Land Development and Alteration: All the Latest for Windemere Township

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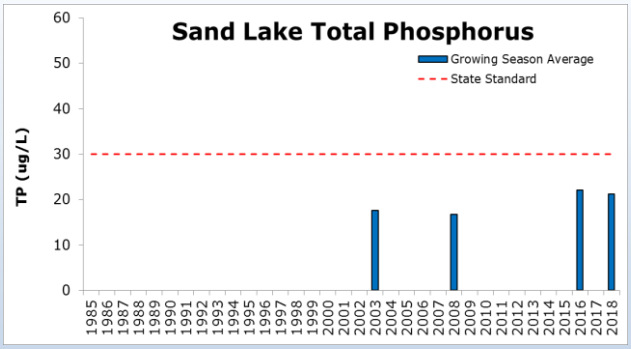
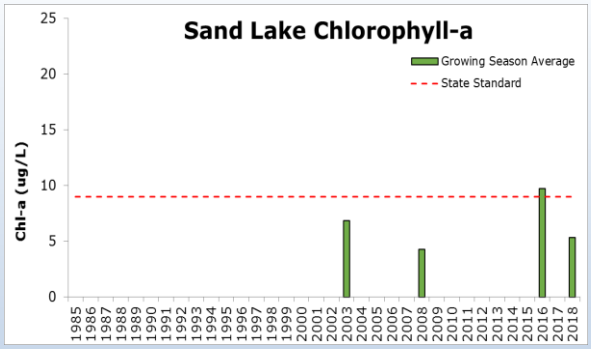
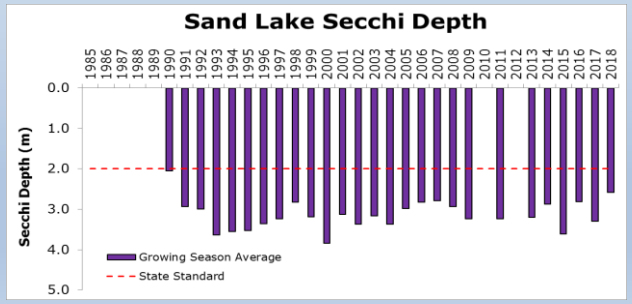
Nutrient Loading

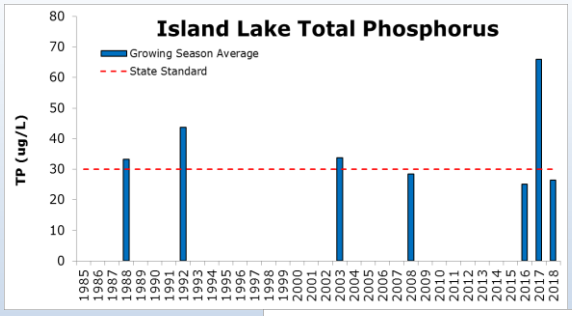
- Algae blooms are caused by nutrient loading.
- Phosphorus is considered limiting nutrient, that we seek to control.
- Nutrient Loading has adverse impacts on recreation and lake ecosystems.

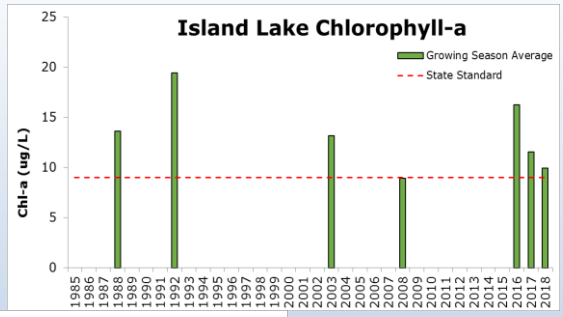


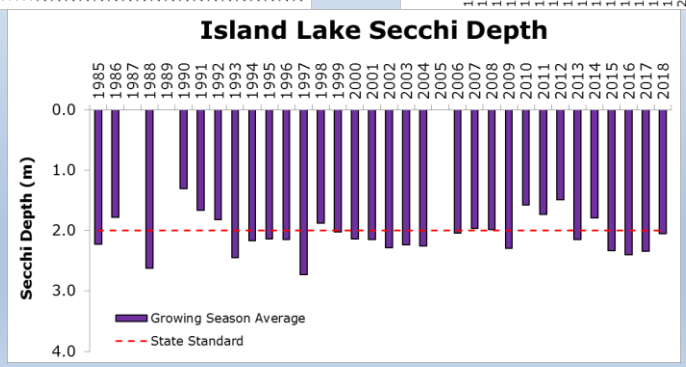




Red line represents state impairment threshold







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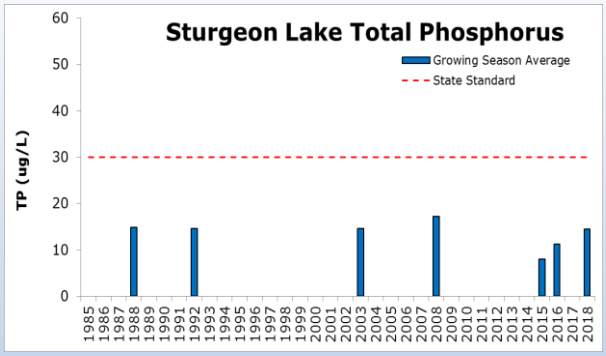

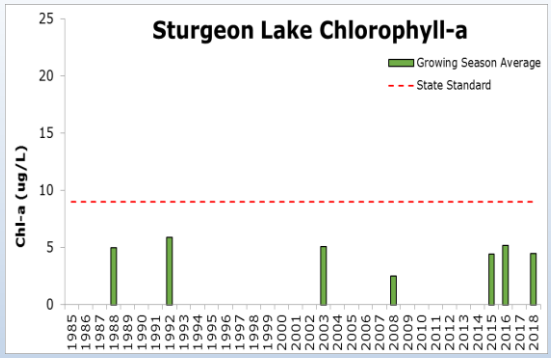

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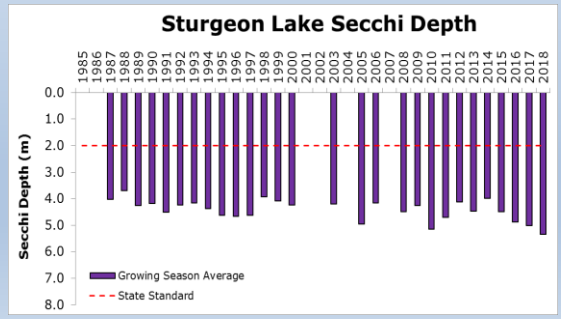
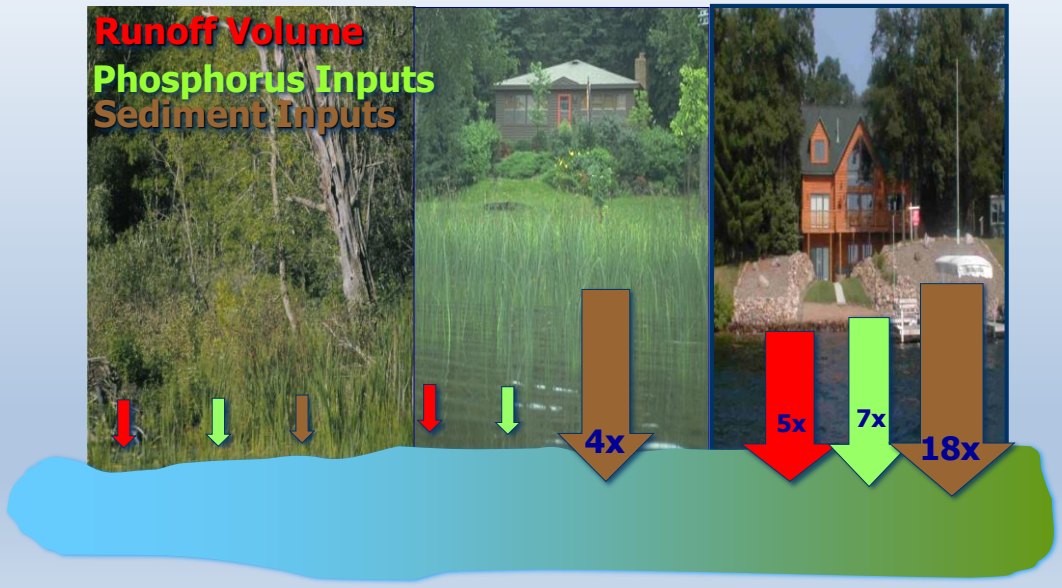
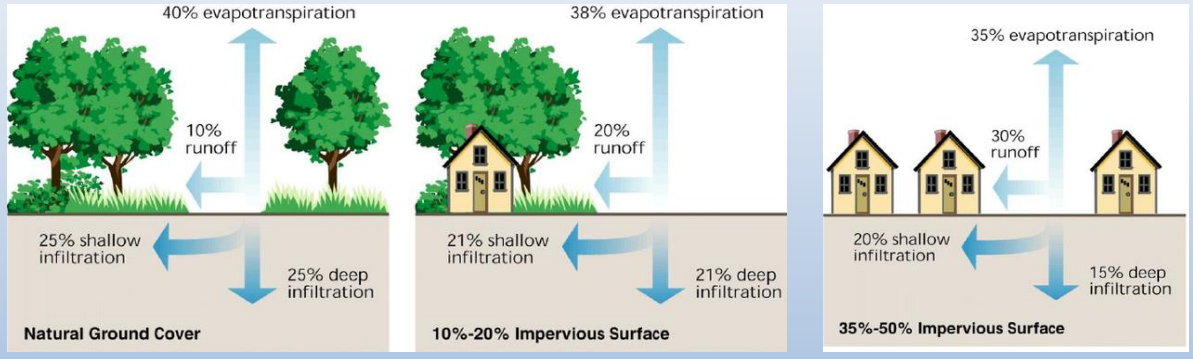




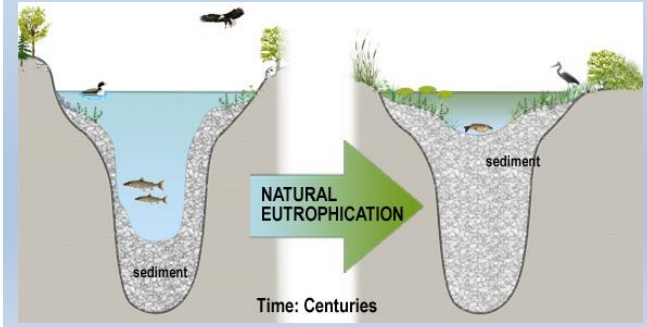
Impervious Surface and Runoff

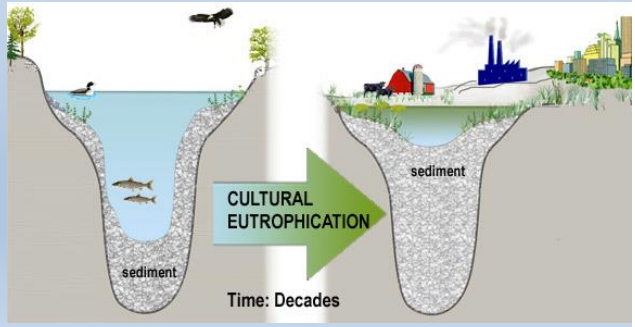


State Shoreland Standard: Not to exceed 25% impervious surface

Why do we care about runoff and phosphorus loading?

- Rough fishes become more abundant at the expense of game fish.
- Dissolved oxygen is reduced -> biologically unfriendly
- Can be bad for property values and tourism





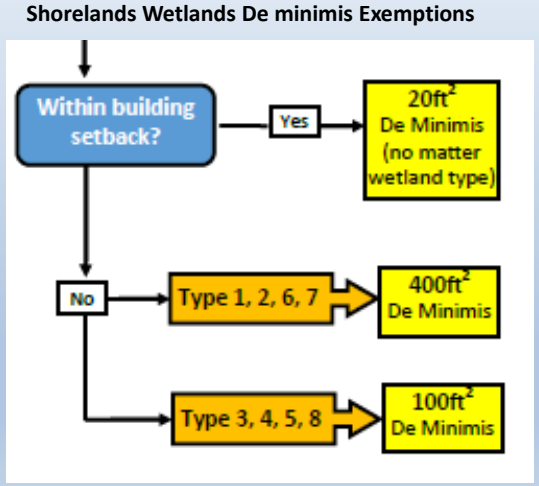
So, what rules apply?

- DNR Waters: Below the OHWL
- Shoreland Regulations: Local government (Township)
- Wetlands
  - Above the OHWL: County
  - Below the OHWL and public waters wetlands: DNR
  - Waters of the US: Army Corps
- Floodplain: Not regulated in Windemere Township.
  - **Shoreland Ordinance requires lowest floor of structures be 3' above OHWL or HKWL, where floodplain regs are not administered. (Section 5.2.2)**
  - Local admin of floodplain regs required to participate in National Flood Insurance Program.

State Wetland Conservation Act

- Goal: No net loss of wetlands
- Wetlands help retain water in the watershed and stabilize flows during times of flooding and high intensity rainfall
  - Stabilized flow → less runoff and flooding → improved water quality
- Biodiversity, fish, and wildlife habitat

Riparian wetland filling is extremely restricted!



State Shoreland Standards

In effect w/in 1,000' of lakes, 300' of streams, and 100 year-floodplain.

Section 1.1: The uncontrolled use of shorelands affects the public health, safety, and general welfare not only by contributing to pollution of public waters, but also by impairing local tax base.

- Limit development density and impervious surface
- Retain and filter stormwater
- Minimize landscape alteration, especially within shore impact zone and bluff impact zone
- Protect aesthetics as viewed from the lake

Shorelands District

MN 6120

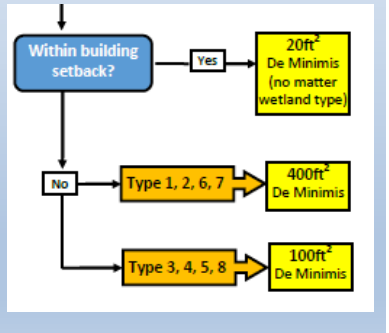
Shoreland Standards

- Building setbacks, sizes, lowest floor elevation
- Subdivision
- Property uses
- Vegetation removal
- Excavation and grading, Riprap
- Stormwater and Impervious Surface

Grading and Filling

Shoreland

- Movement of more than **10** cubic yards if on steep slopes (12%) or within shore or bluff impact zones.
- Movement of more than **50** cubic yards on property in Shoreland.



Wetland (County or DNR jurisdiction)

- Draining, filling, or excavating in a wetland does not need permit, but is subject to rules
  - De minimis exemptions are very restrictive

Floodplain (Floodplain not currently regulated)

- Hydrologic analysis may be required

Shoreland Grading & Filling Standards

- Alterations must ensure the minimum bare ground is exposed for minimum time necessary.
- Mulches must be used for temporary bare soil coverage and vegetation established ASAP
- Methods to minimize soil erosion and trap sediments before they reachn any surface water feature must be used.
- Alterations of topography must not adversely affect adjacent or nearby property.
- Standards exist for riprap. Riprap (≥ 10 yds) requires shoreland permit.

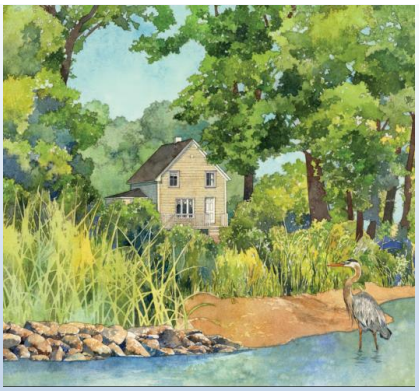
- Lakes are dynamic systems.
- Wetlands and Shoreland Grading/Filling can go hand in hand very well.

Unpermitted Project

- Gully formation on highly erodible slope.
- Improper silt fence placement.
- Project started on Friday afternoon. Minimum time of exposed soil was violated.

Vegetation Removal

- Intensive vegetation clearing within the shore and bluff impact zones and on steep slopes is not allowed.
- Limited clearing in these areas for the placement of improvements (docks, landings) or for a view from the principal structure provided that the screening of structures and vehicles from the water is not substantially reduced.
- Removal of dead and diseased trees is allowed



The Power of Stormwater

Pine County Stormwater Management

1.) Existing natural landscape to control stormwater runoff when possible.

2.) Development must be conducted to reduce disturbed areas and runoff potential. Disturbed areas must be stabilized ASAP.

3.) When natural land features are not sufficient, various types of constructed facilities may be used. Preference must be given to surface drainage, vegetation, and infiltration rather than buried pipes and human-made materials.

4.) Impervious surface coverage ≤ 25% of lot.

5.) When facilities are constructed, documentation must be provided to show no increase of stormwater runoff.

6.) Outfalls to public waters must filter suspended solids before discharge.

County Zoning Ordinance

- Pine County has 33 townships and about 25 sets of rules.
  - Inconsistent administration, customer service, and results
  - Not friendly to development as it is difficult to navigate.
  - Streamlined permitting: simpler process for taxpayers.
- Ordinance was written over 12 month period engaging townships, public, business owners, and farmers.
- Townships have opportunity to opt-in and opt-out.
  - October 15 deadline for early adopters.
  - Townships can populate their own zoning map.
  - Townships will be noticed of variances, CUPs, ordinance amendments