

NESARE Farmer Grant Report  
WATERSHED MANAGEMENT Section

Federal, State, and Local/Town Regulations Regarding the Construction of a Rice Paddy System in Vermont

1. Descriptions of the rice paddy system and general information

The definition of a rice paddy is a shallow pond with a flat (leveled to a grade of +/- 2" ideally) bottom that can hold water 6-8" deep, provides for control of water depth, and is able to drain completely. A rice paddy system consists of a warm up basin (pond), one or more paddies, and irrigation channels (including ditches, pipes, etc.).

We have shown with four year's of experiments growing rice in the northeast USA that through the use of a rice paddy system you can produce over 2 ton/acre of rice. Factors critical to rice growing in the northeast: amount of sunshine, soil that can hold water, and a reliable source of water. The construction of a rice paddy system is a major investment for a grower and a permanent change to the landscape. It needs to be done correctly to protect both the owner and the environment. The construction and agricultural use of a rice paddy system needs to comply with local, state, and federal regulations.

Naturally occurring wetlands and streams provide important benefits to water quality, wildlife habitat, flood storage, etc. Over past 200 years more than 50% of the original 220 million acres of wetlands have been destroyed for agriculture and land development. A rice paddy system functions as a human-made wetland and can help to create additional wetland habitat and to provide some wetland functions, but a natural wetland is not the appropriate place to site a rice paddy system. It is illegal to convert natural wetlands to a human-made wetland type such as a rice paddy system unless the required state and federal permits are obtained. Rice paddy systems should be constructed outside of wetlands and their designated buffer zones. Existing agricultural fields are possible sites. It is important to make sure that the use of a rice paddy system does not negatively affect existing natural wetlands.

The source of water should ideally be stored surface water runoff. We think that it is not a good idea to use underground water for a primary source of irrigation water for agricultural purposes. Groundwater is potable water that should be preserved, not used for irrigation. A pond or reservoir could hold excess surface water from snow melt or storms) to use in July and August, when demand for water is the greatest. A carefully monitored well could be used as a back-up, if needed.

## FOR VERMONT RESIDENTS

### 2. REGULATIONS

- A. For Information Regarding Vermont State and Federal Regulations, contact Vermont's Environmental Assistance Office's Permit Specialists. Permit Specialists are the best first contact regarding permits and regulations. They provide advice about needed state and federal permits and will prepare a Project Review Sheet. The Project Review Sheet is a preliminary determination of not only environmental permits, but also any state permits your project may need: <http://www.anr.state.vt.us/dec/permits.htm>

A detailed project plan must be drafted prior to contacting the Permit Specialist.

- B. For Information regarding local regulations contact your town office.

### 3. RESOURCES

Construction and maintenance of a rice paddy system will involve three major activities that may require permits:

- A. Siting of the rice paddy system

Find out if proposed site is in or near a wetland, contact the Wetlands Office – 802-241-3770. USDA/NRCS can provide advice and guidance for siting and designing a paddy system. Construction will likely require a wetlands permit and may require a Construction General Permit depending on the size. Contact the Stormwater Section – 802-241-1452.

For information about Vermont wetlands regulations:

<http://www.vtwaterquality.org/wetlands.htm>.

There is a whole series of these fact sheets at:

[http://www.vtwaterquality.org/wetlands/htm/wl\\_factsheets-index.htm](http://www.vtwaterquality.org/wetlands/htm/wl_factsheets-index.htm)

If you are planning to build a pond, following is the link to the fact sheet developed by the Vermont Department of Environmental Conservation (VTDEC) regarding State, Federal or local laws/regulations that pertain to the construction of a pond or dam.

Private Pond Information

[http://www.vtwaterquality.org/lakes/htm/lp\\_pondinfo.htm](http://www.vtwaterquality.org/lakes/htm/lp_pondinfo.htm). Click on "What you should know about constructing a pond or dam (PDF, 76 KB)"

B. Source of Irrigation Water – For information about regulations regarding sources of water for irrigation see:

Groundwater

Vermont Statutes. 2009. VSA Title 10, Chapter 48, Section 1418.

[www.leg.state.vt.us/statutes/fullsection.cfm?Title=10&Chapter=048&Section=01418](http://www.leg.state.vt.us/statutes/fullsection.cfm?Title=10&Chapter=048&Section=01418)

Surface water

Vermont Statutes. 2009. VSA Title 10, Chapter 41, Section 1032.

<http://www.leg.state.vt.us/statutes/fullsection.cfm?Title=10&Chapter=041&Section=01032>

References

<http://www.vnrc.org/article/view/18727/1/942/>

<http://www.ncsl.org/?tabid=18031>

C. Agriculture Use

The Vermont Agency of Agriculture Food and Markets Accepted Agricultural Practices Regulations (AAP) – The AAP's are the base level of management required for all farms in Vermont. Some of the sections related to rice paddy systems and the production of rice are:

Introduction, iii Roles of State Agencies, Wetlands

- 4.01 Discharges – disposing of no wastes in surface waters
- 4.04 Soil Cultivation – minimizing erosion from cropland
- 4.06 Buffer Zones – maintaining vegetated buffers along surface waters
- 4.08 Ground Water Quality – minimizing/reducing groundwater pollution

For the full AAP's, go to: <http://www.vermontagriculture.com/ARMES/awq/AAP.html>

For questions regarding these regulations, contact: the Vermont Agency of Agriculture, Food and Markets, 116 State Street, Drawer 20, Montpelier, Vermont 05620-2901, (802) 828-2431.