AK – LANDFIRE Data Workshop
Nov 7-10, 2011 - Fairbanks, AK. AFS.

BACKGROUND:

Participants at the workshop represented experts from state, local and federal agencies, tribal organizations, the University of Alaska Fairbanks, and private contractors with knowledge of vegetation types and their relationships to fuels and fire behavior. Attendees provided review and input of the LANDFIRE (LF) vegetation, disturbance, and fire behavior fuel modeled data sets. This workshop was done in a meeting, with conference line and webinar access. Unlike the lower 48 workshops, no fire behavior fuel model data products were updated or changed. This may have been due to the fact that an Alaska fire behavior guide book was developed under the Alaska Wildland Fire Coodination Group (AWFCG). This guide book served as a key resource in mapping the LANDFIRE FBFMs in AK. Issues or problems noted in the LF data layers have been captured in the notes below and will be organized into two categories of remediation – short-term (1-2 years) and long-term (3-5 years) to improve the data products in future updates. Based on available times at the workshop, not all areas by vegetation type, disturbance category, or fire behavior fuel model were evaluated, however the group worked to address the largest concerns in an appropriate manner.

GENERAL COMMENTS ACROSS ALASKA:

1. . There is currently confusion as to how and when certain types of data provided to LF will be incorporated into map layers. LF needs to provide more information on the flow of information throughout the LF production process. A matrix highlighting data inputs (points vs polygons) and timelines would be very helpful. This would provide basic information such as field data deadline and production elements/steps, with end deliverables and dates.
2. Seam line issues within and between map zones. There are many areas of lines or differences in the data with vegetation type changes when there is not or should not be a change. This issue may be dependent on the imagery used. Some of these areas may have an actual change in the vegetation coverage, while in other areas it was difficult to understand what the underlying drivers were for the EVT classifications.
3. Mapping of vegetation following fire disturbance is questionable throughout the State. Often times, even low severity will create almost total mortality in the forested vegetation types, moderate severity even more so. Currently, EVT is only changed in areas classified as having high burn severity; otherwise, the original EVT is retained. This did not fit people's expectation that EVT was mapping *existing* vegetation and was being treated more like potential natural vegetation. There was also concern that retaining a forest EVT following moderate severity burns would decrease the usefulness of the map for other management purposes. Alaska would like to see an EVT change for moderate severity pixels to reflect a change to herb or shrub vegetation; low severity burns do not need to be changed. This point was discussed frequently throughout the week. Once it was better understood that the coding in the cover and height classes determined the lifeform within the EVT and that the

lifeform could be changed within the disturbance pixels without having to change the EVT it seemed more acceptable. However, some work on the moderate severity types will be needed to show the appropriate vegetation response, particularly given differences in burn severity depending on whether fires burned early or late in the season.

    a. Brian Sorbel (brian_sorbel@nps.gov) will be invited to attend a fuels call to discuss the ramifications of changing EVT's throughout the regeneration of fire disturbances

    b. MTBS – issue of scan lines in data, needs to be addressed and rectified. Causing shifts in FBFMs between strips. This issue needs to be coordinated with the MTBS program for resolution.

    c. Kristine Kosnik has some burn severity / RAVAG data that can be shared with LF. Not sure if LF has this data or not. She will be contacting Brenda Lundberg about this.

4. LF needs to update names and type descriptions for aggregated types and post updated documents on the LF web site. A document which can be downloaded from the website should be considered which addresses the history of the LANDFIRE with ecological systems vs. true cover types and work on the National Vegetation Classification Standard (NVCS). Website language needs to be updated as well as current documents / descriptions.

    a. EVT description manual needs to be updated to include many of the EVT's in AK. The grouping process of some EVT's was explained and a method of tracing back to the descriptions that exist for those EVT's that were combined was found.

    b. When working on the updated/collapsed vegetation type names and descriptions, LF needs to be careful with having too many wet types. Having wet types in the name caused confusion for the Alaska participants.

5. For fires in Alaska there is a seasonal separation for vegetation response. Fires that occur early in the year when conditions are frozen or still wet will have a low severity with vegetation re-sprouting, whereas fires that occur later in the fire season have more moderate to high severity with little to no vegetation re-sprouting.

6. Across many of the map zones, LF has picked a general grass EVT for most of the grassland types. (EVT type number was not provided – just a general comment) There needs to be more separation and distinction across these grass land types in AK.

7. A re-assessment of treatments for all military bases/forts needs to occur. AK folks can help with the data?

8. The number of Height classes need to be increased for forest vegetation types. LF is very limited in its ability to derive finer fuel rules due to only two height classes being mapped. Many of the tree species will not get to 10m or above in Alaska. The increase in the number of classifications should be in the low heights—i.e. 0-5m and 5-10m.

9. Alaska developed a Fire Behavior Fuel Model (FBFM) Guide Book through the AWFCG, and it is currently being revised. Tom St. Clair (tstclair@blm.gov) will be leading this effort and will work with LF on linkages with LF.

10.   Canadian fuel models should generally be C-2 for white spruce not C-3. The Guide Book for describing, comparing, and cross walking the surface fuel models is currently under revision in AK. At a minimum the LF transitions and cross walk may need to include sub divisions within the Canadian

fuel models for forest types broken out by the percentage of hardwood/conifer within the stand. An example would be: M-2 that is 70 to 100% conifer cover would be M-2a and be crosswalked to a FBFM40: M-2 with 40 to 69% conifer/hardwood mix would be M-2b and would have a FBFM40 assignment.

11. Alaska group agrees, after long discussion, that LF web site needs to be updated to more appropriately address how life form is addressed in the EVC and EVH layers. At a minimum this needs to be highlighted on the LF web site as an Data Alert—so specialist understand how the data layers relate and enhance each other. They further feel that the definition of EVT (on the web site) needs to be updated to include a discussion about how lifeform is addressed in disturbed areas within the EVT and when EVT might change with some disturbance.

COMMENTS SPECIFIC TO MAPZONES IN ALASKA:

Map Zone 70
1. White Spruce is generally over mapped on areas where hardwoods are more represented across the ground in and around Ft Yukon.
2. EVT 2751 Boreal Coniferous Woody Wetland – there are 4 Black Spruce EVT's that were collapsed into this EVT however there is no Black Spruce in the name (more realistically there should be) and these types are not wetland types or wet environments.
3. Kevinjik Fire (232,605 ac) 1999 / Witch Fire 1999 / Edwards Fire 2004. These are good examples where a reevaluation of fire perimeters (1999-2010) relative to existing vegetation type and transitions from a forested EVT to either a shrub or grass land EVT. This includes comments about other issues with burned Spruce mortality and conversions in EVT.

Map Zone 70-74
1. Yukon Charlie EVT 2606 Boreal Aspen Bluff should just be small unique patches on steep (<50%) south slopes into the Tanana River and Johnson Creek drainages. This EVT is over mapped.

Map Zone 74
1. Area west of Tok has a large monoculture of almost pure white spruce and is mapped by LF as EVT 2763 primarily. This in turn gives it slow burning fuel models. The EVT needs to be changed to 2600 or another white spruce where TU5 can be assigned as fuel model. A shape file has been submitted for these changes. This area was identified as being uncommon, if not unique for the region. Peter Butteri (peter_butteri@fws.gov) is the contact for this area.

Map Zone 73
1. Seam line issues in EVT layer between Zone 72 and 73 in Innoko NWR.
2. The white spruce areas in the Refuge should be black spruce
3. The intersection of the Innoko and Yukon rivers is the transition area where permafrost exists and has a distinct influence on the vegetation types found there. Ignition date of the fires that burn in these types is also important in the vegetation transitions due to weather or not the surface will burn due to the permafrost.
4. Alaska contacts have 240 geo-referenced plots in the Refuge that disagree about 50% of the time with LF data. Some of the EVT's in the refuge are not pertinent for this area. These types

are more suited for the North Slope(species as well). Scan lines from MTBS data need to be cleaned up.

Steve Kovach (steve_kovach@fws.gov) point of contact for above issues.

5. Denali Entrance has a lot of alder miss-mapped as spruce (EVT 2601) should be a much more benign fuel model. These areas should be changed to 2610 or 2609; all 2634 should be changed to 2609. Park Service FMO Larry Weddle (Larry_Weddle@nps.gov) is the contact for further information.

Map Zone 75

1. The EVT 2643 and 2763 should be changed to 2682.
2. The beetle disturbance from the late 1980's to 2000 needs to be taken into account when assigning fuel models, life form, and/or EVT in the interior of this zone down into Kenai Peninsula and into Zone 77. The earlier disturbance areas need to reflect the grass and slash that exist there today. The disturbed areas from 2000 on, need to be reviewed in the LF data set and polygons mapped to the Borough's delineation of the infestations. Wade Wahrenbrock (wwahrenbrock@borough.kenai.ak.us) has supplied some of the infestation data by year and percent mortality and can be contacted for questions and potentially additional GIS data on forest treatments. Several studies, publications, and projects were suggested as research areas for us to help with the vegetation and fuel model descriptions in the bug kill areas (Boucher 2003 PNW-RP554; South Central AK MIA Report on FIA Grid Summary 2004-2008 GTR 835; Hans Anderson lidar work on the Kenai - Lidar data potential use with coverage on Kenai low lands and peninsula (100% coverage of watershed).
3. Surface fuel model transitions will be estimated by the LF fuels team and sent to Wade and others for review. Interior of Kenai should have no Western Hemlock only Mountain Hemlock.
4. Hope - bug kill areas need to be remodeled as slash.
5. Cooper Landing - bug kill needs to be remodeled as slash or grass. This area is the hottest and driest for the FS.
6. More grass on the east vs. the west side of the Kenai.
7. Spruce trees in this zone will fall to the ground in approximately 5 years with 100% burned or dead trees on the ground in 10 year. This needs to be accounted for the FBFMs. Beth Shultz did a study on the Kenai that has some good information on this moisture phenomenon as well as a Boucher/Mead 2006 report. [LF could potentially do some moisture/precipitation gradients to address falling trees/blow downs].
8. East End Fire (Homer, AK. Area) this area has a lot of blow down.
9. Mark Laker has FIA photo points (Data needs to be shared with LF FIA employee Chris Toney for use under the LF/FIA agreement within the LF program. Mark also has other photo transect data that may be helpful to LF.

Map Zone 69

1. Jennifer Barnes has some IKONS imagery that may be helpful for LF and this map zone.

Map Zone 73, 76, & 72

1. There is relatively little to no aspen in this map zone. The majority of this is birch.
2. From a fire modeling standpoint many of the FBFMs may work for this zone, however ecologically there are issues with vegetation types in this zone. For example:

3. Steve Kovach: Yukon flood plain is a dry area during fire season which got characterized by woody wetland EVT's of 2745 and 2751 it is more like 2682 there is a lot of Ericaceous shrub dominated.
4. EVT 2638 is not a type that would be found in this zone but found on the N. Slope. Steve has a 2008 document for Alaska that provides some information relative to vegetation in this area.
5. EVT 2699- Lumping of vegetation types
6. Within Map Zone 76 – there needs to be more grass as part of the salmon berry vegetation type which is showing on the north part of the island. This mix needs to be constrained to the island while leaving the main land as a shrub type.
7. EVTs 2600 & 2601 are errors for this zone. There are no trees on the Nushagak peninsula which comes out into Bristol Bay. This is mainly a mix of willows and tundra.
8. Togiak Refuge – the GS2 is more like a GS3 FBFM.
9. There is too much snow/ice in this zone. These areas are mainly ericaceous shrubs (10-40cm) with sparse coverage. The EVTs labeled as alder should also be ericaceous shrubs. Arctic mesic shrub land is not correct – it should be 2682.
10. The areas labeled as peatlands (2773?) are misclassified; they should be rock outcrops with grass.
11. The wet meadow types should be willow and the willow should be ericaceous shrub in the uplands.

Map Zone 72
1. The EVT's in coastal areas need some adjustments as there are many that do not make sense. For example; White spruce should be black spruce and Aspen should be birch.
2. EVT's 2638, 39, 42, 82, 85, 87, 88, 90, 91 and 2730, 40, 45, 51, 53, 57, 63, 73, 77, 82, 86, 93 do not belong in Zone 72 by description or species.
3. EVT 2600 & 2601 exist on Nushagak Peninsula and there are no trees there a lot of the snow and ice areas are Dryas or Ericaceous shrub
4. EVT 2638 needs to go to EVT 2682; EVT's 2773 and 2771 need to be some sort of rock and grass
5. EVT 2744 around the coastal lakes in Zone 72 are willow stringers

Map Zone 68
1. The EVT 2745 in fire areas for first time step—tussock then boreal shrub tussock tundra Jennifer Barnes jennifer_barnes@nps.gov and Larry Weddle are contacts for this zone.

Map Zone 67 & 71
Lisa Saperstein and Peter Butteri will be contact for updates: lisa_saperstein@fws.gov, peter_butteri@fws.gov

Map Zone 70
1. Looked at a 1999 fire scar (Kevinjik) shows the area in tall spruce which is not there may need to submit fire perimeter data for 1999, 2000, and prior to that to make sure they show up in LF data. Todd Camm: tcamm@fs.fed.us   is the contact.

Map Zone 76
1. In a general sense this island is very similar in vegetation types to map zone 77 and if possible should be included in that zone instead of map zone 77.

2. The harvest/cut areas on the NE end of Kodiak Island need to be mapped to a different EVT in order for this area to have more grass or shrub fuel models. T he same EVT for this NE end exists on the mainland so LF was not able to separate these types out. Fuel model GS2 was suggested for less than 60% cc in EVT 2718. There should not be any barren in this area. These areas are locations that have recently been logged. The vegetation that comes back in these logged areas is roughly ½ to 2/3 salmon berry and 1/3 grass – mostly calamagrostis.
3. In recent harvest areas, these areas are predominately salmon berry for 15 to 20 years and then succeed to Sikta Spruce. Also, 95% of these harvested areas are replanted.

Map Zone 77
1. The EVT 2646 (Prince William Sound) should be Mountain Hemlock not Western.
2. The cutting units around Valdez are showing as high tree cover EVT 2644 and these should be something representing regeneration or grass/shrub that transition to Hemlock/Spruce. These are very productive forests.
3. The Cordova area EVT 2652 in coastal areas is more of a willow vegetation fuel models are OK Forest Silviculturist (Rob) will be doing an evaluation on NLCD/Landfire/ high resolution imagery to map vegetation in the spring and will send us his results.
4. The area around the airport should be more willow instead of alder and salmon berry. The alder and salmon berry are closer to the coast as it transitions from barren mud flats, to grasses, to the alder/salmon berry shrublands.
5. Insect and disease around Portage Lake by Seward needs to show more open conditions. Insect and disease polygons for the border area of Z 75 and 77 along the Kenai Peninsula are included in the information from Wade W. This section north of Seward is seeing forest conversion to shrub (willow) and grass types. The mountain Hemlock is doing okay in this area but the Alder has been significantly impacted by insects. LF needs to increase the amount of GS1 FBFM in these insect and disease areas. LF could work with the timber harvest data to appropriately label these as grass and shrubland types.
6. There are no peatland forests out on the associated islands near this zone.

Map Zone 78
1. In the Yakutat area, EVT 2654 should be all along the coast in the locations where the more general 2644 Sitka Spruce resides. The 2654 description is pretty accurate but through the aggregation process there are a few missing classes. Around the city there is a fair amount of wind throw and salvage logging. These areas of harvest are not showing up in the EVT with the types that we would expect on the ground, however it is showing up in the EVH data and as discussed above, AK needs additional breaks or categories in the height classes.
2. EVT 2650 has open evergreen in its description; however for this location it should be open deciduous. This is a good EVT for this area but it does not have the right mix of vegetation types. It has more alder, willow, cottonwood, spruce, and western hemlock. In the Tongass / Skagway area there are a fair amount of receeded glacier areas. Also, there is a lot of sub-alpine fir in this area instead of yellow cedar. The Tongass has a fair amount of plot data that could be used to help refine the height categories for AK.
3. Taku River valley has a lot of wetland areas. These wetlands should not be barren but should be an inter-tidal herbaceous type. There should be alder, willow shrub or parkland where LF currently shows meadows (2650); also, 2650 should not be in stream or riparian areas within this zone. There are some Mountain Hemlock mapped in areas where it is mostly shrubland.4. Need to get a more current Tongass harvest data – Contacts are Rick Turner and Seth Ross

(rlturner@fs.fed.us and sethross@fs.fed.us). Rick has a lot of plot data that are tied to the association level. He can also provide new plot data. He is interested in reviewing / working on the vegetation transitions fo the Takene River Valley Delta. The barren areas here are intertidal (2669 – Tidal flat Cook Inlet).

5. There is some adjustments that could be done with some of these types; some types in this area are questionable and 2750 should be a peetland forest.

6. Prince of Wales Island. There should be more of 2178 across the landscape. It appears that a lot of this got lumped in the the Hemlock types. FSVeg plots might help pull this type out.

LANDFIRE Program and Notes contacts:

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