Work Plan: Evaluation of methods to inventory riparian areas using multi-scale data

- OWEB funding based on current work plan
- Meeting Objectives
  - Who will work on it
  - Resolve Issues
  - Timeframe
  - Products
  - Collaboration/partnerships

Introductions

Name

Affiliation

Role

- Work plan implementation
- Advisory
- Collaboration/partnership

Goal: Develop an efficient and effective riparian inventory that fills multi-agency and discipline needs

Evaluate merits of:

- Coarse-scale imagery (30m multi-spectral)
  - (30/5m Pan merge)
- Medium-scale imagery (5 m multi-spectral)
  - (5/1m Pan merge)
- Fine-scale aerial photography (0.5m)
- Ground-based plot sampling

Including these techniques

- GNN analysis
- Automated assessment of ground cover

Intention: Develop a products that utilizes the benefits of multiple scales

- Fine-scale data
  - Fine-scale assessments (e.g. site or reach)
  - As training sites for image analysis
  - Accuracy assessments
- Broad-scale data
  - Prioritize areas for finer-scale analysis
  - Landscape-scale assessments

- Plot-level data in conjunction with photos or imagery used for trend detection using statistically rigorous design (FIA, FHM)

- Ascribe plot-level attributes to spectral data (GNN)

Accuracy Assessment

- Goal to evaluate resultant products
- Lead to a recommended methodology for a statewide assessment

Landscape-scale riparian data

- Presence/Absence
- Location
- Forest Structure
  - Density
  - Size
- Composition
  - Woody/non-woody
  - Forest Type

Potential Collaborators/Partners

- NOAA
- NRCS
- EPA
- INR
- Counties
- AREMP

NOAA-Blake Feist and Chris Jordan

- Concerns
  - Spatial resolution of input data
  - Static data
  - Data collected for other purposes
- Objectives: Refine the application of remote sensing data to the useful assessment of landscape-scale habitat conditions in the support of recovery planning for listed species
  - Feasibility of using Landsat TM data for change detection
  - Does time-series analysis of lu/lc improve relationship to fish habitat models
  - Can Landsat TM data be used for an accurate classification of riparian and wetland habitats

USF&W (Elaine Blok, Jon Hall, Fred Wurster)

- Working on updating NWI along coast
- With OWEB –Lower Columbia
- Willing to do 1-2 quads with riparian classification
  - Manual interpretation
  - 1:40,000 CIR
  - Modify classification subclass-add density/size

NRCS/ARS (Roger Borine)

Link to related work

- NWI-USF&W updates
- Proposed estuarine mapping using CASI (hyperspectral imagery and Landsat 7)-Paul Klarin, Ralph Garano, Randy Dana, and Tanya Haddad
- Riparian Indicators-Stephen Kropp (BLM)
- Riparian Growth and Yield Models-Center for Streamside Studies (U of W-Regional Riparian Management Cooperative)

Potential Pilot Basins

- Yaquina (Big Elk) ODF
- Yamhill (ODA)
- Williamson (ODA, DEQ-FLIR)
- Middle Deschutes (ODA)
- DLS Lands SE Oregon
- John Day (FIA, FHM, NOAA, EPA)
- Lower Columbia/ Coast (USF&W)
- Grande Ronde (NOAA)
- Willamette (NOAA, INR)

Issues

- Plot and sample design all lands
- Extent of mapping
  - include uplands ?
  - Streams (1:100k, 1:24K, or finer)
  - Distance from channel (fixed or variable)
- Riparian information desired
  - Attribute (structure, forest type, density etc.)
  - Continuous vs. classified variables
  - Relationship to existing classifications (e.g. USF&W)
  - Does the data meet the FGDC Riparian Vegetation Content Standard?
  - Physical characteristics
  - Inchannel characteristics
- Location of Pilot Basins
- Data and products are in public domain
- Use of intern
- Data management/georeferencing
- Clearly define goals and objectives
- Project management

Statewide Image Acquisition

- Orthoimagery FIT
- Landsat 7 (8 bands and 15m Pan)
- 2001 + 2002 (Prior to wildfires)
- Look over spring, summer and fall and get best scene
- Terrain corrected and mosaiced
- Location-CD's ??
- Complete coverage Oregon 23 scenes
- DOQ's 2000 not complete yet-Contact Ed Arabus for more information USFS done Pixxures Corp.

Dates of imagery

- July15-Aug 30 max contrast between trees/shrubs and background
  - No Sept image-sun angle lower
- Multiple dates
  - Winter: leaf off
  - Spring: peak greenness
  - Late summer/early fall: separate non-forest

Intern

- When
- How Long
- Tasks
- Where located