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Alaska Yukon River Survey Design

Contact
Doug Dasher

Description of Sample Design

Target population: Target population is Yukon River. Do not know beginning and ending location of Yukon that is included.

Sample Frame: Sample frame was provided by Doug Dasher. It included only the main channel of the Yukon river.

Survey Design: Survey design is a stratified systematic sample of the Yukon River.

Multi-density categories: None

Stratification: Stratified by Above and Below Tanana River.

Panels: None.

Expected sample size: 25 sites above Tanana River and 25 sites below Tanana River.

Over sample: None.

Site Use: Assume that all sites will be sampled.

Sample Frame Summary
Stream length in sample frame is 519.0991 km Above Tanana River and 427.0979 km Below Tanana River for total length of 946.1970 km.

Site Selection Summary

Stratum	Number sites
Above	25
Below	25
Total	50

Description of Sample Design Output:
The output is provided as a shapefile (Utah_Stream_Sites_2009_LL) and as a spreadsheet. The attributes are as follows:

Variable Name	Description
SiteID	Unique site identification (character)
lon	Longitude decimal degrees

lat	Latitude decimal degrees
wgt	Weight (in km), inverse of inclusion probability, to be used in statistical analyses
stratum	Strata used in the survey design

Projection Information

PROJCS["NAD_1983_Alaska_Albers",
GEOGCS["GCS_North_American_1983",
DATUM["D_North_American_1983",
SPHEROID["GRS_1980",6378137.0,298.257222101]],
PRIMEM["Greenwich",0.0],
UNIT["Degree",0.0174532925199433]],
PROJECTION["Albers"],
PARAMETER["False_Easting",0.0],
PARAMETER["False_Northing",0.0],
PARAMETER["Central_Meridian",-154.0],
PARAMETER["Standard_Parallel_1",55.0],
PARAMETER["Standard_Parallel_2",65.0],
PARAMETER["Latitude_Of_Origin",50.0],
UNIT["Meter",1.0]]

Evaluation Process

The survey design weights that are given in the design file assume that the survey design is implemented as designed. Typically, users prefer to replace sites that can not be sampled with other sites to achieve the sample size planned. The site replacement process is described above. When sites are replaced, the survey design weights are no longer correct and must be adjusted. The weight adjustment requires knowing what happened to each site in the base design and the over sample sites. EvalStatus is initially set to "NotEval" to indicate that the site has yet to be evaluated for sampling. When a site is evaluated for sampling, then the EvalStatus for the site must be changed. Recommended codes are:

EvalStatus Code	Name	Meaning
TS	Target Sampled	site is a member of the target population and was sampled
LD	Landowner Denial	landowner denied access to the site
PB	Physical Barrier	physical barrier prevented access to the site
NT	Non-Target	site is not a member of the target population
NN	Not Needed	site is a member of the over sample and was not evaluated for sampling
Other codes		Many times useful to have other codes. For example, rather than use NT, may use specific codes indicating why the site was non-target.

Statistical Analysis

Any statistical analysis of data must incorporate information about the monitoring survey design. In particular, when estimates of characteristics for the entire target population are computed, the statistical analysis must account for any stratification or unequal probability selection in the design. Procedures for doing this are available from the Aquatic Resource Monitoring web page given in the bibliography. A statistical analysis library of functions is available from the web page to do common population estimates in the statistical software environment R.

For further information, contact

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Bibliography:

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Web Pages:

Aquatic Resource Monitoring http://www.epa.gov/nheerl/arm