

Peace Project Water Use Plan

Monitoring Program Terms of Reference

- **Williston Recreation Use (GMSMON-20)**

Addendum 1

October 30, 2015

A1 Addendum to GMSMON-20 – Williston Recreation Use

A1.1 Addendum Rationale

The original TOR for this project approved in September of 2008, did not specify a method to calibrate the data from the vehicle counters. Vehicle counters record the passing of any large metallic object over the sensor making no distinction about the type of vehicle (i.e. vehicle with boat trailer, all-terrain vehicle, RV, etc.) which can lead to false positives and not accurately reflect recreational use of the boat ramp and reservoir. To allow for calibration of vehicle count data, motion-sensitive remote cameras will be used at all monitored boat ramps for the duration of the field program.

A1.2 Approach

Vehicle counters and motion-sensitive remote cameras will be put in place from May to October annually at the head of boat ramp sites, and at locations that maximize the view of the ramp, to census the number of vehicles that use the boat ramps.

A1.3 Methods

A1.3.1 Task 2: Study Design of the Field Program

Vehicle counters and motion-sensitive remote cameras will be installed at selected boat ramp sites in May of each year.

A1.3.2 Task 3: Field Program

The field program will collect data on the usage of boat ramps via vehicle counters and motion-sensitive remote cameras. Between May and October of each year, vehicle counters, and corresponding cameras, will census vehicle usage and record date of usage at selected boat ramp sites. At the beginning of May, a vehicle counter will be installed at the head of the boat ramp site such that it will detect a vehicle using the boat ramp. Vehicle counters that are designed to be buried underground should be considered to prevent risk of theft or vandalism. Cameras will be installed at locations that maximize the view of the ramp. Downloading of data and equipment maintenance will occur every one to two months and equipment removed by mid October.

A1.3.3 Task 5: Data Entry and Analysis

The proponent will develop a Microsoft Access database to enter, check and store all data collected during the field season. Analyses will test the hypotheses to determine if boat ramp usage is increasing and if seasonal timing of activities is changing over time. Correlation analysis will be used to assess for significant increasing trends in boat ramp use over time. Analyses will assess if boat ramp use at improved sites is significantly different than the boat ramp use at control sites. Analysis will allow variations in use data to be evaluated while controlling for other outside factors. Tests for homogeneity of variances will be tested and where possible ANOVA will be used; otherwise data will be tested using non-parametric tests.

A1.4 Budget

We request approval for the final three years (2016-2018) of data collection and analysis for a total budget for the ten year monitoring program of \$320,088.