Biofuels and Sustainability

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Clarify **NWF** Position:

We support a long-term growth pattern to "sustainable" **next generation biofuels** – one among many long-term strategies to reduce greenhouse gas (GHG) emissions.

Photos: Corbis, Eyewire, Comstock

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Biofuels are promoted for many reasons:

- Energy security/independence from foreign sources
- Stabilize commodity prices and promote rural development
- Last and Least: Reduction of GHG emissions, and other pollutants.

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--BUT BIOFUELS CAN'T DO ALL THAT AT THE SAME TIME--

- THE BENEFITS ARE NOT PRODUCED AUTOMATICALLY, OR FOR ALL BIOFUELS.
- THEY MUST BE PRODUCED UNDER SOCIAL AND ENVIRONMENTAL SAFEGUARDS.
- NEED TO MODERATE EXPECTATIONS.

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Trade Offs -

- **Rural Development/Poverty Reduction** - requires protection of small producers

vs

- **Significant Fuel Substitution** - requires massive incentives for large scale producers

- **High Production Per Acre** - Requires Use of Good Farm Land, Lots of Water

vs

- **Reduction of Food / Fuel Competition** - Requires use of Marginal Land/Wastes

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Major Biofuels Controversies…

- **Water use** – from 3 to 15 gallons of water needed to refine ethanol – not counting irrigation.
- **Water Pollution** – Fertilizer/run-off from "Corn surge" – projected increase from 76 to 93 million acres over the next decade – massive addition to "dead zone".
- **Conversion** of natural habitat – loss of conservation reserve
- **Coal fired Refineries** – loss of GHG benefit
- Brazilian civil society accuses sugar cane/ethanol industry of **slave labor conditions.**
- **Consumption levels are the culprit**– 2006: 20% of corn crop fed only 2% of US gasoline demand.
- **Indirect land use change** – expansion of Palm oil for biodiesel – leads to **deforestation** in SE Asia, Africa – massive INCREASE of GHG emissions.

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Provocative conclusion from several experts' studies:

- If land that currently stores significant amounts of carbon (such as forests, native prairies, peat lands) is plowed up to produce **row crops** for 1st generation biofuels, the GHG impacts are **negative, not positive**.

- Even if such land is plowed up to plant **perennial** energy crops, such as palm oil trees, the GHG balance can still be **negative from 50 to 100 years**.

- Indirect Land Use Change – Worse still

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Indirect Land Use Change

5 « Escapes » from the indirect land use change Box.

- Wastes and Residuals that need disposal
- Depleted land that could be restored to productivity through biofuels
- Multiple products from the same land area
- More efficient use of dedicated biofuel lands
- Innovations in technologies (algae, etc).

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