Don't be Afraid: an Attempt to Use Alarm Pheromones of Fathead Minnows and Rainbow Trout as an Attractant to Enhance Gill Net Captures of Northern Pike in Milltown Reservoir[AFS]

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Illegally introduced northern pike in Milltown Reservoir, a shallow reservoir at the confluence of the Clark Fork and Blackfoot rivers, represent a threat to resident and migratory native fishes, among them federally threatened bull trout and state "species of special concern" westslope cutthroat trout. While annual drawdowns and seasonal trap netting have reduced northern pike abundance, we wished to increase the effectiveness of gillnetting to enhance removal of adult northern pike. Recent studies have demonstrated that many fishes are highly responsive to pheromones—molecules used for chemical communication in many fish species—and that this responsiveness can be exploited for management purposes. Because some studies revealed that northern pike are attracted to Schreckstoff, an alarm pheromone released from the skin cells of fathead minnows, and that this pheromone requires breakage of the skin cells and survives freezing, we obtained frozen, macerated fathead minnows to use as an attractant within gill nets modified into cylinders. Because rainbow trout also release Schreckstoff from their skin cells and because northern pike in Milltown Reservoir were previously exposed to this prey species, we created a paste of juvenile rainbow trout from fish obtained from the Arlee Fish Hatchery for the last several days of the experiment. The test was conducted for 10 days, with equal numbers of treatment (with attractant) and control (no attractant) nets, and all nets were checked at least twice daily. The results were very surprising, and suggested several improvements for future studies of this kind.