
To: Ingria Jones and Stephanie Potts, Washington State Department of Ecology
From: Bridget August, John Monahan and Jonathan Rudders (GeoEngineers, Inc.)
Date: October 7, 2019
File: 00504-161-00
Subject: Proposed Screening Criteria for Initial Evaluation of Projects - DRAFT

GeoEngineers is providing technical support to the Washington State Department of Ecology (Ecology) and the Watershed Restoration and Enhancement (WRE) committees for Water Resource Inventory Areas (WRIAs) 7, 8 and 9. In this capacity, GeoEngineers and NHC worked collaboratively with HDR and Anchor QEA to develop DRAFT Proposed Screening Criteria for initial evaluation of proposed water offset projects (attached).

The DRAFT criteria were initially developed by HDR and Anchor QEA, with HDR as the lead author of the attached document. In a series of meetings with Ecology staff, including yourselves, we refined the DRAFT criteria and agreed that input from the WRE committees will be essential to further refinement and future use of the screening criteria. This memorandum and the attached DRAFT criteria are provided to you to share with the WRE committees, and to solicit input and improvements.

It is our understanding that this DRAFT Proposed Screening Criteria for Initial Evaluation of Projects document will be further refined for use in WRIAs 7, 8 and 9 through the following process:

- (1) Draft document will be sent to WRE committees for review and input.
- (2) WRE committee comments will be returned to Ecology and shared with consultant team for review and criteria refinement, resulting in a Revised Draft document
- (3) The Revised Draft document will be returned to Ecology, including technical leads (e.g. John Covert) for review.
- (4) Final Proposed Screening Criteria for Initial Evaluation of Projects document will be produced by consultant team and returned to Ecology and WRE committees for implementation.

Please contact us if you have any questions about the contents of this memorandum or would like to modify the proposed document path described above.

Attachment:

DRAFT Proposed Screening Criteria for Initial Evaluation of Projects. Memorandum prepared by Chad Wiseman of HDR and Bob Montgomery of Anchor QEA (in collaboration with GeoEngineers and NHC) for the Washington State Department of Ecology, dated September 17, 2019.

DRAFT

Proposed Screening Criteria for Initial Evaluation of Projects

1.0 Introduction

This technical memorandum (memo) describes the proposed screening criteria for candidate water offset projects. The intent of the screening criteria is to provide a tool that can evaluate relevant attributes of candidate projects and prioritize the most valuable projects for further evaluation and potential inclusion in the WRE plan for each respective WRIA. In this context, the value of a project refers to its ability to offset, in perpetuity, the anticipated impact of permit-exempt domestic wells on streamflow and improve aquatic species habitat. This approach can be used to generate a preliminary ranking of projects for individual WRIs, which could then potentially be re-ordered if planning groups decide that is appropriate.

This memo was developed to support WRIs 7, 8, 9, 10, 12, 13, 14, and 15 and is intended to be reviewed by each WRI committee to elicit feedback for initial project screening criteria. The draft screening criteria builds on requirements from the NEB guidance and best professional judgement from the consultant team. It is anticipated that each WRE committee will review and possibly tailor the criteria to their needs.

The screening process is composed of a fatal flaw screening and subsequent scoring for consideration in the plan and possible prioritization (should committees choose to use prioritization in their project list). A subset of projects, identified by the committee, will be brought forward for further evaluation, as necessary for inclusion into the WRE plans. Additional criteria may be developed in conjunction with Ecology and WRI committees at that time to aid in further evaluation of projects. Initially, committee project lists will be working documents, so criteria may be applied as new projects are added and projects can be revisited as new information is available.

2.0 Fatal Flaw Screening

Each project will be evaluated with the following fatal flaw screening criteria on a binary (yes or no) basis. Any “yes” answer will disqualify a project:

- No reliable benefits to streamflow or habitat
- Already required by regulatory obligation (i.e. double counting)
- Inconsistent with existing law or policy
- Substantive conflict with another watershed plan
- Implemented prior to January 2018

Table 1. Fatal Flaw Screening Criteria Example.

| Project Number | Project Name | Fatal Flaw Criteria (Enter 1 = Yes, 0 = No) | | | |
|----------------|--------------|---|---|--|--|
| | | No reliable benefits to streamflow or habitat | Already required by regulatory obligation | Inconsistent with existing law or policy | Substantive conflict with another watershed plan |
| 1 | Xxx1 | 0 | 0 | 0 | 0 |
| 2 | Xxx2 | 1 | 0 | 0 | 0 |
| 3 | Xxx3 | 0 | 0 | 0 | 0 |
| 4 | Xxx4 | 0 | 0 | 0 | 0 |

The project must have foreseeable benefits that are reliable. If the project is only projected to benefit streamflow or habitat on a short-term basis, or if project benefits may cease to occur because of other uncontrollable factors, the project should not be considered for further evaluation.

The project cannot be required by an existing regulatory obligation that will be implemented regardless of the WRE Plan. Therefore, claiming the project and counting it towards water offset or NEB will not be allowed.¹

The project must be consistent with existing law or policy and be able to be permitted. Examples of Washington revised code and administrative code that should be considered include the following:

- Chapter 90.03 RCW, Water Code (e.g. project proposes to change a water right in an unlawful way)
- Chapter 173-201A WAC Surface Water Quality Standards (e.g. project proposes a surface discharge with contaminants that will cause the receiving waterbody to exceed standards)
- Chapter 173-200-040 WAC, Water Quality Standards (e.g. project proposes a groundwater discharge with contaminants exceeding water quality standards).
- Chapter 220-660 WAC, Hydraulic code rules (e.g. project proposes to fill an excessive quantity of wetland or stream channel)

Finally, the project cannot be in substantive conflict with another watershed plan. For example, the project may not harm sensitive salmonid stocks or priority species.

¹ See Section 7 of the [Streamflow Restoration Policy and Interpretive Statement](#) (POL-2094) for under “Acceptable projects and actions.”

3.0 Prioritization Screening Attributes

Screening criteria include the evaluation of project attributes that are relevant to 1) water offsets, 2) habitat benefits, 3) project feasibility, and 4) project implementation. Within each category, project attributes are scored on an ordinal scale, where five is the most beneficial, three is moderate, and one is the least beneficial. These criteria are summarized in Table 2 and detailed in Appendix A.

Water offset attributes include the volume of the water offset benefit, whether the offset addresses impacts that occur in high priority subbasins, and the reliability of the offset (Table 1; Appendix A).

Habitat criteria characterize streamflow and aquatic species habitat benefits, and how important those benefits are in spatial context. Criteria include whether or not the project is in a subbasin that contains high priority aquatic habitat, the magnitude of aquatic habitat benefit, and species and life history stages addressed (Table 1; Appendix A). These habitat benefits will contribute to the NEB evaluation, in terms of both streamflow and habitat benefits.

Feasibility criteria include constructability, cost to benefit ratio, operations and maintenance (O&M) considerations, and resilience to climate change (Table 1; Appendix A). The intent of these criteria is to characterize project feasibility and certainty.

Implementation criteria include consistency with existing law or policy, consistency with watershed plans and projects, and sponsor commitment (Table 1; Appendix A). The intent of the implementation criteria is to identify potential (generally non-technical) issues that could complicate implementation of a project that may appear to be beneficial.

Table 2. Screening criteria descriptions.

| Criteria | Description of Criteria |
|---|---|
| Water Offset Criteria | |
| Water offset volume | How much water will the project offset compared to the total required offset for the WRIA? |
| Offset addresses a high priority subbasin | Does the offset project address impacts in a high priority subbasin (areas where rural growth is anticipated?)? |
| Reliability | Will the project provide benefits on a reliable basis? |
| Habitat Criteria | |
| High Priority Subbasin- Aquatic Habitat | Will the offset project improve streamflow and aquatic species habitat in a basin (including downstream reaches) where improving streamflow and habitat is a high priority for aquatic species? |
| Magnitude of Benefit | Is the magnitude of the streamflow benefit significant relative to existing flows or is the habitat benefit significant relative to habitat needs? |
| Species and life stages addressed | Does the project address priority species ¹ ? Does it address multiple species and life stages? |
| Feasibility Criteria | |
| Cost to benefit ratio | Is the cost of offset water benefit (in terms of \$/acre-feet/year) low or is the cost to streamflow or habitat benefit low relative to other projects in the watershed? |
| Operations & Maintenance | Are the long-term O&M requirements and costs reasonable? Has a mechanism to pay for O&M been identified? |
| Resilience | Will the project be resilient to climate change and provide the same benefits under a changing climate? |
| Implementation Criteria | |
| Consistency with existing law or policy | Is the project consistent with existing law or policy? |
| Consistency with watershed plans and projects | Is the project consistent with existing watershed plans? |
| Sponsor commitment | Is the sponsor committed to constructing and operating the project? |

¹Committee can define priority species or they could be defined as “threatened and endangered salmonids or other native fish and aquatic species of concern”.

4.0 Prioritization Scoring

Within each category, each criterion is scored on an ordinal scale, summed, and divided by the full potential score, equaling a normalized percentage of the full potential score (Table 3 shows an example for the water offset criteria). This is the subtotal score. Any criteria not applicable or not able to be scored will receive a medium score of three.

Each subtotal score is weighted in terms of the relative importance of each category (Table 4; in this example, we have equal weighting among categories). Each category subtotal score is weighted, and then the weighted subtotal scores are summed to equal a total score on a scale of 20 (i.e. all criteria were scored as “low”, or 1) to 100 (i.e. all criteria were scored as “high”, or 5). See spreadsheet named “Project_screening.xlsx” for a complete set of scoring tables.

Table 3. Example of criteria scoring and subtotals.

| Project # | Project Name | Water Offset Criteria | | | Subtotal Score |
|-----------|--------------|------------------------|---|-------------|----------------|
| | | Offset Volume of Water | Offset impacts address a high-priority subbasin | Reliability | |
| 1 | xxx1 | 5 | 5 | 5 | 100 |
| 2 | xxx2 | 1 | 1 | 1 | 20 |
| 3 | xxx3 | 3 | 3 | 3 | 60 |
| 4 | xxx4 | 3 | 1 | 3 | 47 |
| 5 | xxx5 | 3 | 3 | 3 | 60 |

Table 4. Example of screening criteria category weighting.

| Criteria Weighting | |
|--------------------|------|
| Water Offset | 25% |
| Habitat | 25% |
| Feasibility | 25% |
| Implementation | 25% |
| Sum (always =100%) | 100% |

Weighting is user-defined and therefore could be changed by WRIA committee or workgroup. See spreadsheet named “Project_Screening.xlsx” where the weightings can be modified and applied to criteria.

Table 5 shows an example of the results of scoring and weighting the criteria. The highest scores are the most valuable projects for this initial evaluation. The WRE Committees and Workgroups will meet to further evaluate and discuss the projects to develop a subset of projects for the next stage of project evaluation.

Table 5. Example of Screening criteria category weighted subtotals and total scores.

| Project # | Project Name | Water Offset | Habitat | Feasibility | Implementation | Totals |
|------------------|---------------------|---------------------|----------------|--------------------|-----------------------|---------------|
| 1 | xxx1 | 25.0 | 25.0 | 25.0 | 25.0 | 100.0 |
| 2 | xxx2 | 5.0 | 5.0 | 5.0 | 5.0 | 20.0 |
| 3 | xxx3 | 15.0 | 15.0 | 15.0 | 15.0 | 60.0 |
| 4 | xxx4 | 11.7 | 25.0 | 25.0 | 5.0 | 66.7 |
| 5 | xxx5 | 15.0 | 15.0 | 15.0 | 15.0 | 60.0 |

DRAFT

Appendix A
Scoring Guide for Screening Criteria

DRAFT

Table A-1: Water Offset screening attributes and scoring criteria.

| Rating | Rating Score | Offset Volume of Water | Offset impacts address a high-priority subbasin | Reliability |
|------------------------|--------------|--|--|--|
| Low (Least Beneficial) | 1 | Does not provide water offset | Contributes to offsetting subbasin impact in a low-priority subbasin for water offsets. | Project benefits may not occur every year, depending on other factors that may change from year to year. |
| Medium | 3 | Provides some water offset or quantity is uncertain | Contributes to offsetting subbasin impact in a medium-priority subbasin for water offsets. | Magnitude of project benefits relies on other factors that may change from year to year. |
| High (Most Beneficial) | 5 | Volume offsets subbasin impact or > 10% of the WRIA offset requirement | Contributes to offsetting subbasin impact in a high-priority subbasin for water offsets. | Project benefits will be sustained year to year and during droughts. |

Table A-2. Habitat attributes and scoring criteria.

| Rating | Rating Score | High Priority Subbasin-Streamflow and Aquatic Habitat | Magnitude of Benefit | Species and life stages addressed |
|------------------------|--------------|---|----------------------|---|
| Low (Least Beneficial) | 1 | Project provides some flow benefit but does not improve aquatic habitat functions | Low benefit | Project only benefits one salmonid species and one life stage |
| Medium | 3 | Project improves aquatic habitat function(s) in a subbasin where improving that habitat function(s) is a medium or low priority | Medium benefit | Project benefits priority species, multiple salmonid species, but one life stage (e.g. rearing habitat) |
| High (Most Beneficial) | 5 | Project improves aquatic habitat function(s) in a subbasin where improving that habitat function(s) is a high priority | High benefit | Project benefits priority species ¹ , multiple salmonid species, or multiple life stages of priority species |

¹ WDFW Priority Habitat and Species, <https://wdfw.wa.gov/species-habitats/at-risk/phs>.

Table A-3. Feasibility screening attributes and scoring criteria.

| Rating | Rating Score | Cost to Benefit | Operations & Maintenance | Resilience |
|------------------------|--------------|------------------------|---|---|
| Low (Least Beneficial) | 1 | TBD (committee define) | Long-term O&M is frequent (i.e. daily to monthly) and project proponent will not cover O&M; High cost | The project benefits are likely to be reduced from climate change |
| Medium | 3 | TBD (committee define) | Long-term O&M is infrequent (i.e. quarterly or less frequent) and project proponent will cover O&M; medium cost | The project benefits may be reduced from climate change |
| High (Most Beneficial) | 5 | TBD (committee define) | No long-term O&M required; low cost; or project proponent has identified a funding mechanism to cover the O&M costs | The project is resilient to climate change |

1 Potential criteria: Low (> \$10K/AFY) or low habitat benefit; Medium (> \$2K/AFY < \$10K/AFY) or medium habitat benefit; High (< \$2K/AFY) or high habitat benefit

Table A-4. Implementation variables and scoring criteria.

| Rating | Rating Score | Consistency with existing law or policy / permitting/regulatory approval complexity | Consistent with watershed plans and projects | Sponsor commitment |
|------------------------|--------------|--|--|--|
| Low (Least Beneficial) | 1 | Uncertain/Challenging; requires negotiation with one or more agencies, extensive environmental review process | Project is unrelated to other watershed/habitat restoration plan objectives | No proponent has been identified |
| Medium | 3 | Consistent/Moderate | Project identified or pursuant to a watershed/habitat restoration plan objective | NA |
| High (Most Beneficial) | 5 | Consistent / Straightforward/Would likely be supported by permitting agencies/Within existing regulatory authority | High priority project in at least one other watershed/habitat restoration plan | Proponent is committed to constructing and operating project |