

## Additional Resources

### Learn more about the Hine's Emerald Dragonfly:

[http://www.fws.gov/midwest/endangered/insects/hed/hins\\_fct.html](http://www.fws.gov/midwest/endangered/insects/hed/hins_fct.html)

### See the Groundwater Contribution Areas important to protecting Hine's Habitat in Door County:

<http://map.co.door.wi.us/map/>

### Use Greenprint to guide development in Door County while protecting groundwater:

[http://tplgis.org/DoorCounty\\_Greenprint/](http://tplgis.org/DoorCounty_Greenprint/)

### Contact the Door County Land Trust for options in conservation easements:

[www.doorcountylandtrust.org/protect\\_your\\_land.htm](http://www.doorcountylandtrust.org/protect_your_land.htm)

### Explore alternatives to traditional lawns at Safe Lawns in Door County:

<http://www.doorpropertyowners.org/safe-lawns-in-door-county>

### Learn more about conserving groundwater quality:

Read the complete Hine's Best Management Practices report

<http://www.ridgessanctuary.org/hed>

For more information contact  
The Ridges Sanctuary  
920-839-2802  
[info@ridgessanctuary.org](mailto:info@ridgessanctuary.org)

## Funding Acknowledgements

Full funding for this project is supported by a cooperative agreement with United States Fish & Wildlife Service.



Funded by a 2012 Great Lakes Restoration Initiative Grant.



The Ridges Sanctuary watershed provides the most extensive Hine's emerald critical habitat in Door County.



PO Box 152 8270 Hwy. 57  
Baileys Harbor, WI 54202

Office: (920) 839-2802  
[info@ridgessanctuary.org](mailto:info@ridgessanctuary.org)  
[RidgesSanctuary.org](http://RidgesSanctuary.org)

# Protecting Groundwater in Door County



Benefits YOU  
and the  
Hine's Emerald  
Dragonfly

# Clean Water is Important for YOU & the Hine's Emerald Dragonfly



In Door County, groundwater is a shared resource needing protection because fractured **karst** bedrock and thin soils can enable pollutants to quickly be carried into our **drinking water**, Hine's emerald dragonfly habitat or Lake Michigan. Every effort should be taken to protect water for the health of Door County families, businesses and wildlife.

## The Hine's Emerald Dragonfly

The Hine's emerald is the only federally **endangered** dragonfly. The largest population exists in Door County because of the large quantity of coastal wetland habitat on the Peninsula.

Hine's larvae spend four to five years in wetlands that are spring fed by calcium-rich, dolomite bedrock. They need sustained groundwater quality and quantity in order to survive; *their presence is an **indicator** of good water quality.*



Hine's emerald dragonfly larva  
Courtesy of Dan Soluk

**To protect groundwater quality, adopt simple conservation measures...**

## In Your Own Backyard



- Eliminate pesticide and synthetic fertilizer usage on lawns; they can contaminate lakes, streams, and ground-

water, and are unhealthy for children and pets

- Protect the natural features of your property with a conservation easement
- Don't flush pharmaceuticals or put hazardous waste in the trash; take them to a local "Clean Sweep" collection site

- Maintain private onsite wastewater systems annually; septic failure can be costly and can contaminate well water

Annual septic system maintenance is important for the health of your wastewater system



Storm water mitigation systems are important for filtering and replacing groundwater (Baileys Harbor Ridges Beach, graded and planted with Dune grass)

## Through Your Government

- Require storm water management plans for all construction projects
- Enforce setbacks and buffers for activities near exposed bedrock
- Use Door County Greenprint to guide development and protect the Hine's emerald dragonfly and other natural resources of Door County (see back of brochure for websites)
- Adopt a groundwater protection ordinance



Exposed bedrock is a direct conduit to Door County groundwater

## As a Business Owner

- Encourage guests to reuse towels and sheets to conserve laundry water
- Establish low maintenance vegetated buffers or rain gardens to filter and absorb storm water runoff from parking lots
- Avoid applying manure to agricultural lands when soils are frozen
- Adopt environmentally responsible methods to sustain iconic Door County activities



Commercial fishing depends on clean water that discharges from streams to Lake Michigan



Local fish boils now capture excess kerosene to prevent it from contaminating groundwater