

APPENDIX E

Land Use and Community Information for Door County HED GCAs

Notes:

- *The tables showing land use percentages for each GCA listed below were generated using land use GIS data from the Door County Planning Department. Refer to Appendix D for maps showing land uses in each GCA.*
- *Specific town Smart Growth Plan goals and objectives are quoted directly from the plans. No language or formatting has been changed. Only goals and objectives consistent with HED BMPs are included, such as those applying to groundwater, development, natural resource protection, or working with other towns.*
- *Smart Growth Plans for each town can be found in the website link for the Door County Comprehensive Plan 2030:*

http://map.co.door.wi.us/planning/comp_planning.htm

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Washington Island HED Habitat Groundwater Contribution Area

A) Big and Little Marsh Area Landscape

Big (Gunnerson Marsh) and Little Marsh (Wickman Marsh) HED GCAs are located on Washington Island, in the town of Washington. The 414 acre recharge area includes the WDNR designated Big and Little Marsh State Natural Area. These two GCAs and buffers have lands with the highest recharge potential of any HED GCA in Door County, and therefore it is especially important to conduct further outreach with the Washington Island community and encourage implementation of BMPs.

B) General Land Use

Table 1: Big and Little Marsh GCA Land Use Percentages

Land Use Type	% Land Use Totals
Woodlands	54.6608%
Croplands/Pastures	18.3097%
Open Space	11.3752%
Tree Plantations	5.6600%
Other Natural Areas, including Wetlands	3.9803%
Single-Family Residential	2.6086%
Local Streets and Roads	1.2759%
Communication/Utilities	0.6854%
Fraternal Organizations/Clubhouses	0.6440%
Farm Buildings/Accessories	0.3921%
County Highways	0.2107%
Vacant Residential	0.1589%
Other Liquid Fuel Terminals/Plants	0.0383%

C) Washington Island Plans

Note: The town of Washington does not have a Smart Growth Plan, nor work plan activities within the Washington Island Parks comprehensive plan or the Zoning and Planning committee plan.

D) Existing Special Interest Groups and Local Stakeholders

- The WDNR is a major stakeholder as State owned public lands surround Little Marsh and a large portion of Big Marsh.
- The Washington Island Parks committee is a very proactive group.
- The Door County Land Trust (DCLT) has particular interest in land protection through conservation easements within the Washington Island GCAs.
- The Washington Island Sportsmen’s Club owns an 80 acre parcel of land within the Little Marsh recharge zone.

Mink River Estuary Groundwater Contribution Area

A) The Mink River Area Landscape

The Mink River Estuary HED GCA exists within the town of Liberty Grove and encompasses approximately 3,323 acres. It includes the WDNR designated Mink River Estuary State Natural Area. TNC protects 1,854 acres of the Estuary complex, including lands owned and managed by TNC and conservation easements. The first HED identified in Door County was found at the Mink River estuary in 1988 by WDNR Biologist Bill Smith.

B) General Land Use

Table 2: Mink River Estuary GCA Land Use Percentages

Total Land Use	% Land Use Totals
Woodlands	49.0903%
Croplands/Pastures	17.0694%
Open Space	15.9561%
Tree Plantations	4.7485%
Other Natural Areas, including Wetlands	4.4075%
Single-Family Residential	3.5055%
Long-Term Specialty Crops	2.4087%
Farm Buildings/Accessories	0.6776%
Local Streets and Roads	0.5841%
Extractive	0.3515%
Retail Sales	0.3032%
State Highways	0.2738%
County Highways	0.1570%
Police/Fire Stations/Offices	0.0855%
Enclosed Storage	0.0840%
Reservoirs and Ponds	0.0757%
Mobile Homes	0.0477%
Two Family	0.0375%
Cemeteries	0.0280%
Churches/Temples/Synagogues	0.0234%
Vacant Farms	0.0203%
Off-Street Parking	0.0175%
Wholesaling	0.0157%
Tennis Courts	0.0117%
Retail Services	0.0106%
Home Enterprise	0.0091%
Vacant Residential	0.0000%

C) Liberty Grove Smart Growth Plan Objectives Consistent with HED BMPs

Goal: Agricultural Resources

#3: Encourage the use of sound agricultural and soil conservation methods to minimize soil erosion and groundwater contamination.

Goal: Natural Resources

#1: Maintain and improve the quality of groundwater and surface waters within the confines of the Town.

#2: Preserve wetlands.

#6: Encourage provision of natural corridors for species exchange between major environmental land holdings.

Goal: Housing and Populations (Manage, through planning, high density development to preserve rural, open, and natural character of the Town of Liberty Grove)

#2: Minimize environmental impact of multi-unit housing.

Goal: Intergovernmental Cooperation

#1: Work with neighboring communities to discuss any unique features and other land uses which span municipal boundaries.

Goal: Land Use

#2: Encourage groundwater protection within the Town.

Liberty Grove Community Accomplishments Satisfying HED BMPs

In 2011, the town of Liberty Grove participated in a well water quality program through the UW-Extension office at the Center for Watershed Science and Education in Stevens Point, Wisconsin. The purpose of this program is to educate home owners on the quality of their drinking and groundwater by providing them information on the characteristics of the aquifer in which their well is placed and encouraging further testing. This program also aims to assess the condition of private wells (as they are not required to be tested unlike public wells) statewide. Well tests are separated into 3 packages, all of which Liberty Gove participated in. Package 1 includes tests for bacteria, nitrates, chlorides, pH, alkalinity, hardness and corrosivity. Package 2 tests for metals and package 3 screens for atrazine related pesticides. As a result, landowners who participated in well water testing have a better understanding of the bedrock geology in Door County and the karst groundwater system as a whole. This will aid in instilling a sense of stewardship for promoting groundwater protection for the HED.

Since 2007, the town of Liberty Grove requested that it take priority in the Door County Sanitarian testing of all private onsite wastewater treatment systems (POWTS) due to the interest of board members and citizens. Following a citizen survey designating water quality as the highest importance, holding tanks, conventional systems and mound systems were surveyed and most steel holding tanks were replaced with concrete systems. All POWTSs within Liberty Grove were checked within a five year period and found to be compliant with Wisconsin State code.

Note: A portion of Liberty Grove occurs in the Reiboldts Creek and Ridges Sanctuary GCA and the town has taken a measure of action to protect the HED in habitats occurring along Lime Kiln Road in this GCA. Along the graveled portion of the road the town has placed 15 MPH speed limit signs along with a sign depicting a dragonfly. This was done to slow vehicle speeds in order to avoid dragonfly/vehicles collisions as automobiles driving at speeds higher than 15 MPH may result in HED adult mortality.

D) Existing Special Interest Groups and Local Stakeholders

- TNC is a major stakeholder as main landowner and manager of the Mink River wetlands which support HED critical habitat.
- The Clearing is a folk school located in Ellison Bay, WI. Their mission is to provide diverse educational experiences and encourage adults to share their interest in nature, arts or humanities. Although The Clearing is not within a GCA, many of their goals overlap with HED BMP objectives and partnering on outreach efforts will reach more audiences.

- Existing private tree plantations occupy over 4% of the land use in this GCA.
- The Northern Door Kiwanis Club is a service based organization interested in giving back to the community.
- The Rowleys Bay campground is a large private campground in this GCA that hosts many visitors to Door County every camping season.

Three Springs Creek Groundwater Contribution Area

A) The Three Springs Creek Area Landscape

The Three Springs Creek GCA exists within the town of Liberty Grove and is approximately 745 acres in size. It includes the WDNR designated North Bay State Natural Area. The DCLT owns and manages the “Harold C. Wilson Three Springs Nature Preserve” in this GCA which supports HED breeding habitat. Three Springs Creek is an important coastal wetland corridor. In addition to providing critical habitat for the HED it is an important spawning area for Great Lakes migratory fish.

B) General Land Use

Table 3: Three Springs Creek GCA Land Use Percentages

Land Use Type	% Land Use Totals
Open Space	35.4258%
Woodlands	32.4279%
Croplands/Pastures	15.4350%
Tree Plantations	6.8636%
Single-Family Residential	3.1556%
Long-Term Specialty Crops	2.1972%
Other Natural Areas, including Wetlands	0.9706%
Farm Buildings/Accessories	0.7931%
Local Streets and Roads	0.7802%
Solid Waste Separation/Recycling Plants	0.4676%
Extractive	0.4084%
Retail Services	0.3199%
County Highways	0.2632%
Enclosed Storage	0.2604%
Manufacturing	0.1882%
Retail Sales	0.0431%

C) Liberty Grove Smart Growth Plan Objectives Consistent with HED BMPs

Refer to page 3 above

Liberty Grove Community Accomplishments Satisfying HED BMPs

Refer to page 4 above

D) Existing Special Interest Groups and Local Stakeholders

- The DCLT manages the 421 acre preserve within the Three Springs watershed.
- Private tree plantations occupy almost 7% of the land use in this GCA.

North Bay Marsh Groundwater Contribution Area

A) The North Bay Marsh Area Landscape

The North Bay Marsh GCA lies within the town of Liberty Grove. Consisting of 556 acres, this GCA includes part of the WDNR designated North Bay State Natural Area.

B) General Land Use

Table 4: North Bay Marsh GCA Land Use Percentages

Land Use Type	% Land Use Totals
Woodlands	75.89754%
Croplands/Pastures	9.25971%
Open Space	6.68533%
Other Natural Areas, including Wetlands	3.58674%
Tree Plantations	1.05019%
Single-Family Residential	0.99883%
County Highways	0.98702%
Local Streets and Roads	0.60106%
Beaches	0.35956%
Long-Term Specialty Crops	0.26179%
Enclosed Storage	0.13978%
Farm Buildings/Accessories	0.09667%
Reservoirs and Ponds	0.05562%
Mobile Homes	0.02013%
Campgrounds	0.00002%

C) Liberty Grove Smart Growth Objectives Consistent with HED BMP Project Objectives

Refer to page 3 above

Liberty Grove Community Accomplishments Satisfying HED BMPs

Refer to page 4 above

D) Existing Special Interest Groups and Local Stakeholders

- TNC owns and manages lands both north and south of the North Bay GCA and frequently communicates with the private landowners in the area.
- Door Sand Hill Farm own over 220 acres of land within the southern buffer of the North Bay GCA.
- The Aqualand campground is a large private campground in this GCA that hosts many visitors to Door County every camping season.

Ephraim Swamp Groundwater Contribution Area

A) The Ephraim Swamp Area Landscape

The Ephraim Swamp GCA consists of 1,045 acres and is located in the towns of Liberty Grove and Gibraltar, with the eastern portion extending into Baileys Harbor. This GCA includes a large number of residential homes.

B) General Land Use

Table 5: Ephraim Swamp GCA Land Use Percentages

Land Use Type	% Land Use Totals
Woodlands	36.6959%
Croplands/Pastures	28.6777%
Open Space	21.4714%
Single-Family Residential	3.3927%
Tree Plantations	3.0780%
Long-Term Specialty Crops	2.1606%
Farm Buildings/Accessories	0.9191%
Local Streets and Roads	0.8142%
Major Electric Power Transmission Line	0.5244%
Home Enterprise	0.3817%
Retail Sales	0.2753%
Wholesaling	0.2669%
State Highways	0.2637%
Mobile Homes	0.2097%
Manufacturing	0.2095%
Enclosed Storage	0.1887%
Animal Husbandry	0.1763%
County Highways	0.1498%
Storage	0.0657%
Commercial	0.0378%
Vacant Farms	0.0282%
Other Natural Areas, including Wetlands	0.0128%

C) Gibraltar Comprehensive Plan Objectives Consistent with HED BMPs

Goal 1: Agricultural & Natural Resources

Objective 1.2: Preserve and protect the quality of ground and surface waters within the Town.

Activity:

- Identify and protect through zoning overlays critical ground water recharge areas.
- Inventory the type and status of every sewage disposal system within the Town every five years, and require needed upgrades on failing systems within 12 months.
- Promote or require the construction of cluster wastewater treatment and other state of the art systems in areas where the Town determines they would be most appropriate for ensuring effective treatment practices.
- Require the certified delineation of rock holes, crevices and caves as a prerequisite to the issuance of a County of local building permit. In addition, ensure enforcement of County and state rules relating to the filling of crevices and rock holes within Town.

Objective 1.3: Protection and preservation of environmental corridors, (as defined on page 2-26 of narrative) green space, forests, environmentally sensitive areas, endangered species, parks and wildlife habitat in the Town.

Activity:

-Identify, inventory and map environmental corridors, open space, forests, environmentally sensitive areas, vistas, geological features, archeological sites and endangered species within the Town.

Goal 1: Utilities

Objective 1.1: Preserve and protect the quality of ground and surface waters within the Town of Gibraltar.

Activity:

-Implement measures to minimize storm water runoff into the Bay and other surface waters in the Town.

-Require all new construction developments adhere to minimum standards of storm water runoffs.

-Promote the construction of “cluster” wastewater treatment systems in areas unserviceable by sanitary sewers.

-Protect all wetlands within the Town.

Goal 1: Land Use

Objective 1.2: Maintain and/or improve the quality of our water and its sources (wetlands, springs, streams, and lakes) within and around the Town.

Activity:

-Promote the use of “cluster” wastewater treatment or other state of the art systems in areas where the Town determines they would be appropriate.

-All future development shall minimize storm water runoff and provide an approved storm water plan before a construction permit can be issued.

Goal 1: Intergovernmental Cooperation

Objective 1.1: Work with neighboring communities to discuss any unique natural features and other land uses which span municipal boundaries.

Activity:

-Work with neighboring communities to identify shared natural features such as wetland recharge areas and natural habitat areas.

Gibraltar Community Accomplishments Satisfying HED BMPs

In 1998, a special interest group from Gibraltar conducted a Fish Creek watershed study. They began a baseline inventory of surface waters which continues today. Five sites are tested for physical, biological and chemical parameters. This was one of the first volunteer monitoring programs in the State and the WDNR awarded members for their work. Coordinating and participating in this project has educated a number of community members about Door County's sensitive surface and groundwater supplies and will aid in promoting groundwater protection for the HED.

In 2012, the town of Gibraltar participated in a well water quality project with the UW-Extension office at the Center for Watershed Science similar to the town of Liberty Grove project (*see page 4*). Wells were tested for bacteria, nitrates, chlorides, pH, alkalinity, hardness and corrosivity (package 1). As a result, landowners who participated in well water testing have a better understanding of the bedrock in Door County and the karst groundwater system. Participation in this program will lay the foundation for promoting groundwater protecting for the HED.

D) Existing Special Interest Groups and Local Stakeholders

- Private tree plantations occupy over 3% of the land use in the Ephraim Swamp GCA.
- American Transmission Company (ATC) owns land within the Ephraim Swamp GCA. ATC is usually interested in collaborating on special interest projects with state and local stakeholders.

Reiboldts Creek and Ridges Sanctuary HED Habitat Groundwater Contribution Area

A) The Mud Lake Area Landscape

The Reiboldts Creek and Ridges Sanctuary GCA includes approximately 7,302 acres of land in the town of Baileys Harbor and extends north into Liberty Grove. The WDNR has protected all of the land around Mud Lake especially for migratory waterfowl. This GCA also includes the WDNR designated Ridges Sanctuary State Natural Area. Wisconsin's oldest member-based nature preserve and first land trust, The Ridges Sanctuary, owns and manages over 1,500 acres within the watershed.

B) General Land Use

Table 6: Reiboldts Creek and Ridges Sanctuary GCA Land Use Percentages

Land Use	% Land Use Totals
Woodlands	31.7697%
Other Publicly-Owned Natural Areas	15.6632%
Croplands/Pastures	13.1719%
Open Space	12.1573%
Wildlife Refuges	12.0103%
Single-Family Residential	2.7328%
Tree Plantations	2.6803%
Nature Study Areas	2.0000%
Lakes	1.4897%
Extractive	1.1629%
Long-Term Specialty Crops	1.1365%
Other Natural Areas, including Wetlands	1.0677%
Local Streets and Roads	0.4471%
Farm Buildings/Accessories	0.3939%
Parks/Parkways/Forest-Related Picnic Area	0.3864%
County Highways	0.3233%
Retail Services	0.2391%
State Highways	0.2344%
Campgrounds	0.2079%
Home Enterprise	0.1389%
Wholesaling	0.0899%
Enclosed Storage	0.0752%
Retail Sales	0.0735%
Beaches	0.0546%
Reservoirs and Ponds	0.0522%
Vacant Farms	0.0350%
Open Storage	0.0341%
Vacant Residential	0.0319%
Commercial	0.0313%
Multi-Family	0.0299%
Manufacturing	0.0225%
Mobile Homes	0.0192%
Storage	0.0141%
Major Electric Power Transmission Line	0.0097%
Residential	0.0087%
Transmission of Communic/Utilities	0.0045%
Other Water Access Sites/Areas	0.0004%

C) Baileys Harbor Smart Growth Plan Objectives Consistent with HED BMPs

Goal 1: Preserve Natural Resources

Objective 1.1 Ensure the safe usage of all harbor waters, lake waters (Lake Michigan and Kangaroo Lake), shorelines, marinas, commercial fishing docks, beaches, creeks and watersheds.

Policy 1.1d: Identify those areas within the town where susceptibility to groundwater contamination is highest and develop plans to ensure that land use within these areas occurs in a manner consistent with protecting groundwater.

Objective 1.2: Cooperate in the protection and preservation of Baileys Harbor's unique biological and other natural resources.

Policy 1.2a: Support continued open and cooperative relationships, especially the sharing of information between all resource conservation groups (e.g., The Ridges, The Nature Conservancy, The Door County Land Trust, Wisconsin Department of Natural Resources, University of Wisconsin, UW-Extension, etc.) and encourage stewardship of Baileys Harbor's unique biological resources.

Policy 1.2e: Continue to cooperate with adjacent communities when one or the other's actions impact shared natural resources.

Policy 1.2h: Coordinate with Door County and WDNR to encourage farmers, growers, park managers, golf course managers, and developers to implement best management practice to reduce nonpoint source water pollution.

Policy 1.2j: Partner with Door County Land Trust and similar groups to protect wildlife habitat areas. Encourage local landowners to pursue opportunities to protect their land through the use of conservation easements.

Policy 1.2k: utilize the Zoning and Subdivision ordinances to establish a network of green corridors through the community to link riparian buffers and existing habitat areas to create wildlife habitat and migration routes.

Goal 5: Ensure development protects environmentally sensitive areas.

Objective 5.1: Ensure that land use management ordinances in place in the town such as zoning recognize important natural areas.

Policy 5.1a: With environmental experts, examine zoning regulations to ensure protection of natural areas as development occurs.

Objective 5.2: Educate property owners about tools such as deed restrictions/conservation easements to protect private land.

Policy 5.2a: Encourage/sponsor educational programs regarding environmental issues facing the town and how landowners can work private to address those issues.

Goal 11: The Town of Baileys Harbor shall provide or promote utilities to service the current community and anticipated growth within the community.

Objective 1.1: Safely operate a system for wastewater treatment within the community that anticipates growth while preserving and upgrading existing waste collection and treatment facilities.

Policy 11.1e: Amend the Subdivision Ordinance to encourage or require the use of alternative wastewater treatment systems outside of the core area.

Objective 11.2: Provide that sewer and storm water drainage systems and periodic maintenance thereof be consistent with minimizing adverse impact to the community's groundwater and shore waters.

Policy 11.2d: Utilize where possible such tools as retention ponds and dry-wells to collect storm water discharge.

Objective 11.5: Provide adequate solid waste and recycling services through outside contractors to the community.

Policy 11.5b: Provide information (date and location) to residents regarding drop-off point for hazardous materials, recyclables, and compost material.

Goal 13: Promote cooperation between the town of Baileys Harbor and any other governmental agency that make decisions impacting the town.

Objective 13.2 The Town of Baileys Harbor shall work with neighboring communities and other pertinent agencies to discuss land use issues that span municipal boundaries.

Policy 13.2a: Encourage an annual review of zoning/planning issues with neighboring towns and create process to notify each other of potential land use conflicts.

Baileys Harbor Community Accomplishments Satisfying HED BMPs

The Baileys Harbor Community Association went through a “branding session” in early 2012 to discuss a marketing brand and cohesive theme for developing marketing materials for the town. Local business owners and citizens recognized The Ridges Sanctuary as a primary attraction for tourism in the area, which supports critical habitat for the HED.

Over 47% of land in Baileys Harbor is preserved. The community is thriving even though no taxes are generated from these public lands.

Note: Refer to the “Mink River Estuary Groundwater Contribution Area” (page 4) for information on protective measures taken for the HED along Lime Kiln Road in this GCA by the town of Liberty Grove.

D) Existing Special Interest Groups and Local Stakeholders

- The Ridges Sanctuary owns and manages the ridge-swale embayment complex which includes the most extensive HED critical habitat area within Door County. The town of Baileys Harbor and The Ridges Sanctuary collaborate on educating visitors and residents about natural history, endangered resources and groundwater protection.
- The WDNR manages the 155 acre Mud Lake State Natural Area.

- Premier Concrete Inc. (PCI) is a local quarry and excavating business. PCI has previously partnered with local groups on various natural resource education programs.
- The Villagers Snowmobile Club is an active group that works with local landowners to encourage land stewardship and foster relationships to connect snowmobile trails.
- The Northern Door Rotary Club meets weekly in Baileys Harbor. Dedicated to *Service Above Self*, they are interested in continuing education opportunities.

Baileys Harbor Swamp Groundwater Contribution Area

A) The Baileys Harbor Swamp Area Landscape

The majority of the 2,227 acres Baileys Harbor Swamp GCA exists within Baileys Harbor and Gibraltar, with parts of the GCA buffer area extending into Liberty Grove and Egg Harbor. Baileys Harbor Swamp is a densely forested boreal wetland. The WDNR owns and manages a large portion of the area including the area designated as HED critical habitat.

B) General Land Use

Table 7: Baileys Harbor Swamp GCA Land Use Percentages

Land Use	% Land Use Totals
Woodlands	27.8821%
Croplands/Pastures	25.8104%
Open Space	18.7798%
Other Publicly-Owned Natural Areas	9.9369%
Tree Plantations	4.4879%
Wildlife Refuges	2.9386%
Single-Family Residential	2.9187%
Long-Term Specialty Crops	1.6705%
Other Natural Areas, including Wetlands	1.4320%
Extractive	1.3997%
Farm Buildings/Accessories	0.9299%
Local Streets and Roads	0.5303%
State Highways	0.3289%
County Highways	0.3047%
Major Electric Power Transmission Line	0.2637%
Retail Sales	0.1576%
Vacant Residential	0.0792%
Home Enterprise	0.0313%
Mobile Homes	0.0254%
Enclosed Storage	0.0252%
Residential	0.0217%
Vacant Farms	0.0186%
Cemeteries	0.0149%
Churches/Temples/Synagogues	0.0120%

C) Baileys Harbor Smart Growth objectives consistent with HED BMP project objectives

Refer to page 11 above

Baileys Harbor Community Accomplishments Satisfying HED BMPs

Refer to page 13 above

D) Existing Special Interest Groups and Local Stakeholders

- The Ridges Sanctuary, Wisconsin’s oldest member-based nature preserve and first land trust promotes watershed protection and works with local landowners and businesses through outreach in their “Landowner Stewardship Program”.
- Premier Concrete Inc. (PCI).

Peil Creek Groundwater Contribution Area

A) The Peil Creek Area Landscape

Most of the Peil Creek GCA exists within Gibraltar, with a small portion extending in Egg Harbor and Baileys Harbor. TNC owns and manages the Meissner Preserve which is located in the headwaters of Peil Creek (discharges to Kangaroo Lake). The Meissner Preserve supports HED critical habitat as well as a northern pike spawning area. The 544 acre Peil Creek GCA is contiguous with that of the nearby Baileys Harbor Swamp and Mud Lake GCAs which together support several HED critical habitat areas.

B) General Land Use

Table 8: Peil Creek GCA Land Use Percentages

Land Use Type	% Land Use Totals
Croplands/Pastures	56.2257%
Woodlands	21.2907%
Open Space	6.2090%
Other Natural Areas, including Wetlands	4.1472%
Long-Term Specialty Crops	3.3905%
Single-Family Residential	2.6458%
Farm Buildings/Accessories	1.8574%
Tree Plantations	1.8281%
Major Electric Power Transmission Line	1.0939%
County Highways	0.7209%
Local Streets and Roads	0.5012%
Storage	0.0527%
Enclosed Storage	0.0368%

C) Gibraltar Comprehensive Plan Objectives Consistent with HED BMP Project Objectives

Refer to page 8 above

Gibraltar Community Accomplishments Satisfying HED BMPs

Refer to page 10 above

D) Existing Special Interest Groups and Local Stakeholders

- ATC
- TNC

Arbter Lake Groundwater Contribution Area

A) The Arbter Lake Area Landscape

The 283 acre Arbter Lake GCA is positioned in Sevastopol. The small town of Valmy lies in the Northwest portion of the GCA. TNC owns over 42 acres of the wetland around Arbter Lake which supports HED critical habitat.

B) General Land Use

Table 9: Arbter Lake GCA Land Use Percentages

Land Use Totals	% Land Use Totals
Woodlands	41.5696%
Croplands/Pastures	41.1701%
Tree Plantations	6.8836%
Single-Family Residential	3.3169%
Open Space	3.2143%
Reservoirs and Ponds	1.2670%
Farm Buildings/Accessories	1.1327%
Local Streets and Roads	0.6464%
State Highways	0.2717%
County Highways	0.2605%
Retail Sales	0.1011%
Retail Services	0.0969%
Vacant Commercial	0.0692%

C) Sevastopol Comprehensive Plan objectives consistent with HED BMPs

Chapter 4: Housing Element

Goal 1: Enhance the environmental assets and residential atmosphere of the Town so that it continues to be an attractive place to live.

Objectives:

-Honor care for any desired development in floodplains, wetlands and environmentally sensitive areas.

-Encourage “low impact” development, including conservation subdivisions, within the Town to reduce storm water runoff and flooding.

Chapter 7: Agricultural, Natural, and Cultural Resources Element

Goal 1: Protect wetlands in the Town of Sevastopol.

Objectives:

- To the extent practicable, areas immediately adjacent to and surrounding wetlands should be developed using techniques to minimize effects on wetlands (e.g. buffers, setbacks, etc.).

Goal 3: Preserve and enhance wildlife habitats.

Objectives:

- Partner with local and trusts to protect wildlife habitat areas. Encourage local landowners to pursue opportunities to protect their land by working with land trusts.
- Coordinate with WDNR to better identify and protect wildlife habitats, particularly those unique to the community.

Goal 4: Protect the quality of surface and groundwater.

Objectives:

- Coordinate with the DCSWD and WDNR to implement agricultural and residential best management practices to reduce nonpoint source water pollution.
- Encourage farmers to use available manure management technology.
- Encourage residents to replace lawns with native species and use rain gardens to encourage infiltration of storm water and recharge to groundwater.
- Discourage the over-application of phosphorus- and nitrogen- based fertilizers.
- Coordinate with Door County and BLRPC to educate homeowners on the need for property maintenance of private well and onsite wastewater treatment systems, require periodic testing of private well water, and plan for eventual well, pump or drain field replacements.
- Strongly encourage or require water conservation and use of water saving devices such as low-flow showerheads and toilets within homes.
- Require conservation subdivision principals for all residential developments occurring in sensitive ecological areas or prime agricultural lands.

Goal 6: Preserve and protect Sevastopol's groundwater to ensure a long-term, viable source of potable water for current and future residents of the Town.

Objectives:

- Identify those areas with in the Town where susceptibility to groundwater contamination is highest and develop plans to ensure that land use within these areas occurs in a manner consistent with protecting groundwater.
- Develop an information and education strategy aimed at providing Town residents with the tools to protect their potable water supply.

Chapter 9/10: Land Use Elements

Goal 2: Maintain and enhance environmental corridors in the Town of Sevastopol.

Objectives:

-Reduce fragmentation of wooded areas and open spaces which negatively affect wildlife and rural character by establishing a Critical Areas Overlay district.

D) Existing Special Interest Groups and Local Stakeholders

- TNC has identified the wetlands associated with Arbter Lake and the surrounding area to be of conservation interest. They have previously worked with adjacent landowners to preserve some of these tracts.

Kellner Fen Groundwater Contribution Area

A) The Kellner Fen Area Landscape

The Kellner Fen GCA occurs within the town of Sturgeon Bay. The 559 acre recharge area includes portions of the Cave Point to Clay Banks Conservation Opportunity Area and State Natural Area, as designated by the WDNR. The DCLT owns and manages a major part of Kellner Fen, which is designated as critical habitat for the HED. The fen is historically known for cranberry production, and for that purpose two ditches were excavated to drain the fen through a dune area into Lake Michigan. The north ditch currently has a perennial flow while the southern ditch has been filled by natural debris and no longer carries water away from the fen.

B) General Land Use

Table 10: Kellner Fen GCA Land Use Percentages

Land Use Type	% Land Use Totals
Woodlands	63.8493%
Croplands/Pastures	14.5834%
Tree Plantations	10.8383%
Reservoirs and Ponds	5.4145%
Open Space	1.9596%
Archery/Gun/Skeet Ranges	1.7518%
Single-Family Residential	0.6367%
Farm Buildings/Accessories	0.3420%
Local Streets and Roads	0.2785%
County Highways	0.2229%
Vacant Residential	0.0941%
Extractive	0.0286%
Retail Services	0.0004%

C) Sturgeon Bay Comprehensive Plan Objectives Consistent with HED BMPs

Goal 7: The Town Board of Supervisors will adopt a conservation subdivision ordinance when implemented by the county to encourage the preservation of natural areas, minimize the impact of urban sprawl and protect farmland in the town.

Goal 8: The Town Board of Supervisors will develop a web page which can be used to provide information on town services and education on the responsibilities and limitations of life in the Town of Sturgeon Bay.

Goal 10: The Town Planning Commission will work with the Door County Planning Department to provide clearly stated environmental standards for the Town of Sturgeon Bay to protect environmentally and culturally sensitive areas as well as air and water quality. The Town Board of Supervisions will refer all commercial development matters to the Door County Planning Department.

Goal 20: The Town Board of Supervisions will avoid the construction of roads in any area which would endanger or damage significant natural habitats, wetlands or environmental corridors.

Goal 24: The Town Board of Supervisions will post links on the town website to assist in educating farmers and other landowners about new developments and best practice methods of agricultural land use, water conservation, and waste disposal.

Goal 25: The Town Board of Supervisors will appoint a committee to communicate with the Door County Planning Department, the University of Wisconsin Extension Service, the Door County Environmental Council and the Wisconsin Natural Resources to develop programs and distribute information to educate and inform the public about environmental resources within the Town of Sturgeon Bay. The board will use the town web page and all means available to disseminate this information.

Goal 26: The Town Board of Supervisions will post land use regulations pertaining to the protection of sensitive environmental areas on the Town of Sturgeon Bay web page.

Goal 27: The Town of Supervisors will strongly request the maintenance of a no building zone from delineated wetlands in accordance with the adopted zoning ordinance and encourage the County Board to maintain or increase this setback.

Goal 28: The Town Board of Supervisions will encourage landowners to protect their land by working with the Door county Land Trust and/or other conservation groups to protect wetlands, shorelands, ridges and swales, and farmland.

Goal 31: The Town Board of Supervisions will work with Door County to provide well-head and groundwater protection.

Goal 33: The Town Board of Supervisors will work with property owners to encourage the preservation of significant sites.

Goal 44: The Town Board of Supervisors will coordinate with WDOA, WDOT, and WDNR in an effort to ensure facilities and services that are safe and that natural features and farmland that are protected.

D) Existing Special Interest Groups and Local Stakeholders

- DCLT is an important stakeholder as it owns and manages a significant amount of the HED critical habitat in this GCA.
- Evergreen Nursery Inc. owns over 350 acres within the GCA.
- The Door County Rod and Gun Club own almost 80 acres on the west side of the Kellner Fen GCA.
- Two Rotary Clubs meet weekly in Sturgeon Bay. Dedicated to *Service Above Self*, they are interested in continuing education opportunities.

Gardner Swamp Groundwater Contribution Area

A) The Gardner Swamp Area Landscape

This 5,841 acre GCA exists in the town of Gardner, with the southern edge extending into Brussels. It has the largest recharge area of any of the HED GCAs in Door County. This GCA includes a large number of residential homes. The WDNR manages the public lands around Kayes Creek and the Gardner wetland corridor which supports HED critical habitat.

B) General Land Use

Table 11: Gardner Swamp GCA Land Use Percentages

Land Use Type	% Land Use Totals
Croplands/Pastures	39.4104%
Woodlands	36.7264%
Open Space	13.8767%
Single-Family Residential	2.7456%
Tree Plantations	1.7610%
Farm Buildings/Accessories	1.0633%
Long-Term Specialty Crops	0.8601%
County Highways	0.6426%
Campgrounds	0.5664%
Local Streets and Roads	0.5529%
Grasslands	0.2346%
Extractive	0.2285%
Reservoirs and Ponds	0.2007%
Mobile Homes	0.1660%
Air Related	0.1652%
Parks/Parkways/Forest-Related Picnic Area	0.1472%
Retail Services	0.1051%
Retail Sales	0.0848%
State Highways	0.0753%
Playfields/Ball Diamonds/Volleyball Court	0.0465%
Other Natural Areas, including Wetlands	0.0448%
Cemeteries	0.0448%
Waste Processing/Disposal/Recycling	0.0283%
Enclosed Storage	0.0278%
Commercial w/Living Quarters	0.0264%
Manufacturing	0.0255%
Multi-Family	0.0251%
Wholesaling	0.0250%
Home Enterprise	0.0199%
Animal Husbandry	0.0170%
Churches/Temples/Synagogues	0.0135%
Religious and Related Facilities	0.0090%
Off-Street Parking	0.0082%
Administrative Buildings	0.0075%
Storage	0.0070%
Tennis Courts	0.0046%
Post Offices	0.0026%
Administrative Institutions/Governmental	0.0021%
Fraternal Organizations/Clubhouses	0.0019%

C) Gardner Smart Growth Objectives Consistent with HED BMPs

Erosion and Storm Water control Ordinances: Under 61.354 of the Wisconsin Statutes, the Town may enact a construction site erosion control and storm water management zoning ordinance. Door County has an adopted Erosion Control ordinance in place. The purpose of such an ordinance is to protect water quality and to minimize the amount of sediment and other pollutants carried by runoff or discharged from construction sites to lakes, streams, and wetlands.

Sanitary Codes: The County has adopted on-site waste disposal regulations. Groundwater protection is of great importance to both the County and the Town of Gardner. Uncontrolled waste can have detrimental and wide ranging impacts on the health and property values.

Priority 1. Work with Door County to develop a detailed packet of information on what new residents should come to expect when building and living within the rural portions of the county. This information should be readily available to the public, and provided whenever a town permit for new construction is issued.

D) Existing Special Interest Groups and Local Stakeholders

- The WDNR.
- Quietwoods campground is a large private campground in Gardner which hosts many visitors to Door County every camping season.