

Control Operations

Treatments are scheduled only when larval sample results indicate the presence of the target species group *S. jenningsi* complex. DEP then notifies state and county authorities plus multiple emergency response agencies of upcoming black fly control operations. DEP biologists perform backpack treatments or direct aerial treatments utilizing private contractors. All treatments use *Bti* following EPA approved label rates for black fly control and all application information is recorded as required by the PA Department of Agriculture.

Program Control Agent – *Bti*

Bacillus thuringiensis israelensis (Bti) is a naturally occurring soil bacteria used as a species specific, microbial insecticide to control black flies in Pennsylvania. *Bti* is applied either aerially utilizing helicopters or by backpack on smaller streams. Black flies in the larval stage must actively ingest *Bti* in order for the material to be effective. *Bti* acts as a stomach poison and causes mortality to the insect. *Bti* is not a contact poison or chemical and is very safe for non-target organisms.

Non-Target Bio-monitoring

Bio-monitoring of aquatic macro-invertebrates and fish is conducted by DEP aquatic biologists on selected streams where black fly control is conducted. The purpose of bio-monitoring is to ensure no environmental impacts are occurring from the use of *Bti*. Results have confirmed that a carefully managed *Bti* treatment program can provide effective black fly control with no impacts to non-target organisms



Black Fly Impacts

The Pennsylvania Black Fly Suppression Program greatly reduces the significant economic, nuisance and medical impacts of black flies. Economic impacts can occur when large populations of gnats affect tourism or prevent people from participating in outdoor recreation such as gardening, sports, sight-seeing, golfing, camping, picnicking, hiking, hunting, fishing and horse-back riding. Medical impacts can occur when female black flies bite humans. Lesions often develop at the bite site, accompanied by reddening, itching, swelling and discomfort. Nuisance impacts can occur when swarming and crawling black fly adults get into peoples eyes, ears, nose, mouth and hair reducing enjoyment of outdoor activities.



For questions or complaints,
visit the website at:

www.depweb.state.pa.us/blackfly

or call

717-346-8244

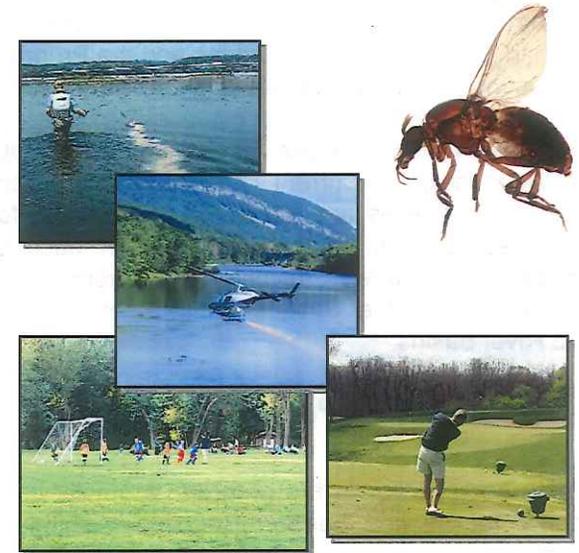
Doug Orr



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Black Fly “Gnat” Suppression Program



Providing relief from adult black flies
“Gnats” so residents and tourists alike
can fully enjoy Pennsylvania’s great
outdoors.

www.depweb.state.pa.us/blackfly