entity (i.e., a park, forest, refuge, marine sanctuary, preserve, etc.)
			D. An activity or activities that may have effects on the quality of the human environment that are likely to be highly controversial
<i>*Please attach any supporting documents (i.e., maps/drawings, correspondence, mitigation measures, notes, etc.)</i>			

By electronically signing and submitting this proposal, the Authorized Organizational Representative (AOR) or Individual Applicant is certifying that statements made herein are true and complete to the best of his/her knowledge.

Print Name and Title: _____

Signature: _____
(AOR or Individual Applicant)

Date _____

Instructions to Organizations and Principal Investigators

The National Science Foundation (NSF), as a federal agency providing funding for activities, must comply with environmental and historic preservation laws, including the National Environmental Policy Act, the National Historic Preservation Act, and the Endangered Species Act, among others. Because these laws require agencies to consider and address environmental impacts (i.e., impacts to air, water, wildlife, soil, land use, viewsheds, noise levels, historic/archaeological/cultural resources, socioeconomic interests, minority/low income populations, interests of Native Americans/Alaskan Natives/Native Hawaiians, etc.) as part of their decision-making process, NSF's compliance review must be completed before it determines whether the proposed activities may go forward. In order to conduct an environmental review, NSF Program Officers need to collect certain information regarding the activities to be conducted under each proposal and the potential environmental impacts associated with those activities. The following instructions are designed to provide guidance to organizations and Principal Investigators (PIs) in completing the Organization Environmental Impacts Checklist (Checklist). *Federal agencies that issue funds often request information similar to that requested in NSF's Checklist to meet their NEPA obligations and there may be personnel within your organization that are familiar with this type of information request.* It is noted that, while it is the Authorized Organization Representative (AOR) or Individual Applicant that must sign and submit the Checklist to the NSF Program Officer, it is anticipated that the PI would have detailed information regarding the proposed activities and, therefore, would be in a position to provide significant input into the completion of the Checklist. If additional information is needed, please contact the relevant NSF Program Officer.

Part I. Check all activities that apply.

The activities are grouped into Box A and Box B to assist the NSF Program Officer in understanding what types of environmental reviews may be necessary. As stated in NSF regulations at [45 CFR § 640.3](#), the majority of NSF awards support individual scientific research projects that would not significantly affect the quality of the environment (such as those listed in Box A, when no environmental impacts from Part II are identified). The regulations identify several types of activities (those listed in Box B) that require some level of environmental review by NSF. Note that the financial cost of the activities has no bearing on whether environmental impacts may occur. If the Proposal involves any of the activities identified in Box B, it may be helpful to provide site plans, drawings, or detailed descriptions of proposed activities, if such information was not included in the original Proposal. The NSF Program Officer may request additional information, if not provided. If some or all of the proposed activities do not fit into any of the categories provided in Part I, leave this section blank then complete Part II and attach a description of the proposed activities that explains their nature, scope, and extent.

Box A

Interior alterations/renovations

Check if the proposed activities would involve any type of interior alteration or renovation (i.e., within the outer walls of the existing building or development).

Theoretical and/or laboratory research

Check if the proposed activities would involve theoretical and/or laboratory research (e.g., literature reviews, desktop analysis, examination of specimens, laboratory assays, laboratory testing, etc).

Data analysis/Modeling

Check if the proposed activities would involve data analysis and/or modeling (e.g., use and/or development of software to store and analyze data, mathematical modeling, etc).

Planning/conducting scientific workshops/conferences

Check if the proposed activities would involve planning and/or conducting scientific workshops/conferences.

Conducting day-to-day management activities of federally funded research and development centers

Check if the proposed activities would support a federally funded research and development center's daily operations and/or management. Such activities would include routine maintenance necessary to keep the facility operational, but would not include new construction.

Field work not affecting the environment

Check if the proposed activities would involve work in the field that does not affect the environment (i.e., uses non-invasive and non-harmful techniques). A helpful test would be to complete Part II of this form- if you have checked "No" for all items, the activities would likely not affect the environment.

Acquisition, installation, and/or operation of scientific instrumentation not affecting the environment

Check if the proposed instrumentation would not affect the environment, including instrumentation located inside a facility or vessel that would not affect the environment outside of the facility or vessel (i.e., does not emit energy, radiation, noise, etc., that could have impacts to the environment). You may also check this box if the proposed instrumentation would be an upgrade, replacement, and/or modification to existing infrastructure or scientific instrumentation array, and the new instrumentation would not cause additional visual or environmental impacts.

Box B

Field work affecting the environment

Examples of field activities that could affect the environment include, but are not limited to, those involving: the invasive taking of samples (biological, sediment, water, soil, marine, and air); collection of protected flora and fauna; gathering of anthropological or sociological data through interviews and observations; release of chemicals; release or use of tracers (radioactive or stable isotopes) or dyes; generation of significant noise; use of explosives or vibration-generating equipment; activities that could disturb species in their native habitat (including fencing or other habitat segmentation); installation of

equipment that could have visual impacts or displace habitat; archaeological and paleontological research involving significant earth-disturbing activities; or construction of infrastructure or roads needed to support the field work. If the proposed activities also fall within one of the other categories in Box B (such as use of explosives, excavation, or construction), check those appropriate boxes, too; it is acceptable to check multiple boxes. Detailed work plans would help the NSF Program Officer to determine environmental compliance requirements.

Drilling of the earth, excavation and/or use of explosives

Check if the proposed activities would involve: hand or mechanical drilling; hand or mechanical excavation; or use of explosives, flares, or charges.

Weather modification

Check if the proposed activities would involve cloud seeding or other techniques aimed at weather modification.

Use of techniques that may alter or cause a major disturbance to the local environment

Check if the proposed activities are not otherwise identified in the other Box B categories and could alter or cause a major disturbance to the local environment (e.g., major land clearing activities or use of novel or unusual techniques that could result in a major disturbance to the local environment).

The release of biological-control agents

Check if the proposed activities would involve the release of biological-control agents.

Construction (other than interior alterations)

Check if the proposed activities would involve construction activities, including additions to existing facilities and new construction (including buildings, utilities, and roads).

Transition of technology from the development stage to large-scale commercialization

Check if the proposed activities would support developmental efforts to transition technology from the development state to large-scale commercialization. Examples of large-scale commercialization include mass production of a material/product to bring to market and construction/commercial operation of infrastructure beyond pilot or small-scale models.

Part II. Are any of the following associated with this Proposal?

In this Part, NSF seeks information from the PI's Organization regarding potential environmental impacts and unique circumstances associated with the activities under the Proposal. This information is important so that NSF can determine the appropriate level of environmental review and what environmental laws may be triggered by the proposed funding of such activities. If you do not have enough information or knowledge to determine "Yes" or "No,"

select “Unknown.” This indicates to the NSF Program Officer that additional information may be needed to determine potential impacts.

A. Potential impacts (including direct, indirect, and/or cumulative impacts)

In completing this portion of the Checklist, indicate whether the proposed activities could have an environmental impact that is either beneficial, detrimental, or both. Impacts may be “direct” (anticipated to result from the proposed action and occur at the same time and place); “indirect” (impacts that are reasonably foreseeable to result from the proposed action but expected to occur later in time or are farther removed in distance); and/or “cumulative” (anticipated to result from the incremental impact of the proposed action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency, person, or entity undertakes such other actions). Note that cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time. In determining cumulative impacts, consider impacts from activities both related and unrelated to the proposal (i.e., impacts from the development of a nearby housing community in combination with the impacts of the proposed activities.) When considering impacts from future activities, only consider impacts that are reasonably foreseeable and not those that are speculative. Additional guidance on each resource area is provided below.

1. Sensitive biological resources (aquatic or terrestrial) or their habitat

Consider whether the proposed activities could have impacts (physical and/or behavioral) on threatened or endangered species, designated critical habitat, marine mammals, migratory birds, essential fish habitats, or otherwise ecologically sensitive areas (including wetlands or riparian corridors). Such impacts could occur as a result of alteration, destruction, disturbance, or fragmentation of habitat. Also consider if the Proposal could interfere with the movement of any native resident or migratory wildlife or introduce or spread invasive or otherwise undesirable non-native species. Of special interest are any potential effects to threatened/endangered species, critical habitat, marine mammals, migratory birds, or essential fish habitats; if you have information on such resources, please attach (to the Checklist) additional notes or documentation to assist NSF’s review of your Proposal. Note that, with regard to threatened/endangered species and marine mammals, even impacts to a single individual could be significant due to the small population size.

2. Historic, cultural, and/or archaeological resources

When determining whether there are impacts on these types of resources, consider whether the activities under the Proposal are likely to have physical, visual, or other effects on: historic sites, buildings, districts, structures, or objects

with historic, architectural, archaeological, engineering, or cultural values (e.g., a historic courthouse or the archaeological remains of a 19th-century neighborhood); a neighborhood, commercial, industrial, or rural area that might be eligible for listing on the National Register of Historic Places as a historic district; a known or likely archaeological site; historical objects such as old equipment that might be found in a surplus industrial facility, objects found at or excavated from an archaeological site; objects or intangible cultural resources associated with the history and culture of Native Americans, Native Hawaiians, or Alaskan Natives; a known or probable historic cemetery; or places of traditional religious or cultural importance to members of a community, or to Native Americans, Native Hawaiians, or Alaskan Natives.

3. Coastal uses or resources

Consider whether the proposed activities may have reasonably foreseeable direct, indirect, and/or cumulative effects on any state's coastal uses or resources. This applies to activities that would occur inside or outside of a defined coastal zone which may impact uses or resources within a coastal zone. Some states and U.S. territories define their coastal uses (such as fishing, public access, and development) and resources (such as wetlands, fish, and aquifers) in their federally-approved coastal zone management plans. The seaward boundary of a state's coastal zone is typically three nautical miles seaward from the coastline (and nine nautical miles in the Gulf of Mexico); the landward boundary within a coastal zone varies by state.

4. Air quality (i.e., emissions that could affect local air quality and/or generate greenhouse gas emissions)

Under this resource area, consideration should be given to whether the activities under the Proposal would result in the production of hazardous air pollutants. Standards of air quality to consider include hazardous air pollutant industrial hygiene criteria, and applicable federal, state, regional, and local air quality regulations. Regarding greenhouse gases, if the proposed activities would generate a notable amount, either directly or indirectly (i.e., requiring a large amount of annual electricity or water use, involving a large fleet of vehicles or vessels, or generating a significant amount of waste), please highlight this item for NSF's attention.

5. Soils or geological/topographical features (including any potential geohazards)

Under this resource category, consideration should be given as to whether the activities under the Proposal are likely to result in impacts to the characteristics of soils or geological/topographical features, or increase the risk of geohazards or seismic activity. Impacts to consider include, but are not limited to, whether the

activity is likely to result in soil erosion or ground destabilization; excessive losses of soil, sediments, or rock; the need to move soil or rock to an off-site location; damage or changes to soils qualifying as “prime farmland;” or changes to the character of the topography.

6. Water quality or quantity/streamflow characteristics (including impacts to wetlands or floodplains)

Determine if the proposed activities could result in the discharge of materials (solid or liquid), including sediment, into the environment such that they could enter bodies of water and affect their quality. Determine if the affected water body has a designated use under the state’s Water Quality Standards (per the Clean Water Act) and if the proposal could impact this designated use (i.e., by altering the water body such that it no longer meets the necessary water criteria to support the designated use). Also consider if the activities could affect local hydrology such that downstream water quantities, streamflow characteristics, or the water table could be impacted.

7. Socioeconomic interests (i.e., impacts on the local economy, schools, employment, housing, and/or the population)

Consider whether activities under the Proposal could impact the local economy, including the occupation, education, income, wealth, and property values of residents.

8. Existing infrastructure

Consider whether the proposed activities could impact local utilities, energy resources, roads, public transit, etc.

9. Existing land use

Consider whether the proposed activities could alter or conflict with existing land use(s). An example would be if the proposed activities would conflict with recreational uses of the land on or near where the activities are proposed to take place.

10. Existing viewsheds or other visual resources

Determine if the proposed activities would occur in a visually sensitive location (e.g., a prominent hilltop, park, coastal area, or historic area), and if the activities could potentially alter views or the character of the landscape. This is particularly of note when infrastructure such as buildings or towers is involved.

11. Existing noise levels

Determine if the proposed activities would generate noise, beyond the existing baseline, that could affect sensitive receptors (e.g., schools, cultural institutions, churches, residences, recreation users, wildlife, etc.).

12. Minority or low income populations

Identify if the proposed activities could have a disproportionately high health, environmental, or economic effect on minority and low-income populations.

13. Environmental and/or safety risks to children

Identify if there could be environmental health and safety risks that disproportionately affect children. Consider whether the proposed activities could result in unintentional consequences relating to environmental health and safety.

14. Production of hazardous/solid waste or use of hazardous material

Consider whether the proposed activities may result in the use, storage, release and/or disposal of toxic, hazardous, or radioactive materials, or in the exposure of such materials to people.

B. An activity or activities proposed to take place on lands in which Native Americans, Alaskan Natives, or Native Hawaiians have an interest or connection

Consider whether the proposed activities would take place on lands under the jurisdiction of Native Americans, Alaskan Natives, or Native Hawaiians. Also consider whether the proposed activities may affect tangible or intangible resources of importance to indigenous people, regardless of where those resources are located. Examples of such resources include sacred mountains, ancestral burial grounds, traditional subsistence hunting grounds, and sites used for rituals or cultural practices.

C. An activity or activities proposed to take place on lands or waters managed by a local, state, federal, or foreign governmental entity (i.e., a park, forest, refuge, marine sanctuary, preserve, etc.)

If the proposed activities would occur on lands or waters under the jurisdiction or control of a local, state, federal, or foreign governmental entity, a permit or other authorization may be required. In such cases, NSF should be involved as early as possible, so that, when appropriate, it can coordinate and collaborate with the organization seeking the funding and the relevant governmental entity in meeting environmental compliance needs. For example, when the research involves installation of meteorological towers on U.S. Forest Service (USFS) land, the USFS may complete an environmental review that NSF could then incorporate (by reference) in its own documentation, thus streamlining the process. Such efforts

generally require coordination between the PI (as permittee), the regulating entity, and NSF.

D. An activity or activities that may have effects on the quality of the human environment that are likely to be highly controversial

The term “highly controversial” as used in the Checklist refers to proposed actions that generate controversy on environmental grounds. The controversy must be related to potential impacts on some aspect of the environment; mere unpopularity of an action, without an environmental nexus, is not sufficient to trigger this indicator. Environmental controversies can be about a variety of things such as, but not limited to, impacts on historic buildings, archaeological sites, and other cultural resources; and impacts on traffic or parking in a community or neighborhood. In determining whether the proposed action is anticipated to be “highly controversial,” it might also be helpful to consider whether the proposed action is anticipated to have effects on the human environment that are highly uncertain or involve unique or unknown risks. In making this assessment, consider whether there are unknown risks that have the potential to result in environmental impacts.

- * **Footnote to Part II: * Please attach any supporting documents (i.e., maps/drawings, agency correspondence, mitigation measures, notes, etc.)**
Particularly for any item marked “Yes” or “Unknown” in Part II, please provide any relevant descriptions or documentation that would help NSF to understand the nature and magnitude of impacts to the identified resources, or to understand the nature of other environmental issues related to the proposed activities. Such documentation provides the site-specific information that NSF needs to complete its review.

Signature Line

The organization (or Individual Applicant, if applicable), as the legal entity seeking funding, is required to authorize this form as being accurate, given the information available. NSF expects that PIs or other representatives of the organization, who have detailed knowledge of the proposed activities and the local environment, would provide input to those completing the form. Input from those with detailed knowledge of the proposed activities is critical, as NSF must have the information being requested on the form to meet its environmental compliance obligations.