



INTERNATIONAL MOUNTAIN BICYCLING ASSOCIATION

## FACT SHEET FOR IMBA'S eMTB FIELD STUDY

Electric-powered mountain bikes (eMTBs) are a new category of use on public lands, a hybrid of muscle and electric power that falls between traditional motorized and non-motorized uses. Defining eMTBs as new category of recreation access will minimize impacts on access for mountain bikes and protect against an increase of motorized use on non-motorized trails.

### Current eMTB Management Practices

- Federal land management agencies currently classify eMTBs as a motorized use. As such, eMTBs currently have access to dirt roads, double track trails, and other trails that are managed for a combination of motorized and non-motorized use.
- Manufacturers of electric bicycles suggest the following classifications: Type 1: pedal assist with a maximum assisted speed of 20 mph; Type 2: throttle assist with a maximum assisted speed of 20 mph; Type 3: pedal assist with a maximum assisted speed of 28 mph.
- Based on IMBA's field study, conducted in the fall of 2015, the impacts of Type 1 eMTBs and traditional mountain bikes appear to be similar, relative to the impacts of typical gasoline-powered motorcycles, in regards to soil displacement and other effects on trail surfaces (more information below about IMBA's study).
- Understanding the potential resource impacts of eMTBs is a necessary and important first step for formulating management strategies. Additional research is needed to further assess the range of environmental and social impacts for successful eMTB use on public lands.
- IMBA's initial study suggests that, with conscientious management and attention to trail design, eMTBs have the potential to offer a beneficial use of public lands with acceptable impacts.

### IMBA's eMTB Field Study

In the fall of 2015, in partnership with the Bicycle Product Suppliers Association and PeopleForBikes, and with counsel from a field of recreation management experts, IMBA conducted a scientifically controlled field study designed to measure relative levels of soil displacement and erosion resulting from traditional mountain bikes, eMTBs and traditional off-road motorcycles (i.e. dirt bikes). The observations were compiled in controlled environmental conditions, with each type of bike making multiple passes on separated sections of the same trail within a single test site.

The goals of the study included:

- Provide an objective analysis of the physical impacts of Type 1 eMTBs relative to traditional mountain bikes and traditional dirt bikes by measuring soil displacement after hundreds of passes on a controlled course.
- Gather information regarding possible social impacts associated with Type 1 eMTBs and gather input from land managers via interviews and an online survey.
- Provide land managers with data and analysis to assist them in making informed decisions regarding appropriate access.
- Create a baseline of data about the impacts of eMTBs, which will inform what types of additional studies are warranted.
- Further IMBA's overall knowledge base of trail design, trail construction and environmental impacts related to mountain biking and other trail uses.



## FIELD STUDY HYPOTHESES AND INITIAL RESULTS

IMBA developed these hypotheses for this small initial study (one site, with one set of environmental conditions):

- Physical impacts to trails from eMTBs will likely fall somewhere between those caused by mountain bikes and motorcycles. We expect that they will much more closely resemble those of mountain bikes.
- We expect that eMTBs may lead to more soil displacement under certain conditions, such as through turns, including bermed turns; on ascents and descents; and where there are abrupt changes in trail conditions.

Initial observations suggest good support for the field study hypotheses. We saw some differences between the impacts of eMTBs and mountain bikes, particularly at turns and grade changes. However, for the most part, the soil impacts observed in this study were not greatly different from those of mountain bikes, and were much less than those associated with motorcycle use.

IMBA has not completed the analysis of study data, but initial observations appear to support our hypotheses under this limited set of conditions. The results of the land manager survey and social impacts analysis are still being compiled. The entire study will be completed by the end of 2015.

IMBA has worked very hard to define mountain biking as non-motorized. IMBA recognizes that eMTBs, particularly those equipped with Type 1 pedal-assist are substantially different from other motorized uses, and may warrant a separate category and new management strategies.

IMBA does not have an advocacy interest in the eMTB study, but is leading this study as a respected partner of land management agencies, to further knowledge about recreational trails, and to inform future discussions with members, chapters, land managers, the bike industry, and other user groups.



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