

Shaun Thompson
Kemptville Winter Woodlot Conference
February 21, 2020

Definition: ???

Vernalis – pertaining to the spring

Most do reach their seasonal high water levels in spring...not all...some fall or winter

Weeks to months

Some semi-permanent

May skip a year....

variation - this is a repeating theme

Where?

- Global in distribution
- Found in or adjacent to forests...
- But also found in grasslands, floodplains and other environs

Why?

- Depressions glaciation, erosion, surficial geology
- No permanent surface water connections
- Hydrology source, timing (hydroperiod), duration

- Size few hundred square metres to several hectares
- Depth quite shallow (0.5 m) but can have deep spots > 2-2.5m
- Water source variable: rain, snow melt, surface overflow (in and out but intermittent), ground water, combination
- Water chemistry varies geological setting and ecosystem setting

Diversity Within a single pool Between pools

- Structure
- Vegetation
- Temperature
- Depth
- Chemistry
- Species

- Size
- Duration
- Landscape setting
- Forest type





Photo: Chris Albertine/VPR

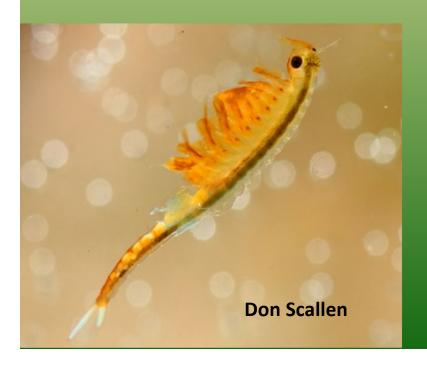
Who's there? NE – over 700 spp.

- Invertebrates
- Non-arthropods such as Hydras, sponges, rotifers, Horsehair worms, flatworms,
 Annelids and molluscs
- Arthropods such as fairy shrimp, clam shrimp, copepods, cladocerans, ostracods, isopods, amphipods and crayfish, mites and springtails

- Insects such as caddisflies,
 Dragonflies and damselflies,
- water beetles, water bugs, some mayflies and fishflies
- Amphibians such as wood frog, gray tree frog, spring peeper, A. toad, chorus frog, green frog, leopard frog, spotted salamanders, Jefferson complex, four-toed
- Turtles painted and Blanding's (snapping and spotted)









Adaptations and Strategies

- Avoidance/Resistance
- Dispersal
- Mobility
- Hitchhiking
- Surface water
- Aestivation
- Drought resistance eggs, cysts, pupae
- Interrupted life cycles
- Complex life cycles
- Short life spans
- Continuous breeding
- Adjustable development rates

Value? Significance?

- Fresh water habitat
- Landscape Diversity
- Water source
- Breeding
- Feeding
- "Stepping stones"
- Species at risk
- Nutrient cycling

- Filtration
- Climate moderation
- Overwintering habitat
- Flood/ erosion control
- Refugia
- Moisture for trees
- Education research
- Local and regional biodiversity

What can you do?

- Identify and inventory take stock of what and where
- Consider reserves and modified management around them – protect edge from effects of canopy removal, leave downed woody debris in and around pool and within your forest as a whole
- Keep equipment out of pool and surrounding soft soils
- Be mindful of surface water flow routes

Ontario Nature Citizen Science

Vernal Pool Mapping Project

- Field data sheets
- Record details of vernal pools
- Location
- Habitat setting
- Depth
- Species, etc.

atlas@ontarionature.org

Vernal Pools: Natural History and Conservation Elizabeth Colburn, 2004 McDonald and Woodward Pub. ISBN 0-939923-91-2