

**PROJECT-SPECIFIC CATEGORICAL EXCLUSION FOR
WORLDWIDE HYDROBIOGEOCHEMICAL OBSERVATION NETWORK FOR
DYNAMIC RIVERS (WHONDERS) ICON-MODEX RESEARCH ACTIVITIES IN AQUATIC
ENVIRONMENTS,
PACIFIC NORTHWEST NATIONAL LABORATORY,
RICHLAND, WASHINGTON**

Proposed Action:

Pacific Northwest National Laboratory (PNNL) proposes to coordinate citizen science (volunteer) small-scale, temporary, oxygen sensor deployment, metadata collection, and sediment and surface water sampling in riverine (flowing water) environments (15 U.S. Code 3724). This Categorical Exclusion (CX) is specific for activities identified by the Worldwide hydrobiogeochemical observation network for Dynamic rivers (WHONDERS) Icon-Modex research campaign, using only equipment and sampling materials provided in kits supplied to volunteers.

Location of Action:

The proposed action would occur within any riverine systems within the United States.

Description of the Proposed Action:

The proposed action is to coordinate citizen science sampling of surficial sediments and surface waters, deployment of oxygen sensors, and metadata collection. Citizen scientists are provided a sampling kit which includes:

- Hard copy metadata form
- Shipping label that is pre-filled for sending samples back via FedEx overnight
- Freezer “blue ice” packs (place these in a -20C freezer for at least 48 hours prior to shipping)
- Four pairs of nitrile gloves to minimize contamination
- One sterile/clean sediment scoop
- One foil-wrapped metal scoopula to assist in distributing sediment from the sediment scoop
- Three 18 gauge needles
- One 3mL and one 60mL syringe
- Three opaque brown plastic bottles (one for sediment, two for filtered water).
- Two sterile 50mL white capped tubes pre-filled with RNAlater
- Three pre-acidified 60mL amber vials for filtered water
- Three 40mL amber vials for filtered water
- Three 15 mL white cap tubes for ions and SpC from filtered water
- One labeled sterivex filter and multiple unlabeled sterivex filter in case the labeled one clogs
- One epi tube with 3 mL of RNAlater
- Two luer-lok caps to seal filter after filled with RNAlater
- One Whirl-Pak bag to store preserved filter
- Small bag with two pH strips
- Dissolved oxygen sensor
- Some people may receive a small 2mm sieve

Citizen scientist sampling activities are limited to:

- Deployment of oxygen sensor

- Collection of metadata (surface water pH, temperature, height of water column)
- Collection of a total of not more than 1.5 L of surface water
- Collection of not more than 550 ml of sediment within the top 1-3 cm of the riverine bed

Proposed activities must meet the U.S. Department of Energy (DOE) CX eligibility criteria (10 Code of Federal Regulations [CFR] 1021.410) and all the following criteria:

1. The above activities would be conducted by the volunteer samplers using only the sampling kit and in strict accordance with the protocol provided by PNNL. Any other activity falls outside the scope of the agreement and is not part of the volunteer project.
2. The volunteer sampler would obtain any required access and sampling agreements, permits, for the site(s) where they collect samples and would be responsible for compliance with any access or permit requirements. PNNL would have no responsibility to obtain access, sampling agreements, permits, or for compliance with any access or permit requirements. Locations are selected by volunteers from the Icon/Modex webpage interface or suggested by volunteers that wish to participate.
3. Reasonably foreseeable actions necessary to implement the proposed action (e.g., safety support) are the responsibility of the volunteer sampler. PNNL has no responsibility for reasonably foreseeable actions.
4. No permanent facilities or devices would be constructed or deployed.

Biological and Cultural Resources:

It is not likely that the above citizen science sampling activities in riverine environments would result in adverse impacts to sensitive biological or cultural resources. However, as noted in No. 2 above, the volunteer sampler would be responsible to avoid adverse impacts to sensitive biological or cultural resources by obtaining and complying with applicable environmental permits.

Categorical Exclusion to Be Applied:

The following CX, as listed in the DOE National Environmental Policy Act (NEPA) implementing procedures 10 CFR 1021, would apply to the proposed action:

- B3.16 Small-scale, temporary surveying, site characterization, and research activities in aquatic environments. The activities and locations for this project comprise a subset of the activities and locations covered under B3.16.

Eligibility Criteria:

The proposed activity meets the eligibility criteria of 10 CFR 1021.410(b) because the proposed action does not have any extraordinary circumstances that might affect the significance of the environmental effects, is not connected to other actions with potentially significant impacts [40 CFR 1508.25(a)(1)], is not related to other actions with individually insignificant but cumulatively significant impacts [40 CFR 1508.27(b)(7)], and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211 concerning limitations on actions during environmental impact statement preparation.

The "Integral Elements" of 10 CFR 1021 are satisfied as discussed below:

INTEGRAL ELEMENTS, 10 CFR 1021, SUBPART D, Appendix B (1)-(5)	
Would the Proposed Action:	EVALUATION:
Threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health?	The proposed action would not threaten a violation of regulations or DOE or Executive Orders.
Require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities?	No waste management facilities would be constructed under this CX.
Disturb hazardous substances, pollutants, or contaminants that preexist in the environment such that there would be uncontrolled or unpermitted releases?	No preexisting hazardous substances, pollutants, or contaminants would be disturbed in a manner that or results in uncontrolled or unpermitted releases.
Involve genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species?	The proposed action would not involve the use of genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species.
<p>Have the potential to cause significant impacts on environmentally sensitive resources including, but not limited, to:</p> <ul style="list-style-type: none"> • protected historic/archaeological resources • protected biological resources and habitat • jurisdictional wetlands, 100-year floodplains • Federal- or state-designated parks and wildlife refuges, wilderness areas, wild and scenic rivers, national monuments, marine sanctuaries, national natural landmarks, and scenic areas. 	No environmentally sensitive resources (e.g., floodplains, wetlands regulated under the Clean Water Act, national monuments, or other specially designated areas, prime agricultural lands, or special sources of water) would be significantly affected by the proposed research activities. The volunteer sampler would be responsible to avoid adverse impacts to sensitive resources by obtaining and complying with applicable environmental permits, and by following protocols and using materials an equipment provided in sampling kits.

Summary of Environmental Impacts:

The following table summarizes environmental impacts considered when preparing this CX determination.

<i>Would the Proposed Action:</i>	Evaluation
Result in more than minimal air impacts?	The proposed research activities would not have air impacts.
Increase offsite radiation dose measurably?	The proposed research activities would not increase offsite radiation dose.
Require a radiological work permit?	The proposed research activities would not require a radiological work permit.
Discharge any liquids to the environment?	The proposed research activities would not discharge any liquids to the environment.
Require a Spill Prevention Control and Countermeasures plan?	The proposed research activities would not require a Spill Prevention Control and Countermeasures plan.
Use carcinogens, hazardous, or toxic chemicals/materials?	The proposed research activities would not use carcinogens, hazardous, or toxic chemicals/materials.
Involve hazardous, radioactive, polychlorinated biphenyl, or asbestos waste?	The proposed research activities would not involve hazardous, radioactive, polychlorinated biphenyl, or asbestos waste.
Cause more than a minor or temporary increase in noise level?	Noise may be caused by temporary small motorized boat use.
Create light / glare, or other aesthetic impacts?	The proposed research activities would not create light, glare or other aesthetic impacts.
Require an excavation permit (e.g., for test pits, wells, utility installation)?	The proposed research activities would not require an excavation permit.
Disturb an undeveloped area?	Disturbances of the riverine (flowing water) bed would be localized and minor.
Result in more than minimal impacts on transportation or public services?	The proposed research activities would not affect transportation or public services.
Disproportionately impact low-income or minority populations?	The proposed research activities would not disproportionately affect low income or minority populations.
Require environmental or other permits from federal, state, or local agencies?	Federal, state, or local environmental permits may be required for the proposed research activities. Acquisition of any necessary environmental permits would be the responsibility of the volunteer sampler.

Compliance Action:

I have determined that the proposed action satisfies the DOE NEPA eligibility criteria and integral elements, does not pose extraordinary circumstances, and meets the requirements for the CX referenced above. Therefore, using the authority delegated to me I have determined that the proposed action may be categorically excluded from further NEPA review and documentation. This determination must be reviewed at least once every 5 years.

Signature: _____

Date: 10-11-22

Tom McDermott, PNSO NEPA Compliance Officer

cc: JM Becker, PNNL