

Tuesday, December 30, 2008 (file cac181)

To: Dan Breedon

Fr: Ed Miller

Subj: Current literature/TV review applicable to the Butte county general plan

Ref A: Bill Moyers, Beyond differences, KIXE 12/20 9-10pm

Ref B: J. Driscoll, Less is more in the forest, SacBee Dec 26, 08, B3

(<http://www.nps.gov/redw/parkmgt/planning.htm>)

Ref C: J. Eilperin, New Climate Change estimates more pessimistic, SacBee Dec 26, 08, A11

Ref D: Society of American Foresters Periodicals list (safweb@safnet.org)

Ref E: SAF, Forest Ecosystems analysis at multiple scales

Ref F: SAF, Forest Fires: Behavior and Ecological Effects

Ref G: SAF, The global forest product model; structure, estimation and applications

Ref H: SAF, Decision methods for forest resource management

Ref I: SAF, Forest Canopies

Ref J: SAF, Forest Science: Special issue on Sierran Mixed-Conifer research

Ref K: SAF, A century of forest and wildland watershed lessons

Ref L: SAF, Sustainable forestry handbook

Ref M: S. Stephens, Living with fire, California Jan/Feb 09, pp 12-13

Ref N: D. Landgrebe, Multispectral thematic mapping of land area, some fundamentals, IEEE Geosciences and remote sensing Dec 07, pp11-15

Ref O: D. Sperling, New Directions in Energy, SacBee Dec 28, 08, D1-D2

Ref P: M. Leijon et al, Catch the wave to electricity, IEEE Power and energy magazine, Jan/Feb 09, pp 50-60

Ref Q: D. Blume, Alcohol can be a gas, International Institute for ecological agriculture, 2008 (Butte 662.669B) , Part of the books for wiser living from Mother Earth News, iiEA Santa Cruz Web page (permaculture.com)

Ref R: E. Roy, Bottlemania, Bloomsbury/Macmillan 2008

Summarizing high lights:

1. Ref A offers hope that differences among religious and political leaders will calm down to the point that we can get down to the nitty gritty of infrastructure and expanding knowledge of resource optimization and distribution.
2. Ref B describes substantial thinning and species selection being undertaken by the National Park Service.
3. Ref C describes post-IPCC2007 examination of global warming threats. The USGS consensus on sea level rise is now 4 feet, as opposed to a previous 1.5 feet due primarily to lubrication of Arctic and Antarctic glaciers by 2100. The release of GHG from the sea floor and permafrost is now judged to not be a dominant effect until well after 2100.
4. Ref D summarizes Forest and Forest Science textbooks, research results and handbooks relative to forestry in References E-L.
5. Ref M provides map and statistical data on wildland fires derived from CalFire sources. The point is made that Australia has a policy called "prepare: stay and defend or leave early". The author finds zero discussion of this approach in Sacramento. Butte County at 90,532 acres burned in 2008 is ranking only below Siskiyou, Trinity, and Mendocino and Monterey counties. This year the total California burn was 1.2 Mac in contrast to the estimated 4.5 Mac in presettlement California.
6. Ref N is a good review of fundamentals of a cross-disciplinary approach to remote sensing of land areas with an emphasis on spatial and frequency resolution for particular thematic applications.
7. Ref O notes that biofuel potential is large and ready to go. Consolidation of solar energy source vendors can be expected.

8. Ref P provides an overview of the special technology problems associated with wave power. Wave energy parks at depths of 20-100 m using 3 m diameter buoys off Sweden are under development. Capturing the linear motion and providing continuity of electrical power with a variability range of 50:1 is a challenge.
9. Ref Q examines the potential for ethanol production from a wide variety of plants. Fermentation tanks, fuels, and still technology over a wide range of scales is examined. Applications include indoor cooking and mobile vehicle propulsion. Sustainability ecosystems in the form of a 30 foot diameter Mandala garden are advocated. Optimization of vehicle compression ratios, cold start fixes and special carburetors are described.
10. Ref P describes problems with bottled water production from a safety and environmental impact point of view.

Specific implications for Butte County

1. The Stay and defend policy against wildland fire needs to be addressed. I suspect that this issue has been avoided in the past because of liability and political considerations. Providing defensible space for formally trained fire suppression crews may not be sufficient when resources are limited. Clothing, auxiliary pumping power, water storage and inhalation safety issues need to be documented. Fire resistant construction, short term vent/window closures and availability of spray-on intumescent coatings are topics of interest.
2. The legal and safety aspects of alcohol fuel production will need to be examined. When an individual/organization comes to the planning department with a Treasury Department form 5110.74 per Ref Q, (Application for an alcohol fuel producer under 26 U.S.C. 5181, www.ttb.gov), we need a policy in place that at a minimum recognizes bounds and limits set by zoning. Water demand and conformance to the clean water act need to be recognized. Marginal land that is now only suitable for grazing may need to be designated for agriculture associated with feedstock for alcohol production.
3. The taxing structure for non-conventional fuels and electrical storage needs to be examined in conjunction with state mandates that exist or are likely to be created.

4. Energy conservation may need to be tied to regions in terms of deg-days of heating or cooling as a function of altitude regions within Butte County.
5. Water and air quality issues need to be made transparent so development can be bounded and mitigation provided.
6. We need to be sensitive to the issue of GHG mitigation established at the state and federal level.
7. The NPG forest thinning model at a minimum should be publicized as a goal.