

California Air Resources Board Rice Cultivation Projects Compliance Offsets Protocol

Contact: Robert Parkhurst, rparkhurst@edf.org (415) 293-6097

California is poised to approve the first crop-based protocol for the state's pioneering emissions trading system. This protocol will allow U.S. rice farmers to generate offsets to sell in California's carbon market, providing a new source of revenue for growers while contributing to the state's clean air goals.

The new protocol is important because:

- The program rewards rice farmers for implementing a set of practical approaches that reduce emissions.
- Rice farmers can generate a new revenue stream through carbon credits without impacting their yield.
- Important wetland habitat will be maintained for wildlife and bird populations.

Why rice?

- Rice is one of California's largest crops and contributes more than \$5 billion a year and 25,000 jobs to the state's economy.
- The science on the carbon and nitrogen cycle of rice is well established.
- Rice cultivation emits methane, a potent greenhouse gas.
- Rice farmers have long been at the forefront of innovative farming practices that promote sustainability.

How does it work?

- Farmers can volunteer to implement any combination of three methods included in the protocol: dry seeding, early drainage, or alternate wetting and drying.



One of the eligible practices - dry seeding

- Dry seeding is the practice of sowing dry seeds rather than aerially applying pre-germinated seeds.
- Early drainage refers to draining the field seven to 10 days earlier than usual.
- Alternate wetting and drying is the practice of periodically flooding and then drying down a field throughout the growing season.

What are the rules?

- Interested rice producers will provide historical information to create a baseline. Then producers will submit records collected throughout a growing season to quantify the amount of methane emissions reduced by undertaking one or more of the three management practices on their land.

How is this protocol unique?

- This is the first protocol to measure GHG reductions from crop-based agriculture.
- The emissions reductions are quantified yearly, based on weather and a producer's management decisions.

- The emissions reductions are permanent and never have a chance of being re-released into the atmosphere.

How does the protocol consider and protect wildlife?

- Notes that “implementation of these activities would be within the natural variability of rice farming, and would not cause a significant effect on bird populations.” (Staff Report, pp. 40, 41, 59)
- Excludes the Butte Sink Wildlife Management Area which has the highest concentration of waterfowl per acre in the world. (Staff Report, pp. 10, 40)
- Only allows project activities during the rice growing season to avoid any potential impacts to wintering habitat for migratory waterbirds. (Staff Report, p. 39)
- States that “Dry Seeding Activities would have a minimal effect on avian species, because the timing of seeding already fluctuates a great deal with existing seasonal and meteorological variations.” (Staff Report, p. 39)
- Demonstrates that giant garter snake populations could improve as a result of the Early Drainage practice. (Staff Report p. 45)
- Has not included No Winter Flooding or Baling practices until further research on the impacts to birds can be completed. (Staff Report, p. 11)

How does the protocol set the stage for other land-based protocols?

- Allows growers to work together to decrease the administrative costs and increase the economic efficiency. (Staff Report p.20)
- Simplifies verification requirements by highlighting multiple options, including “remote sensing, video conferences, digital photographs (dated and geotagged), or digital escrow services.” (Staff Report p.18)
- Eases the burden to report data from the DNDC model by streamlining its use.
- Has the framework to enable the creation of a Nutrient Management Compliance Offsets Protocol which EDF conservatively estimates could generate 2.5 MMT by 2020 and 25 MMT by 2030.

How does the protocol incorporate feedback collected from a thorough stakeholder engagement process?

- Conducted four Technical Working Group meetings, two Workshops, and independent consultations and presentations.
- Included diverse stakeholders, including rice growers in California and the Midsouth, agricultural trade groups (California Rice Commission, California Farm Bureau), conservation groups (Ducks Unlimited, Point Blue, Audubon), project developers, project registries (ACR, CAR), verifying bodies, and compliance entities.



How is the protocol different from a forestry protocol?

- Creates offsets which are permanent. The potent methane reductions from a project occur annually and do not depend on sequestering carbon.
- Uses a rigorous, yet conservative, quantification method (DNDC biogeochemical model) that calculates the emission reductions farmers generate by their changes in cultivation practices.