

Alaska Climate Change Mitigation Advisory Group

FAW Technical Working Group
Meeting #7

November 18, 2008

Office of the Governor
The Center for Climate Strategies

Agenda

- Call to order and roll call
- Review and approval of previous call summary
- Review next steps for TWG
- Review of Straw Proposals
- Review of Quantification Memo
- Review of the AK Draft Emissions Inventory & Forecast
- Agenda, Time and Date for Next Meeting
- Public Input and Announcements

Stepwise Planning Process

1. Develop inventory and forecast of emissions
2. Identify a full range of possible actions
3. Identify initial priorities for analysis
4. Develop straw proposals
5. Quantify GHG reductions and costs/savings
6. Evaluate externalities, feasibility issues
7. Develop alternatives to address barriers
8. Aggregate results
9. Iterate to final agreements
10. Finalize and report recommendations

Next Steps for TWG

- Continue straw proposal process
 - Complete FAW-1 Straw Proposal
 - Submit Straw Proposal Package to MAG for review
- Begin quantification process
- Finalize updates to AK GHG I&F
 - Move Anchorage Regional LF to LFGTE category in 2015
 - Soil Carbon assumption in permafrost areas
 - Boreal and Coastal forest carbon flux

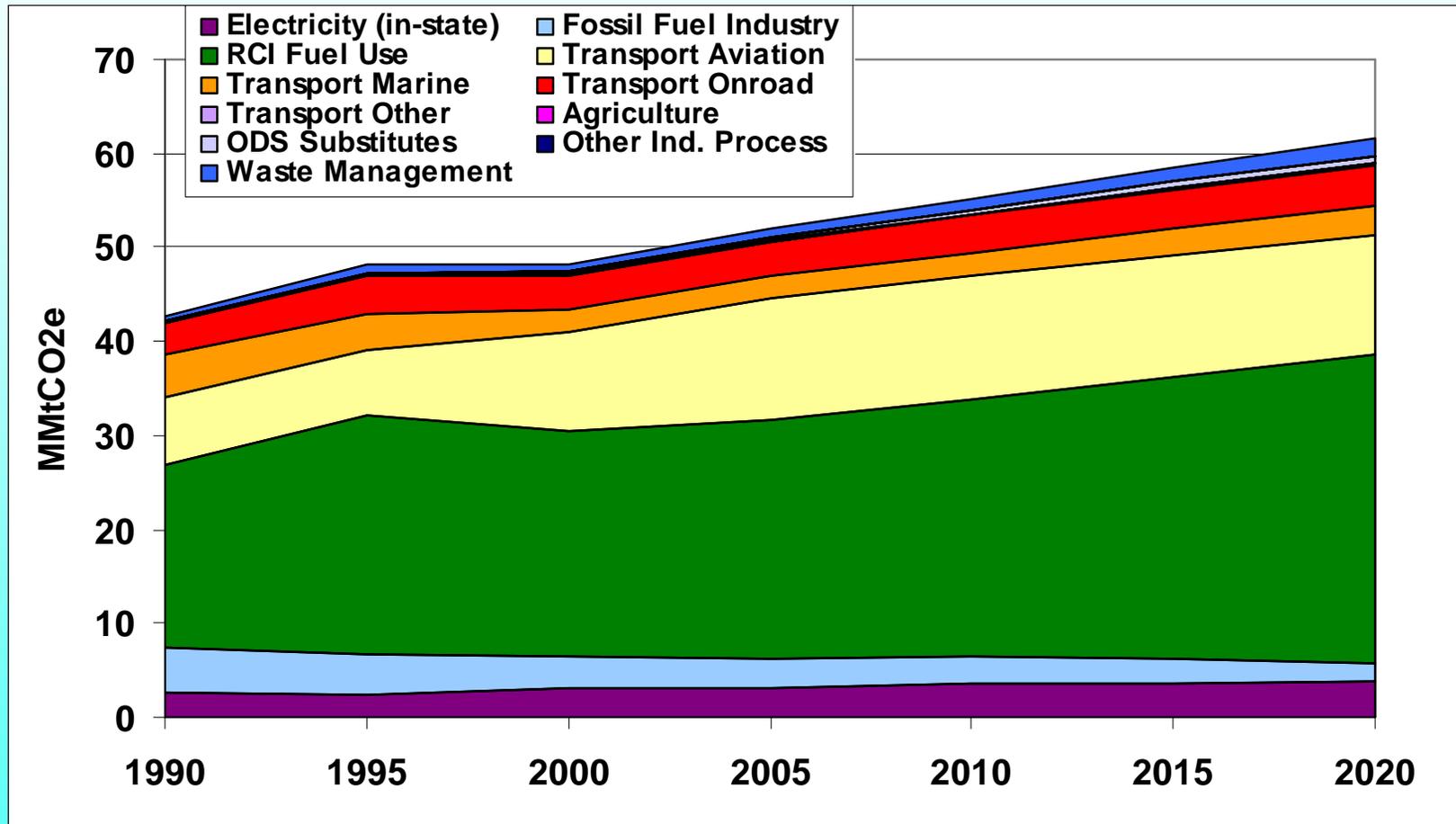
Quantification Process

- CCS is drafting and will distribute a Quantification Memo to the TWG via e-mail. This Memo will also be posted to the website.

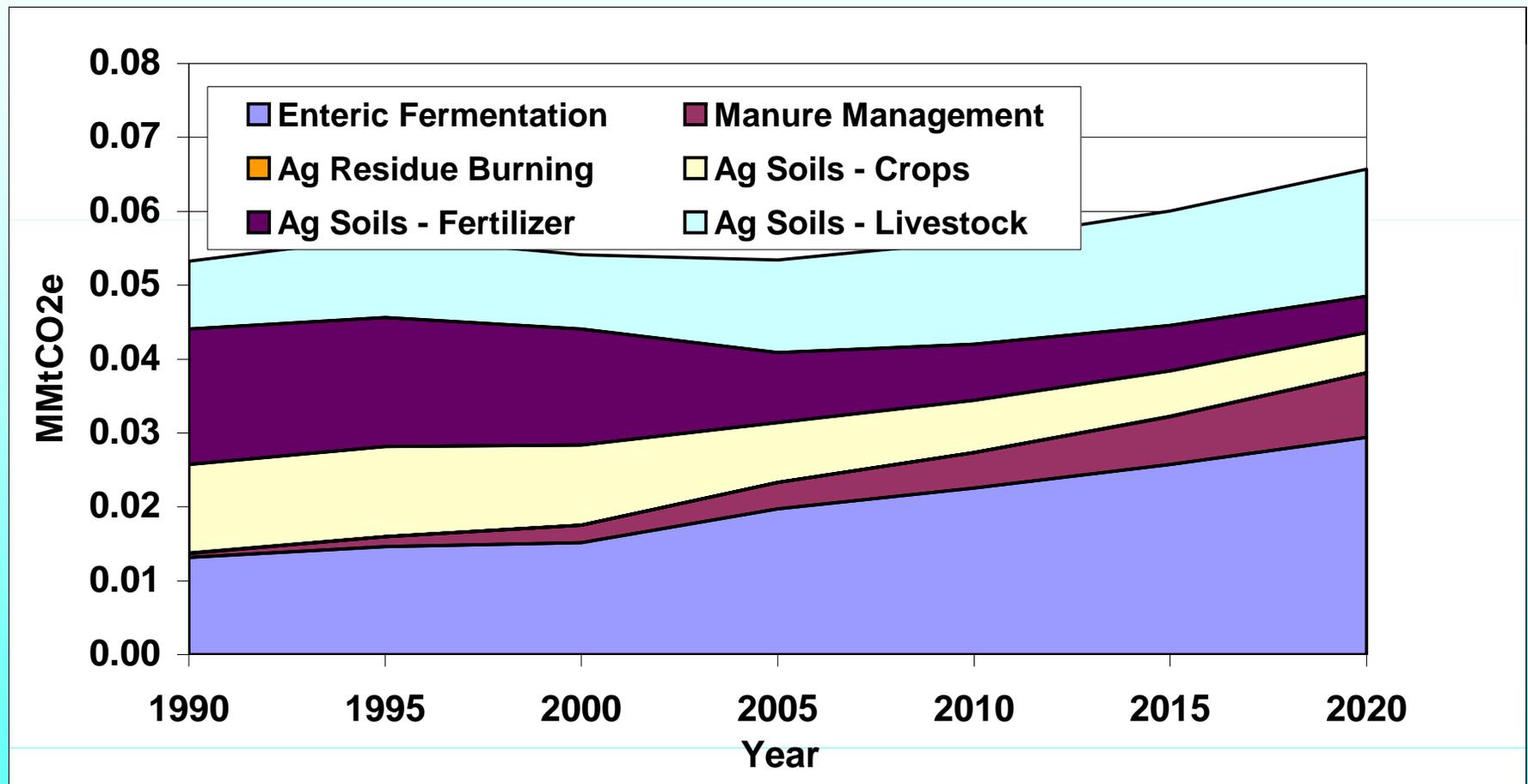
GHG Inventory & Forecast

Alaska Gross GHG Emissions By Sector, 1990-2020

Note: Does not include updated Waste I&F. Will be updated upon approval of TWG.



Agriculture



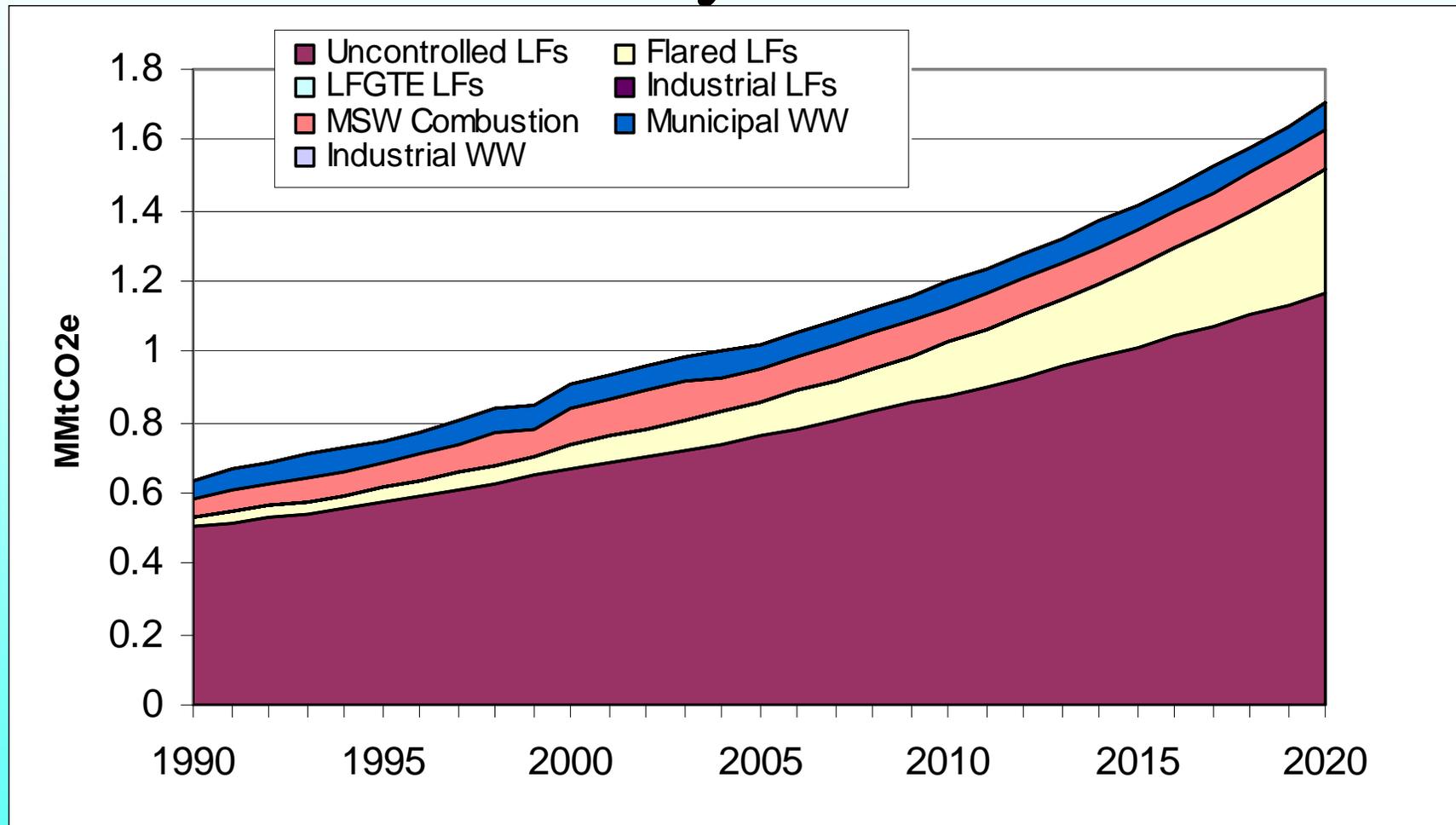
Agriculture

- Data Sources
 - Crop Production: USDA/NASS
 - Livestock: USDA/NASS
 - Fertilizer: Fertilizer Institute
- Methods
 - Crops: SGIT emission factors and crop production data
 - Livestock: SGIT emission factors and livestock populations
 - Fertilizer: SGIT fertilizer consumption
 - Projections for other categories based on historical growth trends

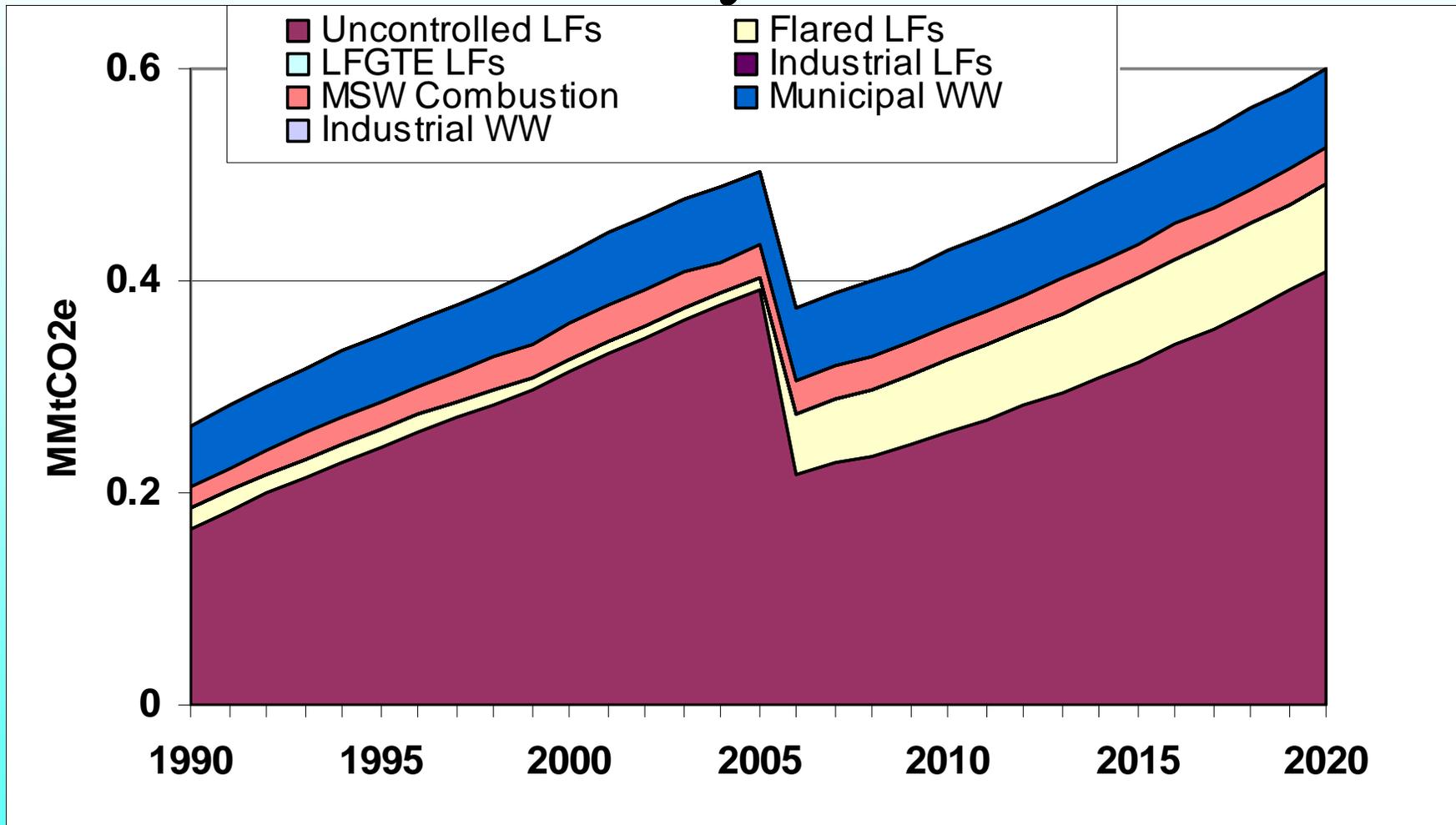
Agriculture

- Key Assumptions
 - Future growth for agricultural soils will follow historical trends
 - Livestock population growth will follow five-year growth rate from 1997 – 2020.
- Key Uncertainties
 - Manure management emission factors derived from limited data sets
 - Livestock numbers based on point estimates for each year to represent populations that fluctuate throughout the year
 - Projection assumptions

Waste Management – Initial Draft Inventory and Forecast



Waste Management – Updated Draft Inventory and Forecast



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Summary of Comments from TWG

- Update the number of Class I, II, and III landfills to 222, 14, and 7, respectively
- Update the annual waste accepted at landfills (initial estimates too high)
- Input on larger (Class I) landfills now collecting and flaring landfill gas

Waste Management

- Data sources
 - EPA Landfill Methane Outreach Program Database
 - Additional landfill data provided by DEC
 - DEC data on waste combustion
 - State population and SGIT default data for municipal WW treatment
- Methods
 - SGIT with data sources above
 - CCS post-processing to account for controls and growth

Waste Management

- Key Assumptions
 - Growth Rates
 - Uncontrolled Landfills – based on historic emissions growth (1995-2005)
 - Controlled Landfills – assumes continuation of current emplacement rates through 2020
 - Waste Combustion and Municipal WW – AK population projections
- Key Uncertainties
 - Methods do not account for landfill controls that will be required during period of analysis
 - Many small landfills may be frozen for as much as half the year.
 - Data was not available to estimate industrial wastewater, treatment of fish processing waste, and ballast water.

Forestry

Source	CO ₂ e Flux (MMtCO ₂ e) ^a				
	1990	2000	2005	2010	2020
<i>State-Level Forest Flux</i>					
CO ₂ Flux	4.6	12	12	12	12
Non-CO ₂ Gases from Fire	4.5	4.9	4.9	4.9	4.9
CH ₄ Flux ^b	16	21	24	26	31
Total State-Level	25	38	41	43	48
<i>Flux for Managed Forests^c</i>					
CO ₂ Flux	-0.3	-1.4	-1.4	-1.4	-1.4
Non-CO ₂ Gases from Fire	0.0	<0.01	<0.01	<0.01	<0.01
CH ₄ Flux	n/a	n/a	n/a	n/a	n/a
Total – Managed Forests	-0.3	-1.4	-1.4	-1.4	-1.4
<p>Positive values represent net CO₂e emissions. Non-CO₂ gases are methane and nitrous oxide.</p> <p>^a Values reported are ten year averages of annual data surrounding the year reported (e.g., 1990 average is the average of data for 1985-1994). For 2000, data only available through 2002. After 2000, flux estimates are assumed to remain constant.</p> <p>^b UAF estimate for the 1980-1996 period used for 1990. UAF growth rate of 0.5 MMtCO₂e/yr used for forecast years. See Section on CH₄ emissions from Alaskan ecosystems.</p> <p>^c Managed forests are the coastal maritime forests of the state. CH₄ flux estimates were not available for managed forests.</p>					

Forestry

- Data Sources
 - University of Alaska carbon flux estimates, wildfire acreages
 - WRAP 2002 Wildfire Inventory
- Methods
 - Forestry: UA study used to develop estimates and projections of anthropogenic emissions and sinks
 - Carbon flux data for the 2001-2005 time-period assumed to remain constant through 2020

Forestry

- Key Assumptions (managed forests)
 - 2001-2005 carbon stock change representative of current conditions
 - No significant change in carbon flux from 2006-2020
- Key Uncertainties (managed forests)
 - Effects of future development on forested acreage
 - Effects of near-term climate change on forest sequestration levels
- Key Uncertainties (unmanaged forests) –
 - Many, including impacts of early thaw (see Forestry appendix)

Next TWG Meeting

- Agenda:
 - Discuss quantification methods, data sources, and preliminary results (if available)
 - Review final revisions to Alaska emissions inventory and projection, if needed



Time and Date: December 17, 2008. 10:00 AM – 11:30 AM Alaskan Time

CCMAG Meeting: February 5, 2009

Public Input, Announcements

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