Community trapping and slash Trials for *Simulium damnosum s.l.* control in northern Uganda

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Introduction

- Vector control has been used as a main strategy for oncho control before the advent of ivermectin
- It registered successes in a number of countries: e.g. West Africa, Kenya, Uganda etc.
- However, vector control has shortcomings which include insecticide resistance and need for technical staff
- This stimulated development of other new innovations in vector control
- Recent development of **Esparanza Window Trap** (EWT) demonstrated potential to replace HLC; it was evaluated in Mexico, Burkina Faso, Nigeria and Ethiopia.
- The **slash and clear** brings an additional vector control strategy for black fly control
- The need to supplement ivermectin MDA in the era of oncho elimination is critical in achieving 2020 goal
- Involvement of community has been minimal in vector control, yet sustainability of most programs rely on community participation
- We report on the community trials of EWT and slash/clear strategies in Madi mid-north focus in northern Uganda

Objective/research questions

Objective

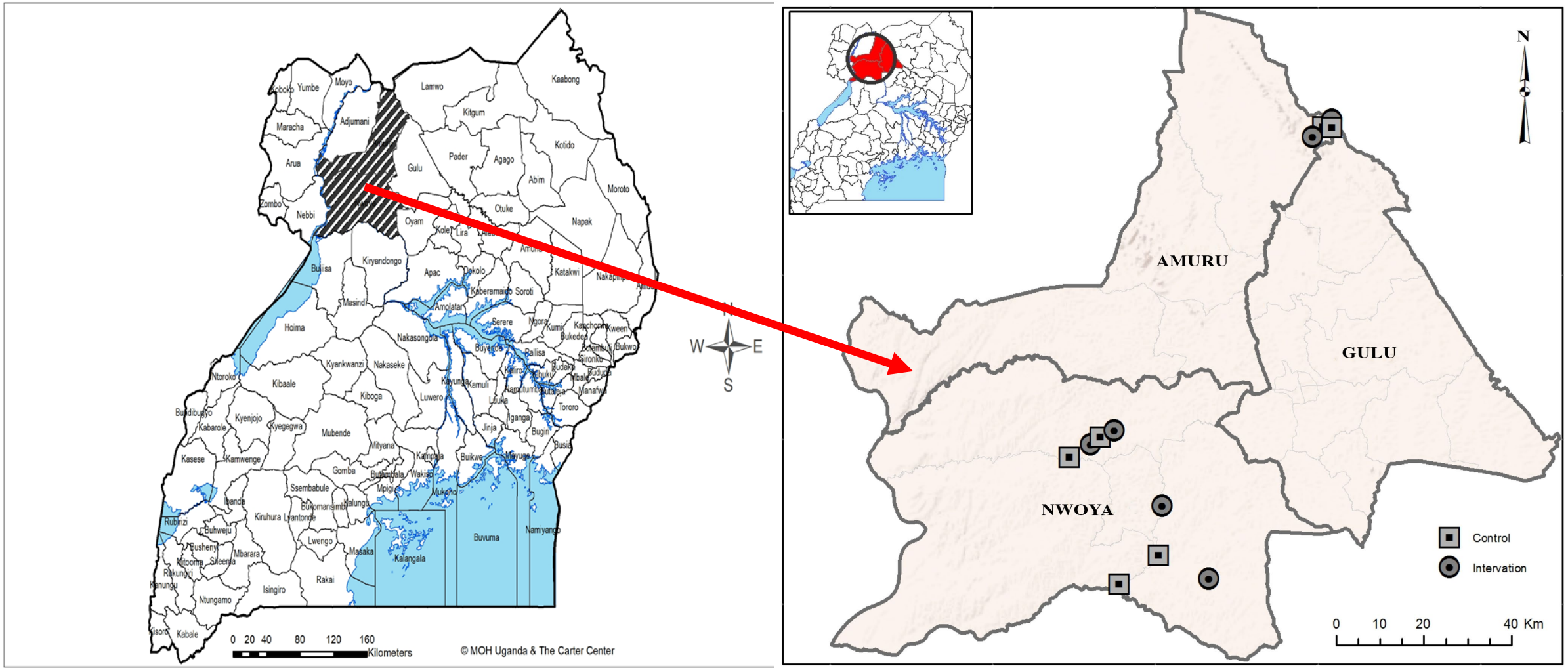
- To test the hypothesis that community based vector control measures based upon larval habitat removal and optimized traps will result in long term reductions in vector biting rate.

Research questions

- Can Community run EWT traps effectively?

- Is the removal of aquatic vegetation that represent the primary black fly larvae attachment point an effective community- based tool to supplement ivermectin distribution ?

Study Area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Methodology- (1) Esparanza Window Traps

- Community trained field staff deployed traps in two gardens in each of the two study villages in northern Uganda.
- Five traps were set from 8:00 am - 5:00 pm at the edges or middle of the garden at 30 metres away from each other.
- Flies in all the traps were removed, counted and preserved in alcohol
- Traps were alternated on weekly basis in the two gardens
- Catching sites were established in each garden at least 100 metres away from the traps-HLC
- Deployment of traps was done for 20 weeks.
- Data on fly collections were converted in log mean of total number of flies caught then compared: HLC alone, and HLC vs. EWT

Methodology- (2) slash and clear technique

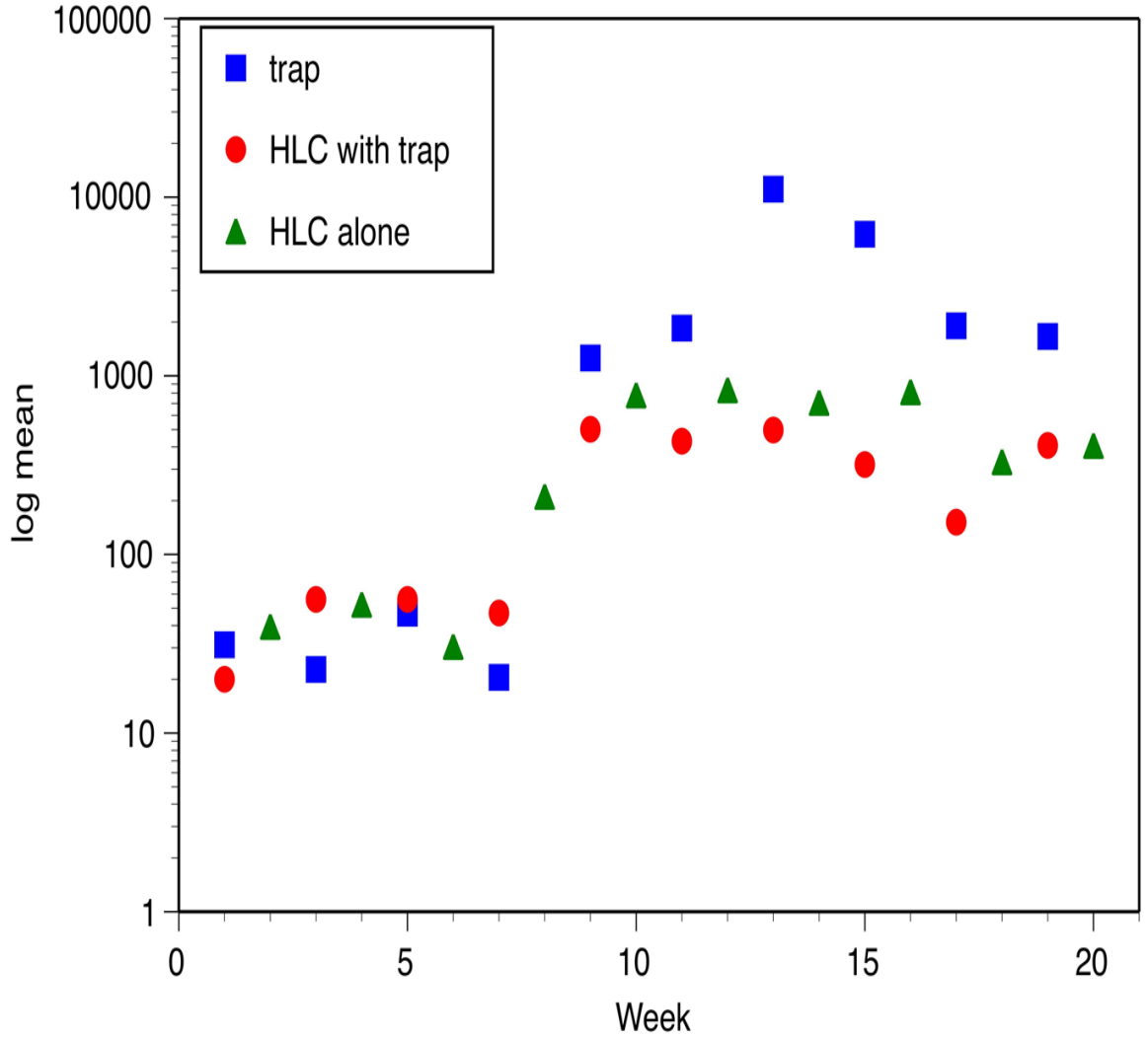
- Villages were selected along River Unyama, one randomly assigned to intervention and control
- Base line collections using HLC to establish the biting rate at each village was conducted for 7 days.
- Young men (16-22 yrs) from the village were recruited and trained how to slash trailing vegetation in the river and throw out along the bank
- Landing collections were conducted for 30 days, 140 days and for 12 months.
- The number of flies collected in the intervention and control villages were compared.
- The data were analyzed using a basic linear model that treated the

river as a blocking effect and treatment type as the variable of interest

Garden deployment of EWT

Results : EWT garden deployment

A



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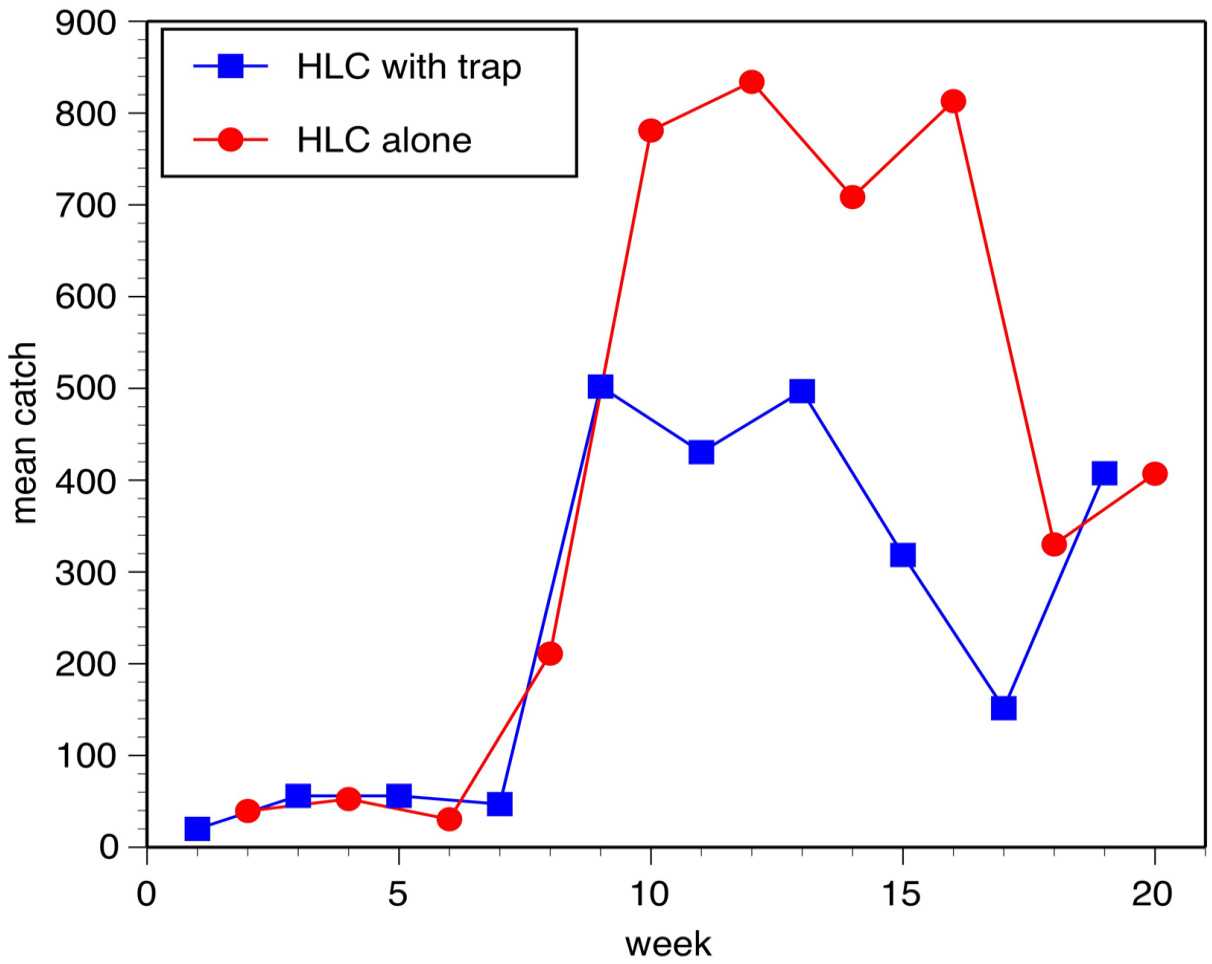
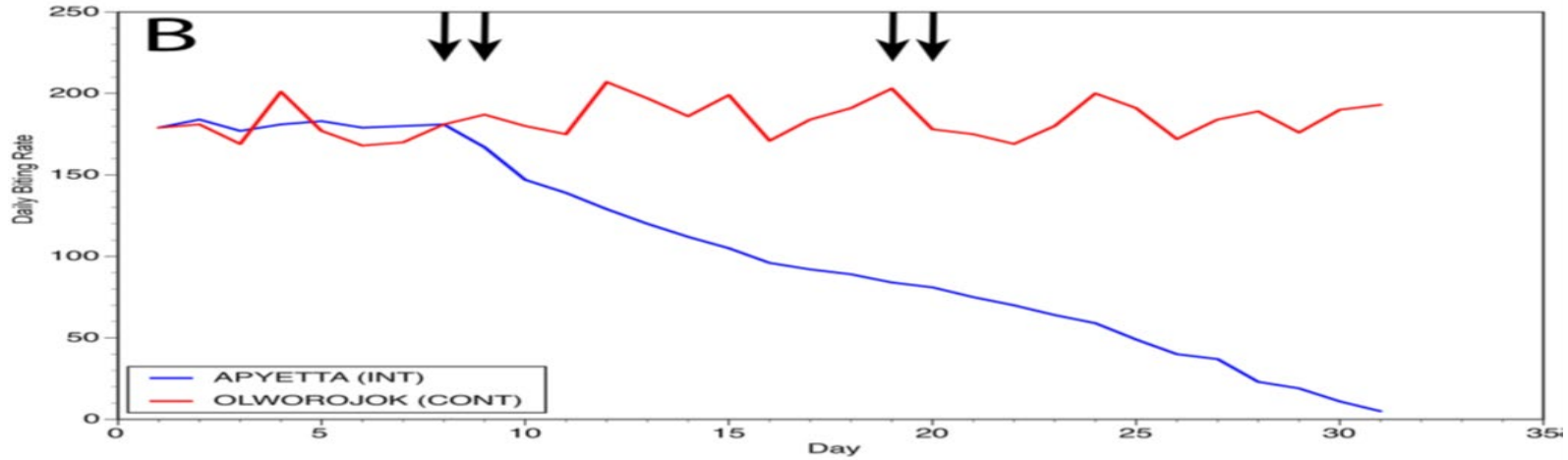
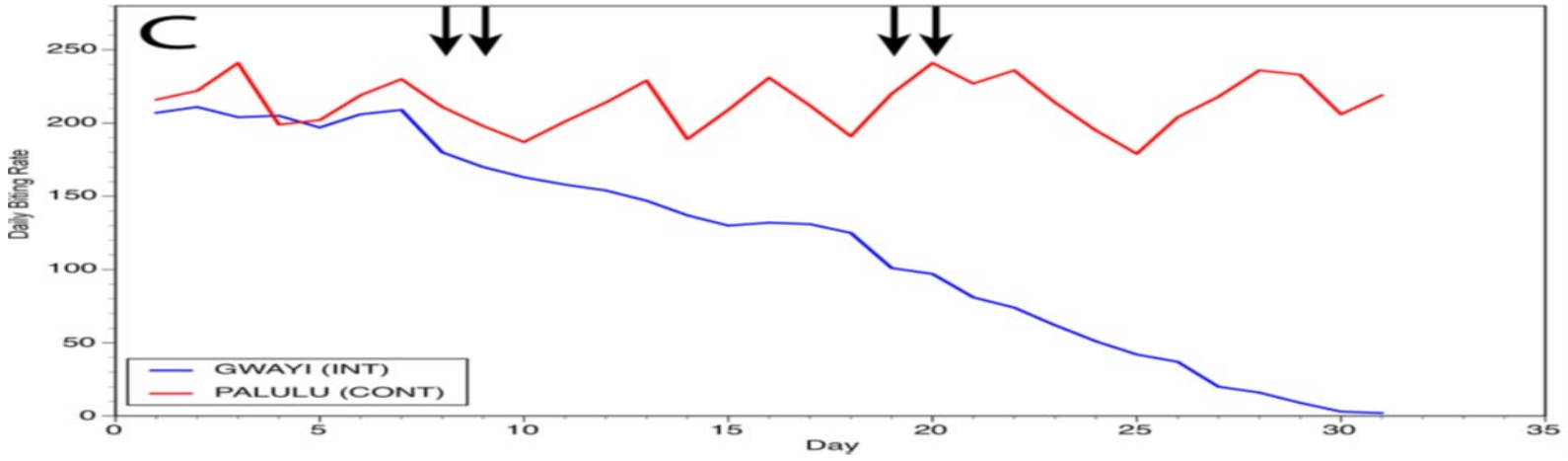


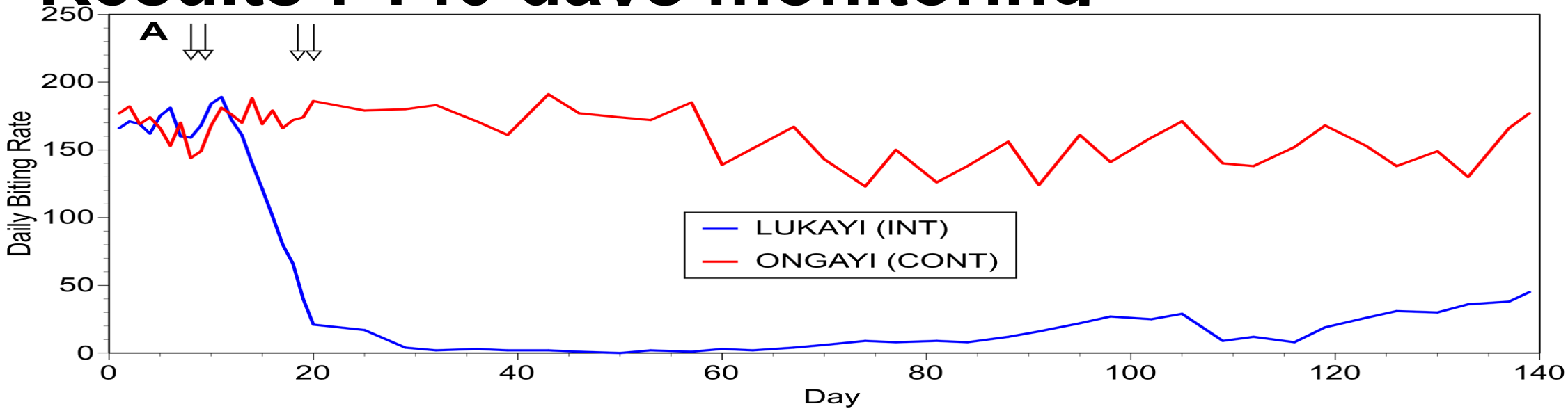
Slash activities along R. Unyama

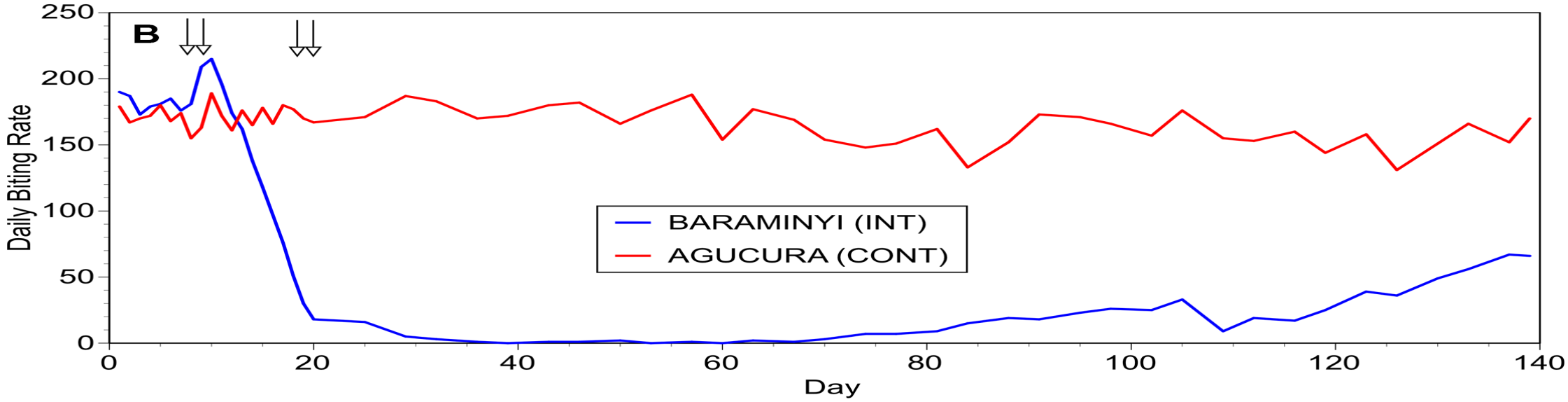
Results- 30 days monitoring



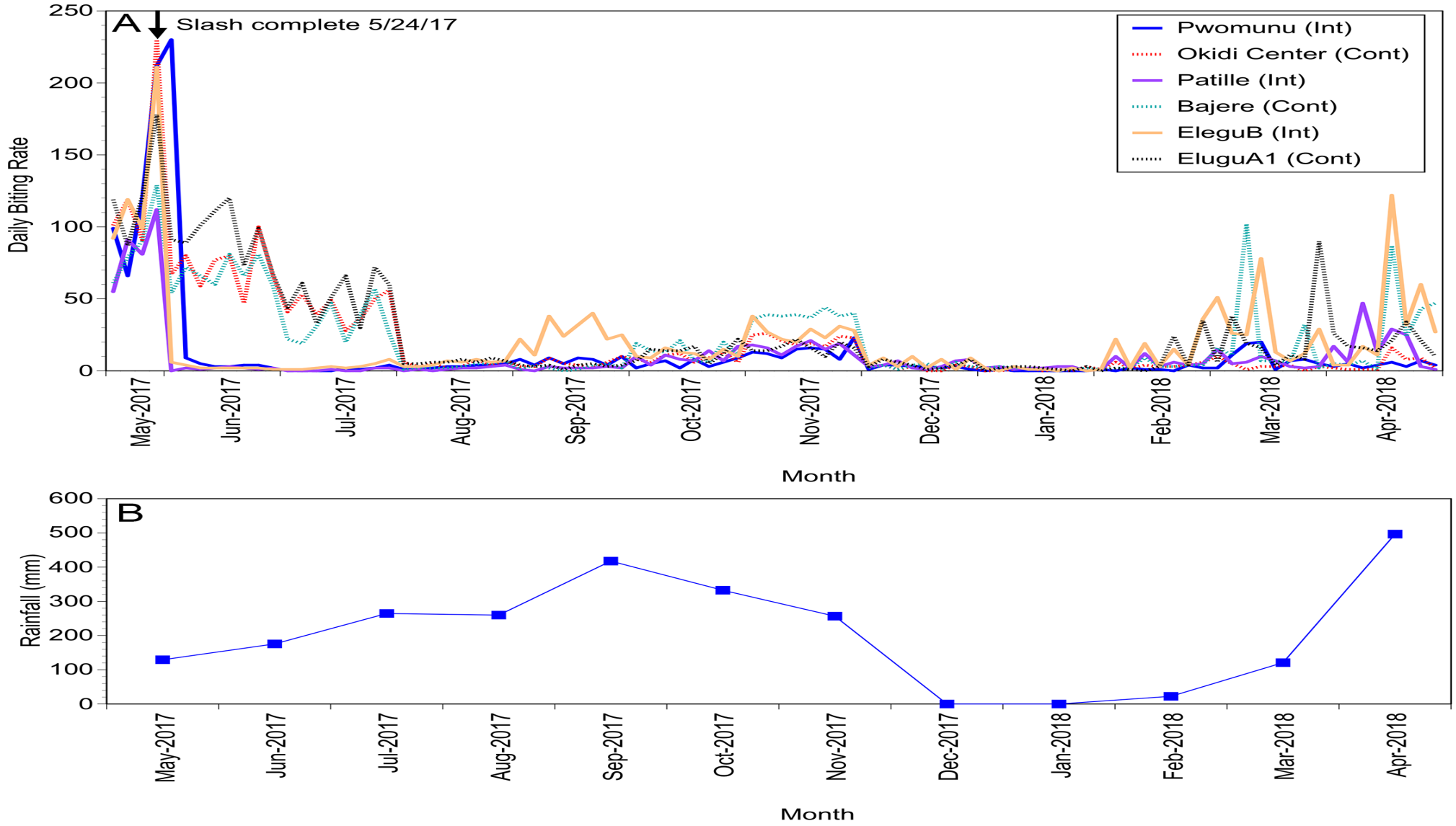


Results : 140 days monitoring





Results -12 months monitoring



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Conclusion

- Garden deployment of traps demonstrated the ability of EWT to get more flies than HLC and averting fly bites to garden workers
- Removal of vegetation (slash) results in dramatic reduction of black fly population with a slow population recovery
- Community when empowered can effectively maintain black fly traps and remove vegetation from black fly breeding habitats

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