

Marsh Buggy Use in the Coastal Zone

November, 2000

Tracked or wheeled vehicles are commonly used in wetlands to construct dikes and canals, move earth, and transport equipment and personnel. Used inappropriately, these vehicles can do significant and lasting damage to fragile wetlands, damage which may far exceed the ruts left behind and from which the environment may never recover. The following operational standards have been compiled by a working group from the Louisiana Department of Natural Resources' Coastal Management and Coastal Restoration Divisions, and the Louisiana Department of Wildlife and Fisheries' Habitat Conservation Division, to provide marsh buggy and other vehicle operators, and those who hire them, guidance in how to avoid and reduce these impacts.

Planning

- 1) Boats, marsh buggies, airboats, or other types of marsh vehicles must be used in such a way as to cause the minimum disturbance or damage to fish, wildlife, vegetation, and the environment.
- 2) The applicant is ultimately responsible for ensuring that unauthorized impacts do not occur and that restoration and/or compensatory mitigation are performed for all adverse impacts. Planning and oversight will reduce these costs. It is strongly recommended that, prior to construction, the applicant and contractor(s) establish who will perform the restoration and mitigation for adverse impacts to wetlands.
- 3) An environmental and safety meeting should be conducted at project start-up. Field workers, supervisors, and subcontractors must understand what is required of them. More background may be needed for those less experienced personnel. Document attendance and topics covered at all environmental and safety meetings. Additionally, the following should be addressed prior to start-up:
 - A) Environmental policies and commitment.
 - B) Specific environmental issues, operating procedures and reporting procedures.
 - C) Accountability of all parties and personnel
 - D) All impacts will be restored, or be made up for by compensatory mitigation, at the expense of the applicant.
- 4) Training should be conducted on appropriate environmental issues according to job responsibility. Managers should be trained on environmental regulations and liability, and operating personnel should be trained in procedures for specific tasks.
- 5) A copy of the permit(s) or authorization(s) for the project should be available for inspection by all personnel at the site of work at all times during operations. All personnel should be made aware of the permit and all conditions it places on their operations.

Documentation

- 6) The applicant shall provide detailed maps or plats of the proposed project layout, showing access routes, staging areas, construction rights of way, and work locations. These should be distributed to the

contractors supervisors and operators as well as to the regulatory agencies.

- 7) The applicant shall provide Coastal Management Division (CMD) pre- and post-construction aerial photographic documentation that clearly show all vegetated wetlands within the project area at a scale of 1" = 400'. Substitution of commercially available aerial photography for pre-project documentation (only) may be approved by CMD, on a project by project basis, when it would provide sufficient detail and the applicant can demonstrate that obtaining project-specific aerial photography would present an economic hardship that would make the project infeasible. The pre-construction documentation shall be submitted within 10 days of initiation of work, the post-construction documentation shall be submitted within 30 days of completion.
- 8) Changes to the project or to access routes, work areas, staging areas or rights of way must be authorized by CMD prior to use, and will require new plats.
- 9) Detailed as-built maps or plats showing the exact locations and nature of work shall be provided to CMD after work is completed.
- 10) The applicant will notify CMD of the date on which work begins and when work is completed.
- 11) These operating standards are not a definitive explanation of legal responsibilities and restrictions, and do not relieve the applicant or contractor(s) from the necessity of compliance with all applicable rules, regulations, policies or permit conditions.

Vehicles

- 12) Helicopters are recommended for personnel, supply and equipment movement to reduce surface vehicle traffic. All other surface traffic should be by small boat, airboat or hovercraft to the extent practicable.
- 13) Wheeled and tracked vehicles should be used only as a last resort, when less destructive equipment cannot perform the task. Vehicle use must be approved by CMD during project review, and adverse impacts must receive compensatory mitigation.
- 14) Wheeled and tracked vehicles with low contact pressures are preferred due to the reduction of surface effects.
- 15) In areas where the marsh is already stressed and/or beginning to break up, and in most salt marsh, use airboats at high tide only. This may mean limiting the times of operation when water levels are low.
- 16) Lightweight pontoon equipment with special underside coatings (Teflon, for example) can reduce tracks and compression of vegetation and soils in wetlands, however, towing/skidding pontoon equipment can cause channeling and may be inappropriate in some wetland types.
- 17) Keep loading to a minimum to reduce ground pressure.
- 18) Minimize the numbers of vehicles used.

Operations

- 19) Minimize travel by good daily planning.
- 20) Access routes shall be planned to have minimum impact to wetlands. Maximize use of open water, dikes, existing roads and trails, and previously disturbed areas or areas which will be impacted by the project such as spoil disposal areas; minimize crossing of undisturbed marsh.
- 21) The straightest route usually is not the least damaging route.
- 22) Do not re-use previously made tracks to avoid creating ruts or channels, unless required by permit(s).
- 23) All vehicles must remain in designated work areas and access routes. No roaming or cross country travel is permitted.
- 24) Access routes and work areas should be clearly staked or otherwise marked so that operators know exactly where they are permitted to go.
- 25) Having a designated work area or access corridor does not mean that anything goes within that area.

Impacts within designated work or access areas must still be minimized, restored and/or compensated for.

- 26) For hydraulic dredging disposal operations, the applicant shall provide a description, with any necessary plats and drawings, of the locations and methods of discharge pipe assembly and movement, how and when it will be moved during operation, and how it will be removed upon completion, including the types of tracked or wheeled vehicles to be used. Where possible, the equipment moving the pipe should remain in place rather than tracking in and out between moves.
- 27) Reduce turning maneuvers. Where available, use open water or other means for turns. Do not lock a track to turn equipment.
- 28) Avoid breaking the soil/vegetation surface.
- 29) Stay out of floating marsh.
- 30) No marsh buggy shall have contact with any oyster reef or bed, including state-owned natural reefs.
- 31) Killing or harassing wildlife or damaging or molesting nests, dens, or bird rookeries is prohibited.
- 32) Sensitive sites (archaeological, historical, pipelines, water control structures, etc.) must be avoided unless otherwise authorized.
- 33) Bank and shoreline crossings at canals, natural waterbodies and ditches must be protected and damages immediately restored. Restoration measures, and measures to protect bank crossings such as plywood sheets or coconut logs, require preapproval in the Permit/Consistency process.
- 34) Avoid creating unnatural ruts, channels, levees, dikes, and drainage routes.
- 35) Make the minimum number of passes. Access the site via the least damaging route, make one trip, and remove the equipment at the other end via the least damaging route.
- 36) Do not return equipment across the marsh for frivolous reasons, such as lunch, supplies, etc.. Resupply via small boat, airboat or helicopter if possible.
- 37) Leave tracked or wheeled vehicles in the field overnight, using airborne or water transportation for personnel changes.
- 38) Lubricate tracks with biodegradable lubricants only.
- 39) Minimize maintenance performed in the field.
- 40) Keep daily logs of activities and environmental impacts for each vehicle.
- 41) Airboats should use open water wherever possible.
- 42) Airboats should not reuse their own newly cut trails unless allowed by permit.
- 43) Airboats should use solid lubricant wearpads (such as Teflon), but may use biodegradable hull lubricants when necessary.
- 44) Airboats should be lightly loaded. Large or heavily laden airboats have much the same impacts as wheeled or tracked vehicles and should be treated the same.
- 45) Utilize airboats and hovercraft where their noise effects on animals are minimal. Noise can be reduced by engine mufflers and dual propellers on each engine.
- 46) Communication equipment should be present on all vehicles
- 47) Toilet facilities must be provided and maintained.
- 48) Litter, trash and debris shall be carried out daily.
- 49) The applicant shall allow representatives of CMD or authorized agents to make periodic, unannounced inspections to assure the activity being performed is in accordance with the conditions of the permit or authorization.

Fuel and Oil Spills

- 50) Any oil, hydraulic fluids or lubricants spilled or discharged must be cleaned up immediately; cleanup equipment must be readily available. Operators must be familiar with spill cleanup and reporting requirements.
- 51) Plan efficient refueling of vehicles daily to minimize travel and the chances of spills.

- 52) Periodically check for leaks under all operating vehicles.
- 53) Keep a daily leak/spill report for each vehicle; repair leaks immediately.

Restoration

- 54) The applicant shall, wherever possible, restore any wetlands that are disturbed during work, including the temporary crossing of wetland areas, to their preproject elevations and conditions.
- 55) The applicant shall mitigate for adverse impacts to marsh habitat resulting from vehicle utilization. Separate authorization from CMD and other local, state or Federal agencies may be required.
- 56) If CMD determines that compensatory mitigation is required, the applicant shall submit a compensatory mitigation plan for approval within 30 days of notification of the compensatory mitigation requirements by CMD. A processing fee will be assessed for the determination of compensatory mitigation requirements and evaluation of the proposed compensatory mitigation plan in accordance with LAC Title 43, part I, Chapter 7, §724.D. This fee shall apply regardless of which compensatory mitigation option is selected and does not include the cost incurred to implement the required compensatory mitigation.