Aquatic Sub-team Session – Meeting Notes
Conn River Conservation Design Project
Hadley, Mass.
22 July, 2014 – 10:30-12:30

Agenda: -Discuss goals for selecting core areas and developing core buffer areas;
-Review techniques available from UMass team for these selections and creations;
-Choose techniques for the UMass team to use in developing the first draft of core areas for the full watershed.

Attending: Dave Perkins (USFWS), Andrew MacLachlan (USFWS, scribe), Andrew Milliken (USFWS), Nancy McGarigal (USFWS) By conference phone: Kevin McGarigal (UMass), Ken Sprankle (USFWS), Dave Paulson (MA DEP), Ana Rosner (USGS), Anne Kuhn (EPA).

Summary - Selecting core areas.
We decided to develop core areas by using the sites with the top 5% selection index scores (as represented in Figure 1) and then extending the core site downstream for up to two kilometers based on the presence of adjacent aquatic cells with high scores (this might be considered a buffer of, not an extension of the core area) . Downstream extension will be limited to the same stream size (width ? macro group?)

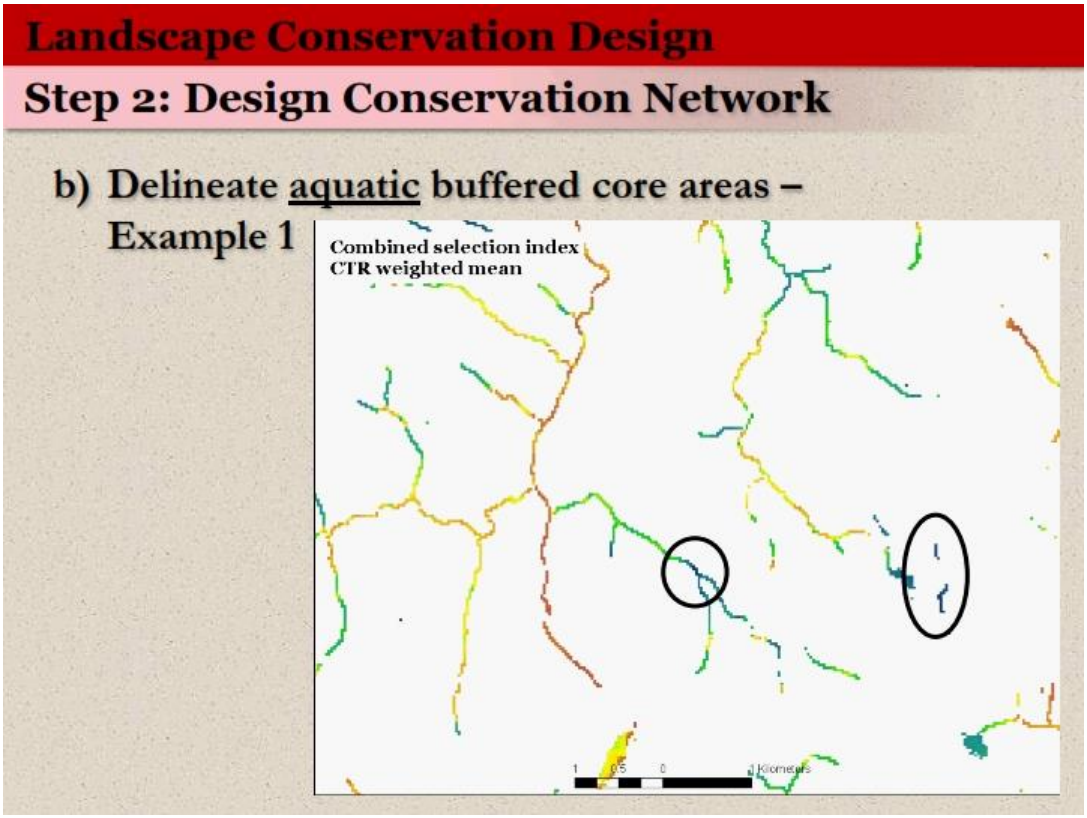

Figure 1 - Aquatic core area selection from top 5% scores

Note there are two things that happen when using extended stream method to select core areas. First, we likely shift the representation of macro-group cells in the core areas away from the 5% highest value cells selected at the start. This happens because as we include downstream cells based on score, we likely include different macro-groups in the core (e.g. stream sections with different water temperatures or different gradients). Second, in an effort to expand the core areas to represent longer stream/river reaches, we likely incorporate cells with scores that are lower than the initial threshold of the best 5%.

Summary – Developing buffer areas.

Aquatic core area buffers will be developed using an up-slope watershed of the extended core area sites (as represented in Figure 2). This is not the same as the terrestrial systems core buffers that are developed from adjacent cells with high IEI scores. These aquatic buffer areas will be constrained so as to extend into the upland based on the size of the originating aquatic system. In other words, buffers will extend into the uplands furthest from headwater stream core areas and least from the large river sites. In effect the large river system buffer areas will more closely resemble riparian corridors.

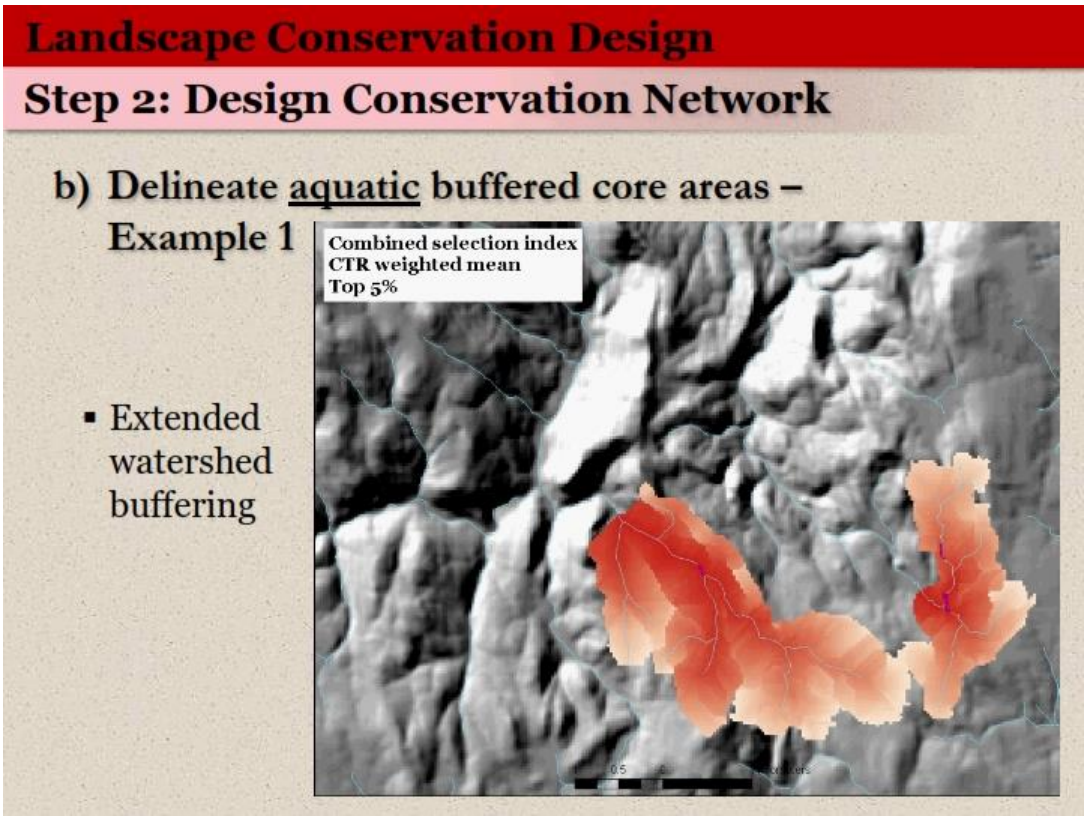

Figure 2 - headwater stream core sites, extended downstream and buffered with watershed/land cover flow.

These watershed buffer areas show areas of impact influence to the core areas by highlighting surfaces that are steep and lack vegetation as those with the potential for the most impact. The data used to support this buffer development are elevation, and land cover data.

Other points of discussion included the idea to distribute core area selection throughout the watershed. For example, the natural distribution of cold headwater streams, and areas away from human development threats, is in the upper reaches of the watershed so core areas selected from this macro group may favor the northern two states.

Next Meetings:

Friday July 25, 2014 – Next core team meeting at the USFWS regional office in Hadley, Mass. starting at 10:00 am.