HABITAT CONSERVATION TRUST FOUNDATION

HCTF Fish & Wildlife Proposal Examples

Please review this document for an example of ideal proposal contents from across the Fish & Wildlife Grant program. Certain pieces of information have been redacted or changed to ensure the privacy of the proponents and contents.

The components of each example are the Objective, an example of the Activities, Measures of Success, and Timeline, as well as an example of the Detailed Methodology aspects of the application.

There are examples of a Wildlife proposal, a Fisheries proposal, and a Habitat Restoration proposal.

Wildlife Example:

3	Continue to assess the efficacy of our [redacted] approach for [redacted] disease management.

	Activities	Measures of Success	Timeline
3.2	Work with statisticians to analyze PIT tag reads (mark-recapture) to quantify population trends and compare survival/return rates among study sites.	We will have achieved a robust enough PIT tag mark-recapture dataset to quantify population sizes and annual survival rates for each of our study areas. We will have robust enough data to assess if [redacted] is affecting [redacted] population numbers in [redacted] and if [redacted] application sites are less impacted.	July - February

Objective 3 – Detailed Methods:
“Throughout this project, we have been PIT tagging [redacted] at 5 large [redacted] in BC, and we partnered with [redacted] who has been PIT tagging [redacted] at 6 significant [redacted] in their state. Now that [redacted] disease and/or [redacted] has been documented at all of the [redacted] study sites, we are in what [redacted] believes will be a 2-year window in which to see [redacted]-caused mortalities at their study sites. Preliminary findings from some 2024 [redacted] samples that have been processed to date show a negative correlation between [redacted] loads and [redacted] concentrations, promising results for being able to show efficacy of our [redacted] within the next 2 years. By examining PIT tag data at each study site, control vs treatment sites can be compared to quantify return rates (survival rates) to determine if [redacted] receiving [redacted] are more likely to return to the [redacted]. A limitation of our approach is that we cannot know what percentage of each [redacted] is exposed to the [redacted] [redacted] overwinter, but spring swab-sampling will be conducted to try to estimate this. We can also not control which sites are exposed to [redacted] when, hence our need to include sites in [redacted] that are now all positive for [redacted] and/ [redacted] as of 2024. Our original study design was to quantify the efficacy of the [redacted] through comparing survival rates of [redacted] at each of our treatment versus control sites. However, this approach for quantifying efficacy has been challenged for two main reasons: 1. [redacted] in our BC study sites have yet to test positive for [redacted], and none have shown signs of having survived [redacted] (ie. No skin lesions/scars indicative of [redacted] growth on [redacted]. a. This is unexpected because [redacted] is showing up elsewhere in the [redacted] including across most of [redacted]. Nonetheless, the continued spread in [redacted] closer to the BC border suggests our [redacted] will eventually test positive for both the [redacted] and the disease. 2. [redacted] have been found on some [redacted] within our [redacted] and [redacted] control sites. a. At [redacted], a [redacted] study site located only 60 km to the SE of our [redacted] treatment site, a few individuals were found to have high levels of [redacted] on their [redacted]. These were baseline swabs taken prior to the [redacted] application being expanded to [redacted]. This suggests possibly [redacted] have visited [redacted], but given the high fidelity that we see among adult females of [redacted], it is more likely that [redacted] from these [redacted] may mix elsewhere such as during mating and/or clustering at [redacted]. b. Since then, levels of [redacted] have shown up on some [redacted] in 2 additional [redacted] sites (2 control sites) -- despite there being no [redacted] detected in baseline swabs at these control site [redacted] sampled in 2022 before the field trials of [redacted] began. c. Additionally, [redacted] cells have been found on some [redacted] within our BC control sites. 38 / 60 These observations support the hypothesis that [redacted] may transfer these beneficial [redacted] among each other, which is good news for leveraging of our mitigation efforts. However, this challenges the interpretations of our Treatment vs Control approach. Note that we are considering alternative hypotheses to these recent observations of [redacted] showing up on [redacted] where we did not expect to find it: could there be a higher level of ‘naturally-occurring’ incidences of these same [redacted] that were for some reason not detected in baseline swabbing. Over the next 2 years, we are working with [redacted] to test these 2 hypotheses. In summary, although assessing mortality rates of [redacted] at each treatment vs control [redacted] would be an ideal way of evaluating the [redacted], in lieu of having robust enough mark-recapture estimates in the near term, we can also evaluate the efficacy of the [redacted] using [redacted] swabbing to look for correlations among [redacted] and [redacted] loads.”

Habitat Restoration Example:

Objective 1	
1	Stream Selection and Pre/Post-[redacted] Monitoring

	Activities	Measures of Success	Timeline
1.2	Install hydrological data loggers and piezometers to monitor stream flow, stream velocity, and ground-water levels.	Monitoring equipment installed in [redacted] at all three treatments and associated controls	August

Objective 1 – Detailed Methods
"...Once the streams and [redacted]-installation locations have been identified, water flow monitoring and groundwater levels will be monitored as pre-treatment data. One [redacted] will be placed downstream of the last [redacted] complex within each treatment to measure water levels, flow, and temperature. Similarly, one [redacted] will be installed above each treatment as a control. The [redacted] is a research-grade [redacted] for continuously measuring water level and temperature. The [redacted] will document the changes in water temperature and water depth. A comparison of these parameters between controls (no [redacted]) and streams with [redacted] ([redacted]) will indicate if there is a significant change in water temperature and water depth in the streams treated with [redacted] and controls. This analysis will indicate if [redacted] have been reduced while [redacted] have been enhanced due to the [redacted]. The [redacted] will also be used to monitor [redacted] levels inside piezometers established adjacent to treatment and control streams ([redacted]). The analyses will also indicate if [redacted] have been improved during low-flow periods. Stream discharge rates will be measured following the methods designed by the [redacted] ([redacted]). Flow rates ([redacted] will be measured along with depth at systematically placed sample points downstream of the last [redacted] ([redacted]). These velocity and depth measurements will be used to compute the total volume of water flowing past the line during a specific time interval. Flow measurements will be taken monthly from [redacted]. All equipment is to be supplied by [redacted]. ..."

Fisheries Example:

1	Evaluate the effectiveness of [redacted] Critical Habitat Areas for their ability to support the targeted population size.

	Activities	Measures of Success	Timeline
1.1	Conduct backpack electrofishing Indexing Surveys at [redacted] sites in the Critical Habitat Area and [redacted] sites upstream of the Critical Habitat Area	Two [redacted] density estimates to be produced for the [redacted] Critical Habitat Area and two [redacted] density estimates produced for upstream of the [redacted] Critical Habitat Area	September 2025 & September 2026

Objective 1 – Detailed Methods:
Backpack Electrofishing will be used to sample for [redacted] at eight randomly selected sites in each the [redacted], [redacted], and [redacted] (for [redacted] sites total). [redacted] sites will be within each river's Critical Habitat Area, and four sites will be located upstream of each river's Critical Habitat Area (within 2.4 km of the upstream boundary). Each electrofishing site will consist of a [redacted] [redacted] [redacted]; one electrofishing pass will be performed on the right bank, center channel, and left bank (targeting [redacted] width) within each [redacted] site for a total sample area of [redacted] sq/m per site. [redacted] > 60 mm will be tagged with a 8 mm PIT tag. Tagged individuals will hopefully provide information on site fidelity and/or migration patterns. Each river will be sampled twice to account for annual variability (one survey in each the [redacted] and [redacted] was already completed in 2024). The number of [redacted] captured in the site, sampled area, and wetted width of the site at the time of sampling will be used to estimate [redacted] density using the same equations as [redacted] ([redacted]); since density estimates by [redacted] ([redacted]) were used to establish the Critical Habitat Areas. [redacted] density for each Critical Habitat Area will be compared to conservation targets, [redacted] density upstream of respective Critical Habitat Areas, and between Critical Habitat Areas. Catch-per-unit-effort will also be used to compare relative abundance in Critical Habitat Areas and upstream habitats, and between Critical Habitat Areas. All sampling activities will be in compliance with conditions in [redacted] Habitat data will include discharge (cms) at the time of sampling, velocity (m/s) and depth (m) every 10 m on the right bank, center channel, and left bank of sampled area, [redacted] substrate size for each site with a description of embeddedness, and a

description of the primary cover type in each site. A [redacted] and [redacted] will be used to collect discharge, velocity, and water depth data, while a transect pebble count will be used to determine the [redacted] of substrate (minimum of 100 substrate measurements per site).

The [redacted] will be used to determine significance ([redacted]) of nominal variables (water velocity, depth, and [redacted]) between sites and sub-samples without [redacted] presence and sites and sub-samples with [redacted] presence. The right bank, center channel, and left bank of each site will be considered sub-samples. This test is used to compare two sample means that come from the same population, and used to test whether two sample means are equal or not. This test is a non-parametric test, so it does not include any assumptions related to the distribution of the data. The [redacted] is recommended over the [redacted] as assumptions for the [redacted] could not be met in similar [redacted] datasets ([redacted] unpublished data): the datasets were not [redacted], even when [redacted] ([redacted]) and equal variances could not be assumed (based on the [redacted] for [redacted]).