

Chapter 3 – Overview

The Portage Lakes and their People: Community, Uses and Users, Balancing Priorities, and Caretakers

The Portage Lakes are a regional economic driver and recreational resource, and the center of a community. Thousands of people live along the lakes, and hundreds of thousands of visitors use it for recreation. A management plan for a multi-use resource like the lakes must protect the lakes, while taking into account effects, priorities, and impacts of the community, the resources available, the uses and users, and the organizations tasked with managing the resource. Chapter 3 discusses these.

Priorities of users include access and water that is not choked with nuisance aquatic plants. A healthy habitat and clean, safe water are priorities for maintaining the uses of the lakes. Impacts from uses include stormwater runoff, septic system discharge, habitat and sediment disturbance, nutrients, use of toxic chemicals, and changing the landscape, which increases runoff and attracts geese. Managing the lakes will mean balancing resource use and protection. Education and programs to develop an understanding of the lakes and encourage stewardship is an important part of protecting the lakes.

Chapter Organization

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3. The Portage Lakes and their People: Community, Uses and Users, Balancing Priorities, and Caretakers

The Need for Balance on a Multi-Use Resource

The Portage Lakes is where a nature and the human environment interact closely:

- The lakes act as a natural system, but the flow of water is manipulated and controlled.
- This lakes and parks are a regional outdoor recreational resource.
- The lakes support a vibrant community and intensive use by residents, visitors, and businesses.
- The natural lake process, alterations, and uses affect each other.

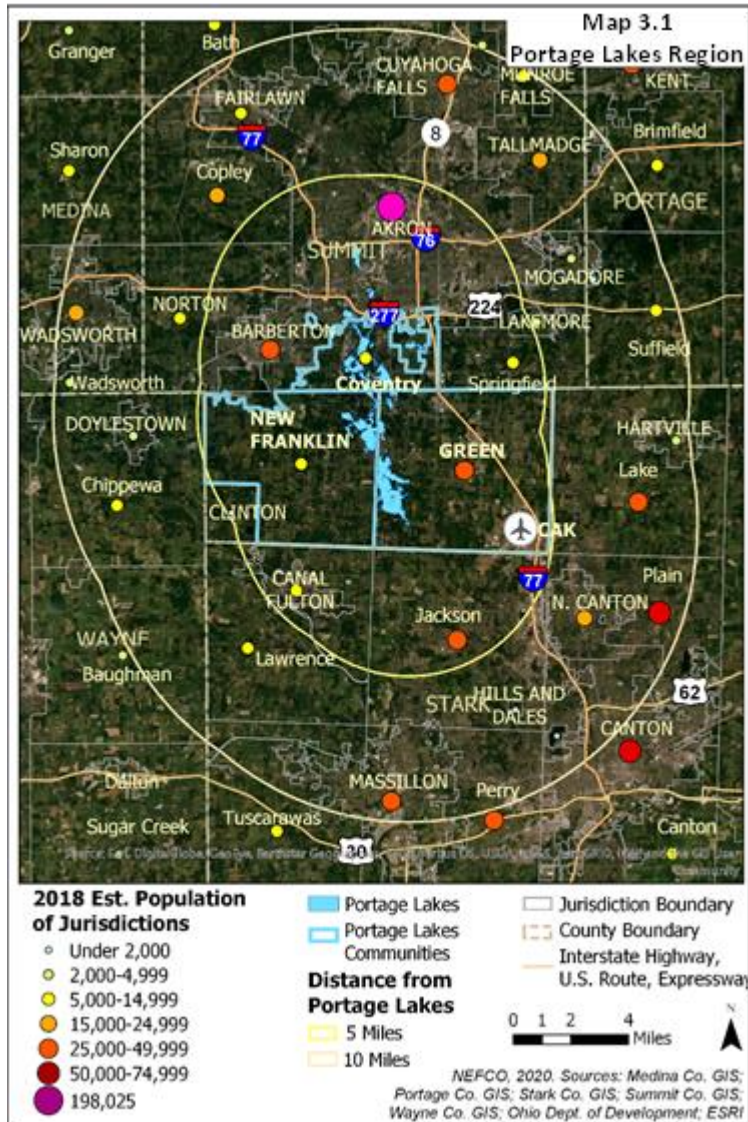
Supporting these activities while maintaining the health of the lakes on which all these activities depend, requires actively managing and supporting the lakes as a multi-use resource, balancing:

- Priorities, practices, needs, capabilities and impacts of many types of uses, users, the communities, and managers, and
- Protection of the water quality and ecosystem on which all the users depend.

This chapter portrays one of the key elements of the management plan – the people side of the equation, briefly describing:

- the regional setting of the lakes;
- the lakes themselves, the community;
- the uses, users, and some conflict areas involving plants; and
- the caretakers.

Priorities and recommendations presented in this chapter are combined with ecological and watershed concerns (Chapters 4-6) into the recommended goals, policies, and actions presented in Chapter 7.



The Portage Lakes Region

The Portage Lakes are between two heavily populated urban areas– the historically industrial areas of Akron-Barberton in southern Summit County, and Canton-Massillon in northern Stark County (Map 3.1.)¹ Canton and Akron are both county seats with County offices, as well as universities and major cultural institutions. Their neighboring communities grew as suburban outgrowth from the cities. Many of the highest-population communities are along the Route 8-Interstate 77 corridor.

Interstate highways and SR-8 provide regional access to Portage Lakes from the north and east. The Portage Lakes are connected to the nearby communities by major roads.

The Portage Lakes are in Coventry Township and the cities of New Franklin and Green. Akron is adjacent to the lakes, and is at the northern entrance to the Portage Lakes area via highways and other major roads. Southern Akron is also in the Portage Lakes watershed.

The Portage Lakes are part of a parks complex that includes the Portage Lakes State Park, two Summit Metro Parks adjacent to the lakes, and the Ohio and Erie Canalway bike-hike path north of Long Lake. These provide an important outdoor recreational resource for the region, with its densely developed urban areas, suburbs, and rural communities:² The parks support a wide variety of popular recreation.

- Nationally, about two-thirds of outdoor recreation trips are within ten miles of home.
- Popular types of recreation include jogging/running, fishing, biking, hiking, camping, nature viewing/nature-based activities, swimming, family gathering/picnicking, paddling, and boating.
- About 30 percent of Ohio households participate in boating. Over 28,000 boats were registered within 10 miles of the Portage Lakes in 2018, with equal amounts motorized or non-motorized.
- The Portage Lakes State Park, Summit Metro Parks, and nearby Ohio and Erie Canalway towpath trail provide opportunities for the most popular recreation categories, as well as others.
- Approximately 293,000 people live within ten miles of the Portage Lakes.³
- An estimated 300,000 people visit the Portage Lakes State Park per year.⁴

Portrait of the Lakes

The natural and recreational resources of the Portage Lakes draw visitors, residents, and businesses to the area. In addition to numerous existing uses, a potential water trail route for paddlers goes through the lakes. This portrait of the lakes is presented from north to south in Maps 3.2- 3.5⁵ and Figures 3.1 and 3.2. Activities shown on the maps will be discussed more specifically later in the chapter.

Long Lake, North Reservoir, and Hower Lake, Map 3.2. These lakes are not accessible by boat from the “Main Chain.” Long Lake is over 40 feet deep, with extensive shallows and dense aquatic vegetation at the margins, especially by the wetlands at the ends. Summit Metro Parks is developing Confluence Park, spanning from the Tuscarawas inlet to the floodgates outletting back to the Tuscarawas. Two boat launch ramps and fishing areas are at the north, and an access is on the southern shore. The Ohio and Erie Canal and Towpath Trail are accessible from Manchester Road near the Metro Park. This lake has residential development and a farm along the margins. Conservation areas protect wetlands at either end, and the Coventry Middle School has a wetland observation station.

Hower Lake is the smallest lake, an original kettle lake over 30 feet deep. It is surrounded by residential development. North Reservoir is a very shallow reservoir, with two fishing areas and a boat launch ramp on State Mill Road. The ODNR District 3 Division of Wildlife headquarters is on Meyers Island.

West and East Reservoirs, Map 3.3. These are “Main Chain” lakes, connected by channels. West Reservoir, also connected to Turkeyfoot Lake, is generally less than 20 feet deep, except for a basin in the northwestern lobe. It has a fishing site and access to marinas and a boat launch ramp along the channel between the reservoir and Turkeyfoot Lake. East Reservoir is over 20 feet deep in parts and has a speed zone. It has two swimming areas, boat clubs, a marina on Cottage Grove Lake, and a marina on Miller Lake. Both reservoirs are largely surrounded by dense residential development, many with docks, and have aquatic vegetation along the margins and coves. The Turkeyfoot Golf Links abut both reservoirs. The channel between West Reservoir and Turkeyfoot lake has marinas, a tour boat, and restaurants/bars with courtesy docks on W. Turkeyfoot Road, one of the business centers of the lakes.

Turkeyfoot Lake, Map 3.4 – This is part of the “Main Chain” and potential water trail route. Depths range from less than 20 feet to over 60 feet. It is the most heavily used lake complex because of the boating, swimming, fishing, and other recreational opportunities of the State Park lands, its size and depth, speed/sailing zone, festivals, marinas and boat clubs, and residences with docks. Rex Lake has two camps – Rotary Camp and Craftsmen Park, a camping area with courtesy slips, and which also hosts the Portage Lakes Rowing Association and Dragon Dream Team dragon boat team. The lake is surrounded by the State Park, Golf Links, agricultural land, and residences. The channel West Reservoir passes through the business center along Turkeyfoot Road, with marinas and restaurants. The margins, shallows and coves have areas of dense aquatic plants.

Nimisila – Map 3.5 is not accessible by boat from the other lakes. It is used less intensively than other lakes due to electric motor requirements, its more remote location, and lack of private docks or marinas. There are several Metro Park areas with boat launch ramps, fishing access, hiking, and camping. There is dense aquatic vegetation in the shallows and coves.



Map 3.2
Long Lake, Hower Lake,
North Reservoir

10/7/2021

Long Lake, North Reservoir, Hower Lake	
Size (acres):	Long Lk 194; North Res. 141; Hower Lk 26
Depth (ft)	Long <10-40+; North 3-9; Hower: <10-30+;
Management	Summit Metro Parks manages Confluence Park. ODNR manages the lakes, shoreline, park lands, dock permits, and dams. Cleveland Museum of Natural History owns the Portage Lakes Wetland Preserve. ODNR maintains channels, clear passages for navigation, dams, canals, water levels for flood control, and flow to Lake Erie basin.
Recreational Opportunities	Boating; fishing; hike/bike trail (Canal Towpath) Boat launch ramps and fishing areas on North Reservoir and Long lake provide access. ODNR Dist. 3 office has a visitor's center. Coventry Middle School has a wetland observation station. The Long Lake and North Res. boat ramps have purple martin houses.
Land Use	The shoreline of North Reservoir and Hower Lake are largely residential. Business areas are along Portage Lakes Dr., Manchester Rd., and S. Main St. Some of the land around Long Lake is residential and agricultural, but there are large areas of wetland conservation lands. Two schools and a shopping area are along Cormany/Manchester Roads.
Aquatic Plants	North Reservoir and the shallow margins and northern end of Long Lake have dense growth.

NEFCO, 2020. Sources: ODNR; USGS NHD; Summit County GIS



NEFCO, 2020. Sources: ODNR; USGS NHD; Summit County GIS

West and East Reservoirs	
Size (acres):	West Res.104 East Res 248 total; Miller 27; Cottage Grove 37
Depth (ft)	10-20+
Management	ODNR manages the lakes, shoreline, dock permits; and park lands, and dams. Cleveland Museum of Natural History protects the Portage Lakes Wetland Preserve, northwest of Cat Swamp. ODNR maintains passageways, channels, water levels, flow, and dams.
Recreational Opportunities	Boating, swimming, fishing, hiking in Knapp Park (water enhanced). East Reservoir has a speed zone. Private marinas provide water access. West Reservoir is accessible from the State Park boat launch ramps via a channel. Other Rec. Business Turkeyfoot Lake Golf Links
Land Use	The shoreline and areas near the lakes is predominantly residential, with woods, parks, a golf course, businesses along South Main St. and Portage Lakes Rd. near the Clock Tower. Restaurants, bars, and marinas are along Turkeyfoot Lake Rd. (SR 619) where it crosses the channel between Turkeyfoot Lake and West Reservoir.
Aquatic Plants	Miller Lake, the lake margins, shallows, and coves have dense vegetation growth.



NEFCO, 2020. Sources: ODNR; USGS NHD; Summit County GIS

Turkeyfoot Lake	
Size (acres):	503 total; Mud Lk 88; Rex 53; Latham Bay 35
Depth (ft)	10-20 in NW; <10-60 center; <10-40 Mud Lk
Management	ODNR manages lake, lake margin, state park lands: Dock permits; maintains channels; harvests plants in high-traffic areas, manages water levels for flood control, draws down lakes occasionally, refills them from Nimisila.
Recreational Opportunities	Two State Park areas with boat launch ramps, picnic areas. The State Park also has swimming beach, fishing area, boat camp area in the wooded Latham Bay cove, and numerous landside (water enhanced) activities, including disc golf, hiking trails, pavilions, beach volleyball. The lake has a designated speed zone for water skiing Recreation businesses/organizations (water dependent and water-enhanced) include the golf course; marinas/yacht club, camping, team rowing, special needs summer camp. The New Franklin Tudor House is used for gatherings. The lake is the site of fireworks and festivals like the Dragon Boat races.
Land Use	The shoreline and nearby land is largely, park, residential, recreational businesses, and some agriculture. Businesses along Rte 619 include a marina, tour boat, restaurants/bars.
Aquatic Plants	Latham Bay, coves, shallow margins, and some passageways have dense vegetation.



Nimisila Reservoir	
Size (acres):	769 acres
Depth (ft)	<10-20 feet north; <10-30 feet south
Management	<p>The parks around the reservoir are managed by Summit Metro Parks.</p> <p>ODNR currently does not manage vegetation in Nimisila.</p> <p>ODNR occasionally refills the other lakes from Nimisila Res.</p>
Recreational Opportunities	<p>Camping, hiking, fishing, and access for electric boats and paddling</p> <p>Fishing is prohibited from the dam (south) and the utility access road.</p>
Land Use	Very few residences about the lake, but the lake is within a residential area.
Aquatic Plants	Coves and extensive shallows have dense stands of aquatic plants

Figure 3.1 Lakes Photos – Long Lake, North Reservoir, Hower Reservoir, East Reservoir



Long Lake northern end (left), view from south (right)



Hower Lake, below left

North Res. above North Res. Boat Launch Ramp, State Mill Rd. below right



East Reservoir



Miller Lake

Figure 3.2 Lakes Photos – West Reservoir, Turkeyfoot Lake, Nimisila Reservoir



Iron Channel at entrance to East Reservoir



West Reservoir



*Turkeyfoot Lake - Above left – boaters, anglers, rowers, birds, and homes
Below left – State Park beach*



Turkeyfoot Lake above right – Latham Bay boat camp



Below, right, Rex Lake Craftsmen Park



Nimisila Reservoir from east side

The Lakes Community: Land Use in the Portage Lakes Vicinity

Map 3.6⁶ depicts land use in the Portage Lakes area, mapped from parcel-based tax land use codes, providing insight into how communities are structured and relate to each other. The land use patterns are strongly linked the transportation network and wastewater treatment facilities.

The lakes are largely within the state park, and several other parks, conservation areas, and outdoor recreation opportunities are located along the lakes. The northern portion of the lakes, close to the highways and Akron, is the most intensively developed. The greatest density of housing is in the cities of Akron and, to the west, Barberton, but small parcels are also clustered around the northern lakes. Agricultural use, low-density development, and “vacant” lands are more prevalent in the southern portion of the lakes area.

The major access roads to the Portage Lakes are apparent on Map 3.6:

- Arlington Road is one of the areas of recent commercial development along Route I-77 between Akron, the Akron-Canton Airport, and Canton.
- South Main St. provides access from downtown Akron and Route I-277.
- Manchester Road is the main access to the Portage Lakes State Park and provides access from Akron and Route I-277.
- Turkeyfoot Road is the east-west connector from Manchester and Arlington Roads to the lakes.

Businesses line these gateway roads, contributing to the lakes communities and benefiting from the visitors to the lakes and parks. Map 3.6 highlights businesses along the gateway roads that are directly related to outdoor recreation and visitors (lodging, restaurants and bars, marinas, golf, and camping).



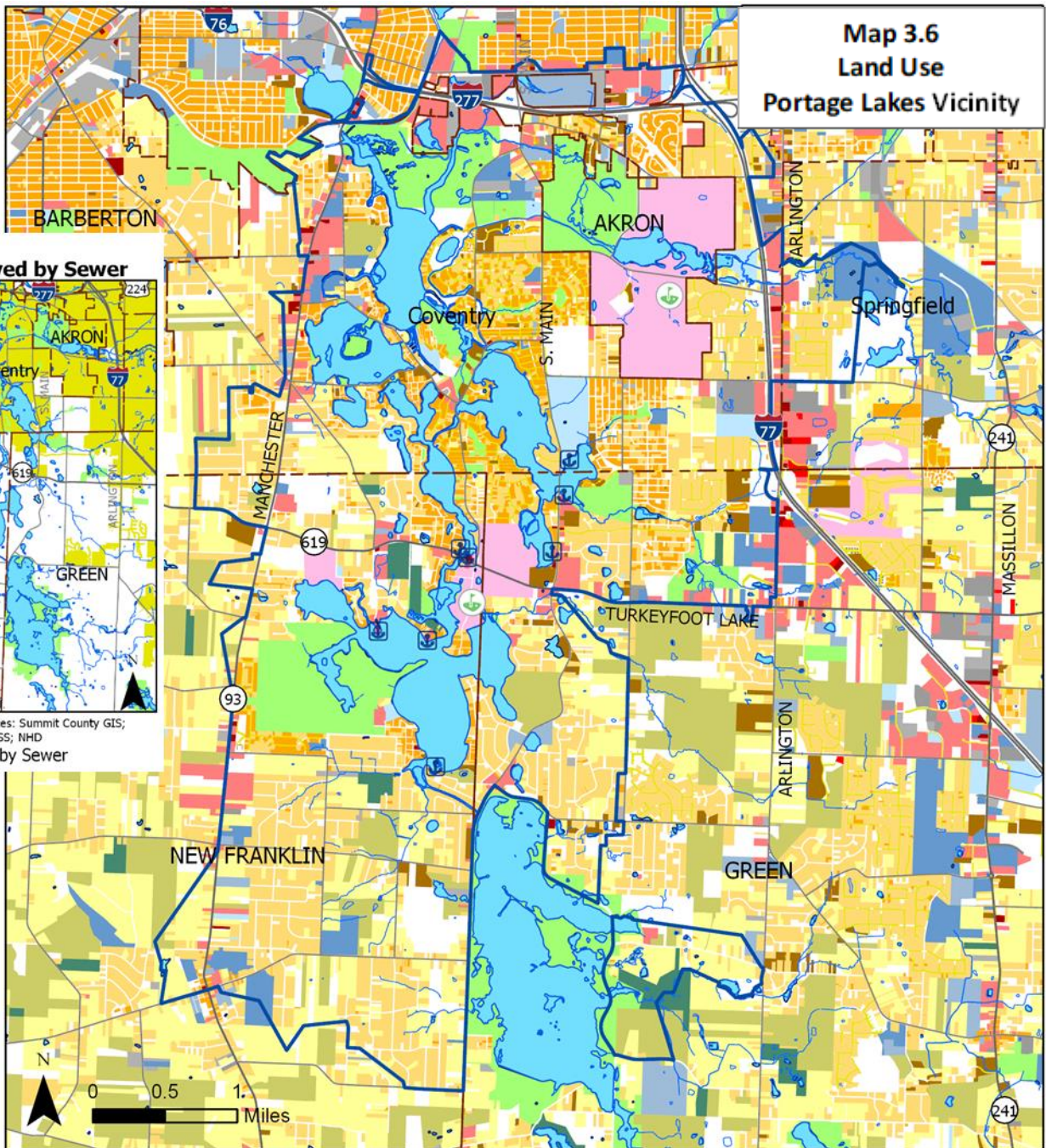
Marina and restaurant on Turkeyfoot Rd.

The Census of Businesses reports that within the 44319 zip code (Map 3.6) are: three boat dealers (out of five in Summit County); 10 drinking establishments; 51 restaurants; and six “other recreation,” which includes both marinas and bowling.⁷

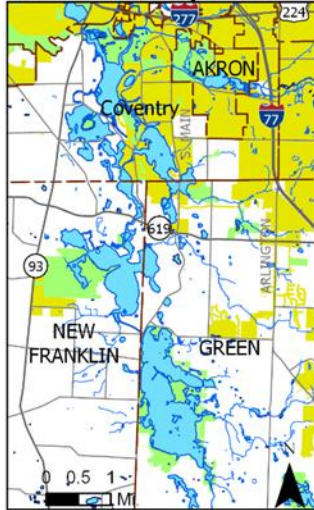


The availability of sanitary sewer service affects the types and intensity of land use that can be developed. The inset Map 3.7 shows areas designated by wastewater treatment Management Agencies as served by sewers. (Other wastewater treatment prescriptions are on the NEFCO website.) Proposed uses must have wastewater treatment measures approved by Ohio EPA in sewered areas or the Summit County Health Dept. in unsewered areas. Most of the areas around the lakes are not currently served by sanitary sewers. Some unsewered areas have concentrations of small-lot residences built prior to the wastewater treatment regulations, which pose an increased risk of poorly functioning septic systems and discharge of nutrients and bacteria to the lakes. The wastewater treatment Management Agencies work with the communities to identify potential areas for future sewer service based on need and feasibility, discussed further in later chapters.

**Map 3.6
Land Use
Portage Lakes Vicinity**



**Map 3.7
Areas Served by Sewer**



NEFCO, 2020. Sources: Summit County GIS; AMATS; Summit DSSS; NHD
Served by Sewer

Land Use by Parcel

NEFCO, 2020. Sources: Summit County GIS; AMATS; NHD; US Census

Agriculture	Commercial	Public	Lakes and Ponds
Forest Land	Golf	Private Institution	Park/Conservation
Residential (ac/DU)*	Campground	Worship/Cemeterie	Jurisdictions
Low (>1.3 ac)	Hotel/Lodging	Industrial/Utility/Trucking	Zip Code 44319
Medium (0.3-1.3)	Restaurant/Bar	Mine/Quarry	Interstate Hwy
High (<0.3 ac)	Marina/Sailing	Vacant	Other Numbered Rte
Multi-family (>2DU) or Mobile Home			Other Major Road

*acres/dwelling unit

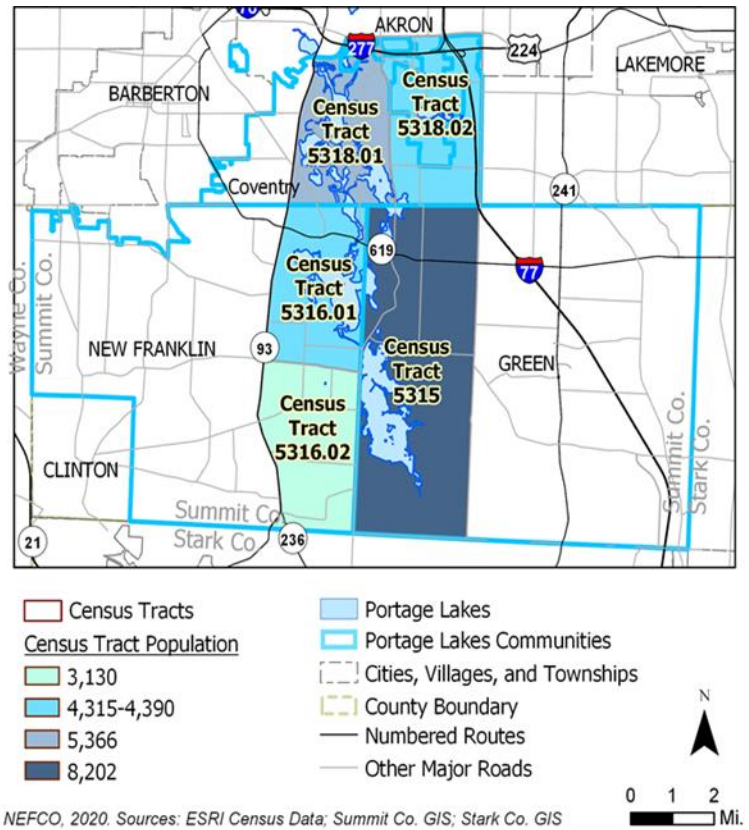
Community Profile

It is helpful to characterize the communities that most affect the lakes and are affected by them. A review of data from the 2018 U.S. Census (estimates, 5-year averages) and the Summit County parcel databases is summarized here.⁸ The full profile and data tables are in Appendix C.

- Overall, the Portage Lakes census tracts are similar to the lakes communities and Summit County.
- Most homes were constructed before 1980; over half before 1960.
- Most householders moved in after 2000, with an increase after 2010.
- Homes built recently in the area tend to have more bedrooms (three or four), compared to the homes built earlier (two or three). New householders moving into older communities may be upgrading the older homes by adding bedrooms.

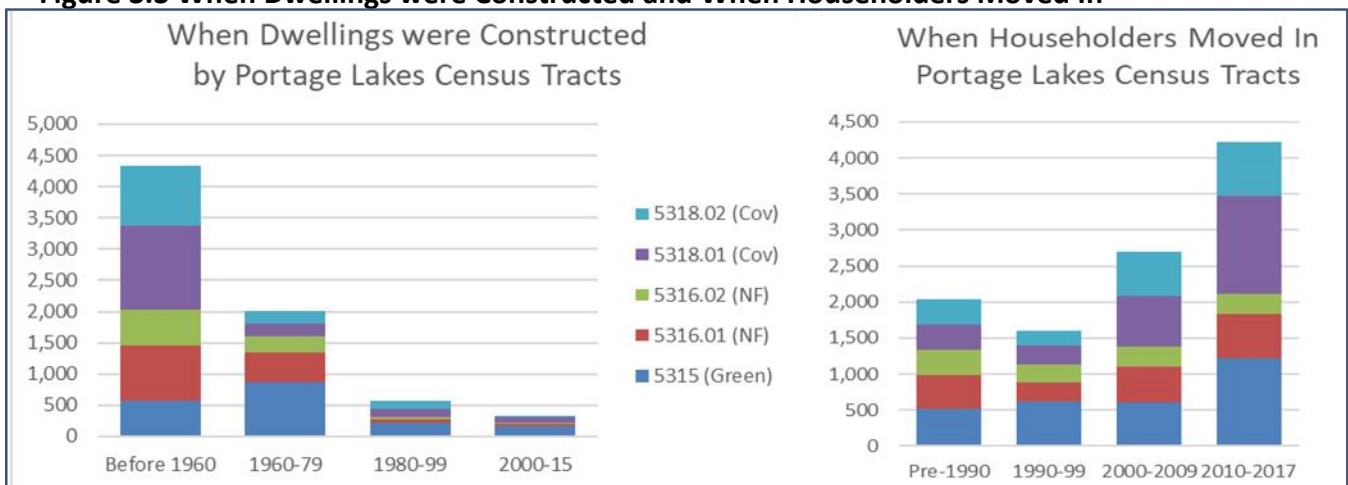
Map 3.8

Population by Portage Lakes Census Tracts (2018 est.)



Shoreline homes, West Reservoir

Figure 3.3 When Dwellings were Constructed and When Householders Moved In



Characteristics such as age, when householders moved in, income, percentage of rentals versus owner-occupied housing, and household size varies between the census tracts. Some census tracts have more families, some have residents who have been there longer, some have a high percentage of rentals. The data support many of the observations by lake residents and partners.

5315, *Green*, population 8,202, has a younger population, more families with children, larger households with more bedrooms, high home-ownership, higher income/house prices, and a high proportion of college-educated people. This area was most heavily developed in the 1960s-80s, more recently than other tracts. People have been moving in steadily, with a substantial increase since 2000.

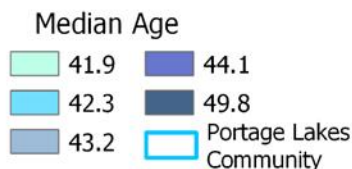
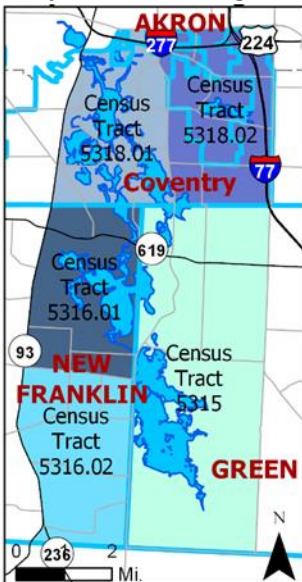
5316.01, *New Franklin*, population 4,316, has an older population, moderate-sized households, high home-ownership, high income, and higher educational attainment. Most homes were built before 1960. People have been moving to the area steadily, but a more moved in before 1990.

5316.02, *New Franklin*, population 3,130, has a large proportion of families with children. It has the highest home-ownership, larger households, more bedrooms, moderate income, and a high proportion of children. Like the other New Franklin census tract, the homes were mostly built in the in the two periods before 1980, and more people moved in before 1990, with people moving in steadily afterward.

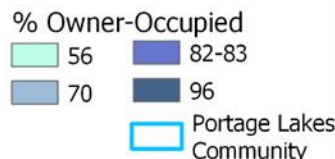
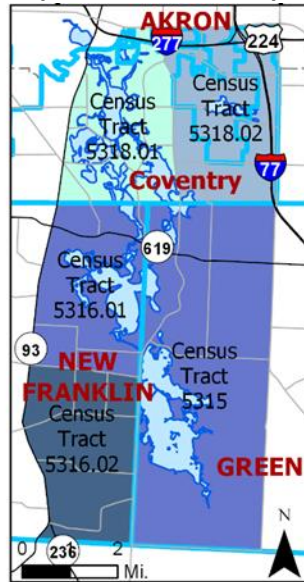
5318.01, *Coventry*, population 5,366, has the largest proportion of renter-occupied homes (lowest owner-occupied), smallest average household size, fewest bedrooms, relatively low income, and a high percentage of college-educated householders. The homes were mostly built before 1960. Most residents moved in after 2000, with the greatest growth after 2010.

5318.02, *Coventry*, population 4,348, has an older population (higher median age), low average household size, low household income, and a high number of renters. Most homes were built before 1960. People have moved in relatively steadily, but most moved in after 2000.

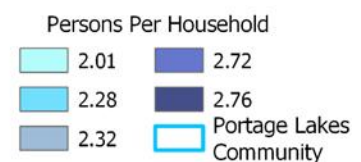
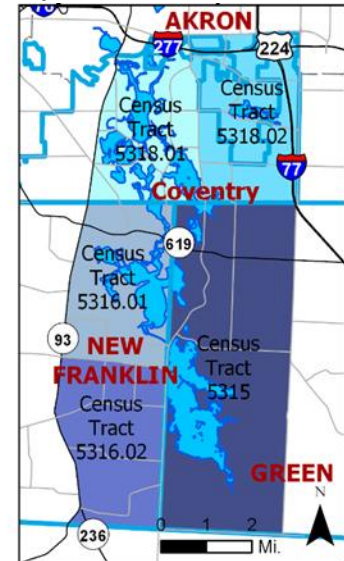
Map 3.9 Median Age



Map 3.10 Owner Occupied



Map 3.11 Persons/Household



Lakers Express Interests and Concerns – Focus Group

While census and parcel data provide a general profile of the Portage Lakes area, of greater value are the comments, observations, and insights provided by Portage Lakes community members during numerous meetings, gatherings, boat trips, and other discussions. These have helped shape the understanding of the community’s interests and concerns, and potential management alternatives.

During Spring, 2019, 60 community members participated in a focus group that was targeted to lakeshore residents but open to the public. Their poll responses, questions, and comments about interests and concerns are summarized here and in Appendix B. The poll is not a representative sample of the residents, but the answers provide an idea of the interests and priorities of lake residents. Some of the responses were to open-ended questions, some questions provided as a list of responses to rank or highlight. Participants were allowed to provide more than one answer.

- Responses highlighted the importance of boating and other water-based recreation, an appreciation of the natural beauty of the lakes, and the social aspects of the lakes – the people, restaurants, bars, festivals, and gatherings.
- The participants were very concerned about water quality, managing aquatic plants, bacteria/algae, and lake management.
- Other questions amplified these concerns, and some pointed to a need for further education about lake ecology.



“It’s home.”

Table 3.1 Resident Focus Group Poll Summary

Values/Concerns of Lake Residents	% of Responses
- Lakeshore resident	80
- Boating/sailing/water skiing	83
- Paddling/kayaking/paddleboard	57
- Swimming	46
- Fishing	57
- Water*	15
- Quiet/serene/beauty*	18
- Wildlife/nature	66
- Parks/recreation*	15
- Restaurants/Bars	77
- Going on tours	17
- People*	12
- Volunteering/PLAC	26
- Educator	11
- Fireworks/festivals	74
Concerns (% High/Very High Concern)	
- Water quality, runoff, nutrients, watershed, litter	87-100
- Managing aquatic plants	77
- Invasive plants	84
- Bacteria/algae	87
- Coordination among lake management groups	77
- Lack of funding for lake management	87
- Public access	48
- Water craft safety	51
Question Topics	
- Geese, cormorants	
- Water clarity	
- Nuisance “weeds,” control	
- Septic Systems	
- Lakescaping/trees	
- Water flow	
- Zebra mussels	
- Stormwater runoff	
<i>*Responses to open-ended questions only. (Others involved selecting from/ranking responses.)</i>	

Activities and Participants (Uses and Users)

Who is using, benefiting from, and affecting the lakes? How can the different priorities of each be accommodated in a way that does not interfere with other uses and priorities? It is important to understand the types of uses that occur on and around the lakes, identify the priorities and impacts of each, in order to maintain the lakes as a multi-use resource.

Boating in the Region – an Economic Driver

Nationally, boating is one of the most popular outdoor recreation activities. On the Portage Lakes boating is one of the most prominent forms of recreation, and a driving force of the local economy. This profile summarizes NFFCO’s economic study of boating (Appendix D) and other boating surveys.



- There are 19,320 boats on the Portage Lakes, but the number of boats using the lakes over time could be triple that.
- Surveys of Ohio boaters found that while 8-10 percent of people own boats, 30 percent of Ohio households participate in boating - for every boat owner, there are two to three participants.⁹ The average boat-owning household in Ohio has 2.13 boats.
- Only 31% of the boats are kept at private docks, marinas, or clubs.
- The average respondent made 15.6 trips to Ohio boating sites, of which 4.3 were to Lake Erie sites.
- The typical boat owner is between 52 and 55 years old with an annual household income of \$81,700 and 26.5 years of boating experience. In 2011, boaters in the Midwest participated primarily in cruising, socializing, or nature watching (64-79%); fishing, swimming, sunbathing, or waterskiing (35-48%); rowing or paddling, (18-25%). Most time boating was spent in power boats.¹⁰
- There are approximately 700,000 people within a 30-minute drive of the Portage Lakes, potentially 200,000 boaters.
- Tourism is Ohio’s 3rd largest industry at \$40 billion per year, supporting the full-time equivalent of approximately 443,000 Ohio jobs, generating nearly \$10 billion in direct earnings.¹¹ More than half of all Ohioans are employed by the hospitality industry.
- Average spending per boat per day trip varied from \$76, for boats less than 16 feet in length, to \$275 per day for boats larger than 40 feet.
- The greatest trip expenses were for fuel (22%), restaurants and bars (17%) and groceries (14%). The majority of annual boat-related expenses are for equipment (39%), maintenance and repairs (29%) and insurance (14%).¹² (See Table 3.2)



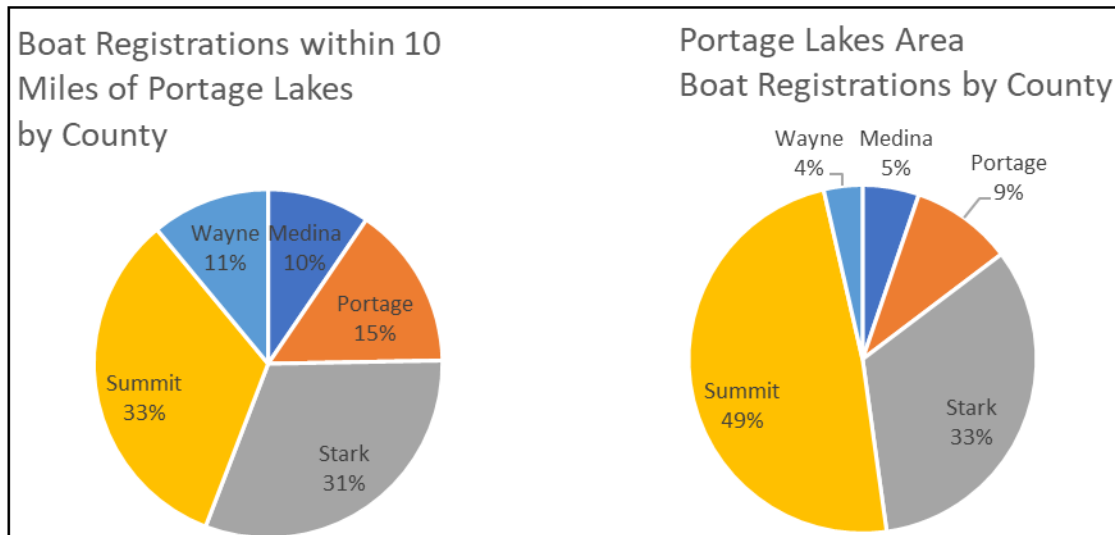
Table 3.2: Trip Expenditures by Boat-Owning Households	
Total trip related expenditures	\$2,104
Typical trip related expenditures	\$134
Food and lodging per trip	\$55
Fuel, transient docking, etc.	\$37
Other	\$42
Annual Maintenance, fees, repairs	\$920
Equipment purchases	\$293

Registered Boats within the Portage Lakes Region

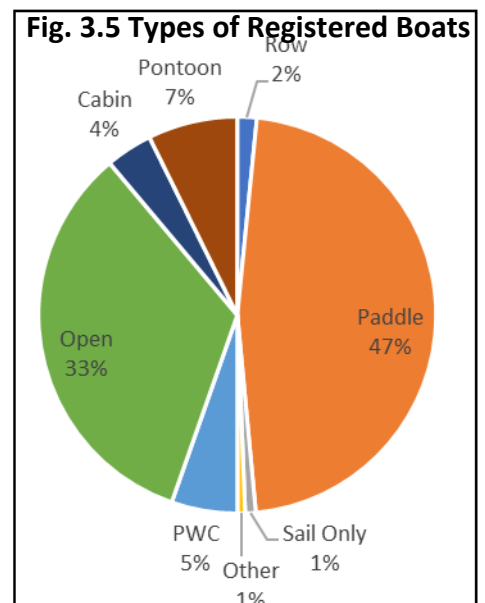
The area within ten miles of the Portage Lakes (Fig. 3.1) includes portions of five counties (Medina, Portage, Stark, Summit, and Wayne). Boating registration records were used to determine the proportion from each county and the characteristics of registered boats in the region.¹³

- The number of registered boats in the five counties grew from 59,584 in 2015 to 71,655 in 2018.
- Approximately 28,875 registered boats (10 to 33 percent from each of the five counties) are within 10 miles of the Portage Lakes. Some boats are not registered, and boaters may travel up to 36 miles for boating, increasing the potential number of visiting boaters. Nearly half of the Portage Lakes region boats are in Summit County. (Fig. 3.4), one-third are in Stark County.

Fig. 3.4 Boat Registrations of Portage Lakes Region by County



- Paddling boats are the most common registered, then open power boats, pontoon boats, and cabin boats. About half of the registered boats are manually powered. (Fig 3.5)
- Power boats range from 8 feet long to a few over 50 feet. 90% are between 10 and 24 feet long; the most common power boat length in the region was 16 feet.



Portage Lakes Boating

Boating a major part of lake life – and the community economy - with over 19,000 boats on the lakes, 1,200 residential and commercial docks, often multiple boats per household, and tens (or hundreds) of thousands of visiting boaters. Boating is why many live near or visit the lakes. Boaters on the lakes participate in solitary and social activities, including fishing, cruising, paddling, sailing, water-skiing, camping, tours, visiting restaurants and other destinations, wildlife-viewing, teams, and community events. The lakes link neighborhoods, restaurants, the open lake, quiet natural areas and fishing spots.



Facilities/Access

- Docks – 700 residential docks, 10 state park courtesy docks, over 500 commercial docks.
- Every lake has or is accessible by boat launch ramps
- Speed zone that is also periodically closed to power boats to allow sailing races
- Electric-only (or paddling) on Nimisila Reservoir
- Potential water trail

Priorities, Needs, Expectations:

- Access and passage and within/between lakes and destinations (boat launches, marinas, courtesy docks, residences) – dense vegetation and shallow depths may impede travel.
- Safe areas for different intensities of use (paddling, sailing, swimming, water skiing)
- Good water quality

Potential Impacts/Concerns:

- Clearing vegetation, dredging, propellers can harm habitat. There is a need to balance access with protecting habitat and water quality.
- Certain chemicals used on boats or vegetation can harm water quality, swimmers, wildlife.
- Boats can spread invasive species.
- Impacts of many individuals – litter, waste disposal, boat maintenance practices, spills, etc.

Responsibilities:

- Practice and promote good stewardship - cleaning up litter, reducing spills, protecting habitat
- Clean-drain-dry practices, avoid dense plant growth, to minimize spread of invasive species.
- Safeguard lake users (other boaters, swimmers, property owners), respecting property owners' rights, following posted guidelines, leave natural areas undisturbed.



Helping visitors be stewards

Fishing

Fishing is one of the most popular recreation categories nationally, appealing to a wide range of ages. The number of fishing permits in Ohio has risen to 1,150,000 in 2019, with the Portage Lakes Counties representing 10 percent of fishing license sales in 2010.¹⁴ The lakes are popular for fishing, from shore and boats. Based on the most recent creel surveys across the Portage Lakes, conducted during 2009 to 2016, weekend fishing pressure exceeds 1,850 hours per day. Several fishing tournaments occur weekly, while the weather permits.¹⁵



Facilities/Access – Most of the lakes have fishing access at boat launch ramps, other public access points.

Priorities, Needs, Expectations:

- Access by boat or shore
- Diverse fishing opportunities, including various fish species and habitats
- Good fisheries habitat, including aquatic vegetation
- Stable aquatic communities where aquatic vegetation control is appropriately paced
- Good water quality



Potential Impacts/Concerns:

- Impacts of boating
- Potential vectors for aquatic nuisance species
- Impacts of many individuals, e.g., litter, disposal of bait and fishing line.

Responsibilities and Opportunities to Help Protect the Lakes:

- Practice and promote good stewardship - cleaning up litter, protecting habitat, and avoid practices that spread invasive species.



Swimming

The Portage Lakes provide swimming opportunities for residents and visitors from the region. It is especially an important resource for cooling off during hot weather.

Facilities/Access:

- Public swimming beach at the State Park
- Designated swimming areas on East Reservoir, Cottage Grove Lake, and Nimisila Reservoir
- Shoreline residents speak of their children and grandchildren swimming near their houses.

Priorities, Needs, Expectations:

- Good water quality is essential, free from harmful organisms and chemicals (oil, pesticides)
- Swimming areas need to be safe from boaters and entangling aquatic plants
- Application of chemicals can affect swimmers

Potential Impacts/Concerns: Impacts of many individuals, e.g., litter

Responsibilities, Opportunities: Practice and promote good stewardship - cleaning up litter

Other Outdoor Recreation (Public)

Nationally, nature-based activities, hiking, and family gatherings are more popular than boating.¹⁶ The Portage Lakes offer many popular recreational opportunities, and has room to expand opportunities as well. The Portage Lakes State Park, Summit Metro Parks, and nearby Towpath Trail, offer opportunities for hiking, biking, jogging, archery, picnicking, camping, nature viewing/photography, disk golf. Development of playgrounds in the State Park increases the opportunities for families. The Tudor House, owned by the City of Green, is a gathering-space available for events.



Purple martin houses throughout the parks and lake provide refuge for the birds. Each year, volunteers help educate hundreds of visiting schoolchildren about the martins.

These other outdoor activities have little direct use of the lakes or impact themselves, but contribute to the recreational appeal of the parks, and increase visitors' and residents' connection to the natural world, and benefit from the natural setting and clean, healthy lakes.

Priorities/Needs/Expectations –

- Clean, well-maintained facilities,
- Good water quality

Impacts – associated with large numbers of participants

Responsibilities/Opportunities to Help Protect the Lakes

- Respect, protect property rights
- Minimize impacts – stay on trails, park in parking lots, take care of litter and pet waste
- Promote good stewardship and an understanding of natural systems through signage, volunteer opportunities, wildlife watching



Homes

The residents of the shore and nearby neighborhoods enjoy great benefits of lake life - views, boating, swimming, and water-enhanced outdoor activity, and the opportunity to learn about the lakes from close up throughout the year. There are approximately 1,400 homes adjacent to the lakes, with nearly 700 residential docks along the lakes. Certain homeowners' associations also have water access available to residents for boating and/or swimming. The lakes connect the communities to the rest of the lakes and provide a "main street," where neighbors and visitors pass by in boats. Water access affects property values, with property values per square foot significantly higher in certain areas along the lake than in nearby neighborhoods.



The homeowners along the lakes have similar priorities and considerations to homeowners elsewhere, e.g., maintaining property and property values, but some that are also unique to their situation. They live at the edge of a public park that happens to be a lake. Their homes and activities are affected by their proximity to the Portage Lakes State Park, and the needs to be good stewards are increased.

Priorities, Needs, Expectations

- Access to the water and the passages through the lakes.
- Property maintenance – wastewater disposal, homes, yards, docks, boats, lakewalls, and shore.
- Aquatic vegetation is often perceived as a detraction, nuisance, hindering boating, lowering property values, and creating a distasteful back (or front) yard environment.
- Good water quality – because of the proximity of houses to the water and the potential for water-based recreation from the "back yard" or neighborhood "street," water quality is an important consideration. Poor water quality, toxic chemicals, and harmful organisms (e.g.,

bacteria, Harmful Algal Blooms) place swimmers and boaters at risk, create unpleasant conditions, and harm property values. Note: Harmful Algal Blooms come from cyanobacteria and are different from aquatic vegetation, which is important for good water quality.

Impacts/Concerns

Because the residences are right at the edge of the lakes, occupied for much or all of the year, there is a high potential for impacts to the lakes with common activities.

- Maintenance activities that affect water quality have especially high impacts and risks right next to the water, e.g., lake-specific activities (boat maintenance) as well as typical residential property management (maintaining lawns, automobiles; wastewater treatment, yard waste).
- Any chemical applied off a dock enters the water, potentially affecting other properties, placing swimmers at risk, and harming the animals and habitat, off-property as well.
- Stormwater runoff may directly enter the lakes.
- Nuisance wastewater treatment systems could discharge bacteria and nutrients to lakes.
- Proximity to the water may limit options for household waste management due to small lot size, setback requirements, and limitations of soils and high water table.
- Visitors, renters, or new residents who do not understand how commonplace activities affect the lakes, the need or means to reduce their impacts on the lakes, their front yards. They may overload or inappropriately maintain septic systems, allow chemicals or pet waste to run off into the lakes, or put harmful chemicals in the water to remove aquatic plants.
- Sod is attractive to geese. Goose waste adds nutrients and bacteria to the water.
- Organic material, such as yard waste or animal waste increases nutrients and possibly harmful organisms in the water. Runoff from the property goes directly into the lake.



Responsibilities/Opportunities to Help Protect the Lakes

- Understanding and stewardship is especially important in the fragile lakeshore environment.
- Many lakeside yards are at the edge of or within the State Park. Modifying lakeside properties – e.g., docks and seawalls – requires permits and following ODNR standards.
- Chemical treatment of aquatic plants must be done by licensed professionals, who use permitted chemicals and industry-approved measures to protect water quality, habitat, and the health of people using the water.
- Certain lakescaping is more beneficial than others. Tall vegetation, with deep roots, improves water quality by absorbing excess rain water and nutrients. Homeowners can develop alternative landscaping that preserves views of the lakes, absorbs rain water, and reduces the likelihood of geese. Natural shorelines are better for the lakes than hardened lakewalls.
- Follow maintenance requirements for wastewater management systems.



Composting yard waste, instead of dumping it in the lakes, and planting tall (deep-rooted) native plants are good lake stewardship.

Businesses and Organizations

Water dependent and water-enhanced businesses benefit from location by the lakes and in the lakes community. Water-dependent businesses and organizations on the lakes include marinas, boat clubs (sailing, powerboat, rowing), boat rentals, bait shops, and the tour boat. The boat dealerships also benefit from being near the lakes.



Residents and visitors view the restaurants and bars as an important part of the lakes communities. Several restaurants offer courtesy docks, encouraging boaters to dine out during a day (or evening) on the lakes. Restaurants benefit from water views, as does the Turkeyfoot Lake Golf Links.



Priorities/Needs/Expectations

- Water views, access, passage, lack of nuisance plants.
- Good water quality.
- Adequate wastewater treatment.

Impacts/Concerns

- Chemicals used on lawns and at marinas can harm water quality if they are not controlled carefully.
- Maintenance activities – e.g., boats, property, and waste management can also affect water quality.
- Stormwater runoff enters lakes directly.
- Nuisance wastewater treatment systems can harm water quality with bacteria and nutrients.
- Visitors may be careless with trash and pet waste.
- Geese, attracted to sod, leave waste by the water.



Responsibilities. Opportunities to Help Protect the Lakes

- Certain activities such as docks and aquatic plant management require permits.
- Careful control of chemicals, runoff, and wastewater management systems.
- Businesses have an opportunity to educate residents and visitors about the lakes, water quality, stewardship.
- Lakescaping to reduce runoff and discourage geese. LEED design, Audubon ASCP for Golf, and Ohio Clean Marinas programs encourage landscape practices with benefits like reduced runoff.¹⁷



Camps

Craftsmen Park, run by the Masons of Summit County, is a campground on Rex Lake with cabins, RV and tent camping, and boat slips. The lake and lakeshore are important to the campground's appeal. Craftsmen Park also hosts the Portage Lakes Rowing Association and the Dragon Dream Team breast cancer survivors' dragon boat team.¹⁸



The Akron Rotary Camp for developmentally disabled children and young adult is also on Rex Lakes. It offers typical activities of summer camps, such as crafts, swimming, and canoeing.

Priorities/Needs/Expectations

- Good water quality for contact recreation
- Passage, access, area free of nuisance vegetation.
- Safe swimming areas.

Impacts

- Chemicals used in lawn maintenance or controlling aquatic plants could affect water quality.
- Stormwater runoff directly enters lakes
- The potential impacts are typical of areas where people gather.

Responsibilities/Opportunities to Help Protect the Lakes

- The organizations can promote good stewardship with information and activities.
- Docks, shoreline alteration, and use of chemicals for aquatic plant control require permits, specialized knowledge, to protect water quality, habitat, and public safety.
- Maintain wastewater management systems to minimize impacts to water quality.
- Use of stormwater management best management practices and tall native plants for lakescaping can reduce stormwater runoff and may discourage geese.

Special Events on the Lakes

Special events throughout the year around the lakes bring thousands of participants to the lakes and surrounding areas to enjoy the lakes, shared interests, and often to support special causes:

- Run to the Beach 5k race and egg hunt
- Polar Bear Leap
- Fourth of July Fireworks
- Pirate Day
- Dragon Boat Festival
- Boat Parade
- Antique Boat Show

These gatherings are part of the lakes community life and bring visitors and residents together. With so many people, it is important to minimize the impacts of each participant on the lake. These events provide good opportunities to educate residents and visitors about the lake.

Shared – And Conflicting – Priorities; the Dilemma of Aquatic Plant Management

The wide spectrum of participants in the Portage Lakes system has certain priorities in common:

- The community and users all rely on good water quality, “fishable-swimmable,” and free from harmful organisms like bacteria and Harmful Algal Blooms (HABs), chemicals, odors.
- Homeowners, water-dependent businesses, and people using the lakes all need access from the water and the ability to travel through the lakes.
- Uses need to be kept safe from hazards, more intensive uses, harmful chemicals, e.g., through no-wake zones, protected swim areas, using only safe (permitted) chemicals near/in the water.
- Each of the hundreds of thousands of people using the lakes can affect them:
 - Negative impacts* can include littering, spilling, leaving pet waste, or mis-using harmful chemicals, harming habitat or property, adding to runoff pollution.
 - Positive impacts* – To protect the resource that everyone values and uses, everyone should also learn about the lakes, become aware of and minimize impacts, practice and promote good stewardship, and encourage others – lakers and managers – to take steps to protect the lakes.

Conflicting Priorities – Nuisance “Weeds,” Habitat, Essential for Water Quality, or “All of The Above?”

The answer is “all of the above,” depending on one’s perspective. Managing aquatic plants is a challenge of balancing conflicting priorities: supporting use of the lakes and surrounding areas, while protecting water quality and habitat, which are so important to the lake users and communities. Sustaining the lakes may require to designating areas for conservation or management. The Portage Lakes offer a lot of space for both.



- ***The aquatic plants (not necessarily “weeds”), are essential for a healthy lake system,*** (discussed in Chapters 4 and 5). Among other things, they protect water quality by taking up stores of nutrients in the lakes, thus limiting nutrients available to fuel eutrophication and HABs.
- While aquatic plants are crucial for water quality, they hinder property access and passage in the lakes, and cause nuisance growth near homes and businesses.
- ***Indiscriminate use of chemical controls can harm water quality and habitat, and pose risks to swimmers.***
- Many areas are free from aquatic plants. Even dense growth does not have to be controlled or removed everywhere. ***Where feasible, aquatic plant growth should be allowed to flourish*** to take up nutrients and provide habitat and other benefits for the lake ecosystem and community of lake users.



Achieving the balance is central to managing a multi-use resource. Areas may be designated for certain uses or protections. It will require concerted effort by those involved - State Park, Metro Park, Portage Lakes Advisory Council, communities, and other management agencies, residents, business owners, and visitors. Strategies and recommendations are discussed in Chapter 7.

Residents Express their Opinions about Aquatic Plants

The public focus group poll included questions about aquatic plants. The residents' answers are summarized below and shown in Appendix B. There were about 30-35 responses per question.

The focus group poll should not be regarded as a statistically valid sample, but it highlights certain views among the participants:

- Managing aquatic plants in passages and by docks is important.
- There is recognition that aquatic plants are important for the lakes.
- It is important to designate protected areas for habitat.
- There is a need for education about aquatic plants, invasive species, and best management practices.
- People recognized the value of licensed aquatic plant management versus do-it-yourself approaches.



Summary of Focus Group Questions and Comments About Aquatic Plants

77 percent considered managing aquatic plants by docks or in passageways to be concerns or big concerns

When asked about how they considered aquatic plants,

- 20-25 percent said they were a nuisance, good for habitat, or affected by water quality
- 45-50 percent said they were important for water quality or "all of the above"

When asked what to do about the plants, the most popular responses (47-55 percent) were:

- Protect certain areas for management
- Increase education about plants and best management practices
- Increase awareness of invasive plants and clean-drain-dry practices
- Improve water quality

Between 25 and 40 percent of the responses were

- Harvest plants for access
- Conduct a detailed plant survey
- Learn to live with them
- Hire someone to keep the docks clear

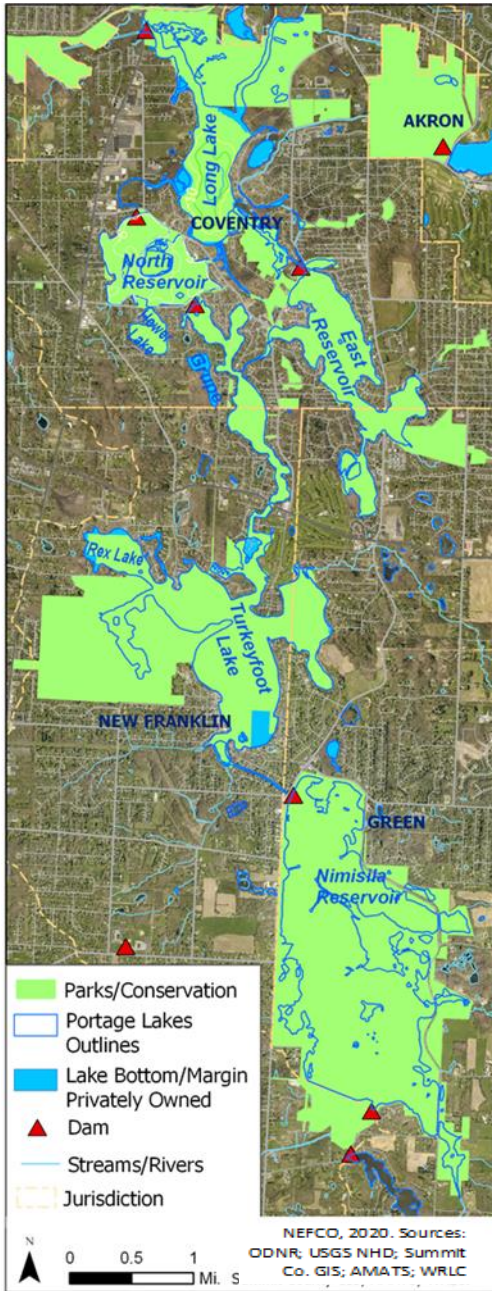
Nobody thought removing all the plants was a good idea, and only one person thought do-it-yourself treatments were a solution.

As discussed further in Chapter 5, the ideas that were expressed by the focus group are supportive of best management practices generally used for managing aquatic plants.

- ***A primary focus of this plan is how to manage aquatic plants to allow use, provide passage and access, reduce nuisance growth, while protecting water quality and habitat.***
- ***Managing the lakes will require land-based efforts on the shoreline and in the watershed, as well as water-based efforts to understand and manage the lake system.***

Map 3.12

Parks and Conservation Lands



Caretakers of the Lakes

The ODNR and Portage Lakes Advisory Council are the primary contacts for overall coordination and management of the lakes. Many other agencies and organizations have important roles in managing the lakes and watershed, as highlighted below. The Information below summarizes numerous discussions with TAC members, other participants and interested parties, and organization websites.

Ohio Department of Natural Resources (ODNR)

The Portage Lakes are waters of the state, owned by the State of Ohio. Most of the conservation (green) areas shown on Maps 3.12 and 3.13 are state-owned, including the bottoms of the lakes. (Summit Metro Parks manages two parks on state land, Confluence Metro Park and Nimisila Reservoir Metro Park.)

The ODNR, State Parks and Watercraft, manages 500 acres of park land (State Park, Old State Park, and Knapp Park), canals, and 2,200 acres of lakes up to and including the shoreline, including buoys and docks.¹⁹

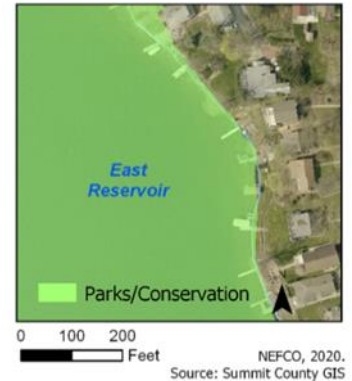
ODNR State Parks and Watercraft, O&E Canal Lands and Reservoirs, is responsible for controlling water levels and flow in the lakes and canals, for flood control and maintaining flow diversion to the Lake Erie basin. The staff currently consists of a manager and two other field staff. This small staff keeps canals and waterways clear of obstructions, maintains safe water levels to reduce flooding risk during storm events by monitoring and manually adjusting gates, and draws the lakes down every two years in the autumn. The staff has also been tasked with cutting aquatic vegetation in the Portage lakes and elsewhere for navigation.

ODNR Dam Safety inspects and maintains the dams used to store the lake water and provide flood control. As noted in Chapter 2, dam reconstruction has been under way since 2011.

ODNR Division of Wildlife staff maintain a visitor center on Meyers Island on North Reservoir, monitors fish populations and stocks fish in the lakes. During seasonal field work, the staff collects basic limnological data (temperature, depth, oxygen). The staff collects full chemistry profiles, during the summer, once every three years.

Map 3.13

Public Land at the Shoreline



ODNR Parks and Watercraft, Wingfoot Lakes and Portage

Lakes. The focus of this staff is to provide a positive experience for visitors, including maintenance of park facilities and water access and opportunities for visitors to increase their knowledge of the parks and park activities. A small staff manages facilities, maintenance, permitting, projects, and activities including: fishing access, beaches and swimming areas, boat ramps, navigation/cautionary buoys, buildings, grounds, restrooms, and hiking trails. The staff currently includes a parks manager, one full-time maintenance supervisor, two part-time maintenance staff, two seasonal maintenance staff, and a naturalist. The parks have benefited from interns in recent years, with the potential for three in 2021 to assist the naturalist, maintenance staff, and law enforcement. However, the staff is considerably reduced compared to 20 years ago.



- The park manager issues permits for residents to alter the shoreline or bottom of the lake, e.g., install docks or modify the lake shore/lake walls.
- The manager also coordinates and works on maintenance and improvement projects in the parks, such as improvements to fishing access and dredging.
- The Park naturalist conducts community outreach and activities in the parks to build engagement, such as hikes, fishing events, and Paddle-palooza, an introduction to kayaking. The naturalist also assists with efforts in other parks.
- The parks are also staffed by ODNR Law Enforcement officers, who inspect boats and monitor for compliance with state laws and park rules.
- ODNR staff coordinate with Portage Lakes Advisory Council to make sure there is two-way communication between the agency and the community, often collaborating on efforts.

Upcoming projects and opportunities in the Portage Lakes parks include:

- Adoption of a dock and shoreline management plan
- Funding for controlling aquatic vegetation
- Dredging - The dredging effort is expected to go for seven to ten years, to clear sediment from navigation channels and coves. The effort will begin in Turkeyfoot Lake, with disposal at the 20-acre dredge material facility on Latham Bay. In following years, locations will be established to receive and dewater dredged sediment.

Summit Metro Parks

Summit Metro Parks has two parks on the lakes, Confluence Park on Long Lake, and Nimisila Reservoir Park, state land managed by the Metro Park. Summit Metro Parks is actively engaged in protecting and restoring important natural resources. The parks contribute to the value of the recreation complex along the Portage Lakes. Summit Metro Parks maintains the park facilities, has planted native vegetation at Confluence Park, and is engaged with outreach and education throughout the county.

Portage Lakes Advisory Council

The Portage Lakes Advisory Council (PLAC) has a 12-member Board of Directors, with representatives from each of the three lakes communities. Members can be residents, lake users, representatives of organizations or local businesses.²⁰ The PLAC holds monthly meetings, among other things, to:

- Coordinate with ODNR staff and other organizations,
- Share news, information, updates, and events,
- Provide informational forums about topics of interest to lakers, and
- Organize activities and events.

The PLAC plays an important role as the primary contact for lakers and visitors to learn about topics related to living at or visiting the lakes and the surrounding area. Their mission is to be an informational and educational resource about the lakes, promote active and passive recreation and protection of the lakes habitats and watershed. The PLAC and PLAC members are involved in numerous efforts, large and small, to contribute to the community, improve the quality of the lakes experience, promote awareness about the lakes, involvement and stewardship. Some examples include:

- Litter Clean-up
- Polar Bear Leap fundraiser
- 5k Run to the Lakes
- Candidates Night
- Informational flyers
- PLAC recently established a scholarship for high school students with an interest in the lakes.

PLAC has partnered with the State Park on efforts including:

- Develop two playgrounds, most recently, an inclusive playground at the Old State Park
- Have speed zones designated on the lakes
- Have solar lighting installed on the Iron Channel
- Establish beach volleyball courts at the State Park beach

The PLAC Informational website, covers various lakes topics, including:

- Conservation,
- Aquatic plant control
- Dock permits,
- Safety,
- Dams, drawdowns, and dredging,
- Good stewardship practices for property owners, boaters, and other visitors
- Upcoming events

PLAC members volunteer with PLAC or on their own, in activities such as trash pick-up, water quality monitoring, and purple martin educational tours. Members have a wide range of expertise and great interest in working on behalf of the lakes and their community.

Other Caretakers

The ODNR, Metro Parks, and PLAC have the most immediate and pervasive contact with the lakes, but many other organizations play a significant role in protecting and managing the lakes and their watershed. They are highlighted in Table 3.3 and discussed further in Chapter 7. All lakers will be carrying out recommendations of the plan and should participate in developing a shared understanding of the lakes system and priorities for management.



Table 3.3 Other Organizations Taking Care of the Lakes

Organization	Topic	Role
Ohio EPA	Water Quality	<ul style="list-style-type: none"> • Monitors water quality attainment, determines standards, establishes priorities to restore waters (and watersheds) • Requires permits for discharges into waters of the state, including: <ul style="list-style-type: none"> - Wastewater and industrial discharges - Stormwater management - Use of chemicals in the water, e.g., herbicides - Wetland alteration • Spill response, clean-up • Responses to water quality complaints • Funding, research, technical assistance, outreach and grants/loans for stream/wetland restoration, wastewater management, research, environmental education • Responding agency to Harmful Algal Blooms, along with Ohio Department of Health and ODNR
Summit County Soil and Water Conservation District	Stormwater management, technical support, outreach	<ul style="list-style-type: none"> • Stormwater management/erosion control permits and inspections • Watershed management, watershed coordinator, erosion control technical assistance • Outreach about stormwater best management practices, erosion control, rain gardens, native plants • One of three agencies implementing stormwater permit for Municipal Separate Storm Sewer Systems, along with Summit Dept. of Public Health and Summit Co. Engineering
Summit County Public Health	Septic systems Beach monitoring Other	<ul style="list-style-type: none"> • Inspect and permit septic systems; • Document illicit discharges to stormwater systems • Test water supplies; regulate camps, motels, food service
Wastewater Management Agencies	Wastewater treatment	Summit Department of Sanitary Sewer Services and City of Akron provide wastewater treatment service in the lakes area. They work with local communities and the Health Dept. to identify areas that should be served by sanitary sewer based on need and feasibility.
Local Communities	Zoning Subdivisions Conservation/parks Stormwater	<ul style="list-style-type: none"> • Regulate land use, subdivision procedures • Obtain and manage parks and conservation lands • Identify and implement stormwater management measures, often including stream/wetland restoration
Volunteers and groups	Various	Through outreach, education, research increase awareness and stewardship of lakes; develop lakes amenities Coventry Middle School has a wetland observation station and a science teacher dedicated to the lakes
Businesses, visitors and residents	Stewardship	Increase awareness, reduce impacts, support management efforts

Key Considerations

The Portage Lakes system is a natural system within a state park and community that supports multiple uses by hundreds of thousands of residents and visitors. The lakes provide a home, natural refuge, recreational resource, community focus, and economic opportunities, that all depend on good water quality and a healthy lakes system. Each participant has priorities and expectations and can affect lakes' health. Protecting the lakes' health requires everyone's help in managing the different priorities, increasing understanding of the lake system, and minimizing impacts. These are highlighted below and discussed further in Chapter 7.

- The lakes provide an economic and recreational resource for the region.
- All the uses of the lakes require good water quality, free from harmful chemicals, bacteria or viruses, and HABs. Aquatic vegetation is essential for good water quality and habitat.
- The lakes are affected by the communities and land uses surrounding them, including older and on-going development, conservation and natural areas, and agriculture.
- All users can affect the lakes and reduce impacts by practicing and encouraging stewardship.
- Clear access to properties and destinations within the lakes is important for lake uses.
- Aquatic vegetation, in addition to its value for water quality, habitat, and lake uses, hinders travel and access in certain areas and may be unappealing for residents, businesses, and visitors.
- Aquatic plants can -and should be managed to allow access, passage, activities, but protect habitat and water quality, in ways that are safe for swimmers, property owners, and recreational uses. This may involve establishing maintenance procedures, zones of more intensive use and maintenance, and areas to leave undisturbed.
- It is important that management be implemented with professional expertise, rather than do-it-yourself approaches, to protect water quality for users and wildlife.
- Small staffs at ODNR Parks and Watercraft (O&E Canal Lands, Wingfoot and Portage Lakes) are responsible for managing the lakes, park facilities and experience, including:
 - Flood control,
 - Maintaining flow
 - Maintaining navigation channels
 - Maintaining facilities in the parks
 - Deploying buoys
 - Maintaining beaches, fishing accesses, and boat ramps
 - Coordinating and implementing maintenance or improvement projects in the water and on land
 - Providing naturalist services for hikes, nature education, fishing and paddling instruction
 - Assisting at other parks
- Initiatives planned for the Portage Lakes park include:
 - Dredging areas in the lakes
 - Managing aquatic plants
 - Completion of the docks and shoreline management plan for the lakes
- Summit Metro Parks manages parks on state land on Long Lake and Nimisila Reservoir.
- PLAC is the primary point of contact for residents interested in the lakes, representing the three communities surrounding the lakes and lake matters with residents and visitor, fielding

questions, coordinating with ODNR, promoting recreation, environmental protection, safety, and education.

- The level of resources available to ODNR and others (staff, funding, equipment, outreach technical support, materials), should be appropriate to an increased level of management of the lake resources.
- Many other organizations serve as caretakers of the lakes and surrounding lands. Other partner organizations can provide valuable roles within their mandates or mission. Lake management needs to be coordinated, build and include participation among lakers, have a decision-making authority, and have adequate staff, funding, technical support, and other resources to manage a complex ecological and multi-use system.
- Managing the lakes to sustain uses will require land-based and lake-based efforts, and making choices to maintain certain areas for use versus conservation.
- It is important for residents and visiting lakers, communities, and lake managers to build awareness of lake systems, participation, stewardship, and advocacy to encourage others – lakers, communities, agencies - to take steps to protect the lakes.
- The lakers will be carrying out the recommendations of the plan and should contribute to determining priorities.

Aquatic plants should be managed to provide access and passage, reduce nuisance growth, in a way that is safe for swimmers and recreational uses and protects water quality and habitat essential for healthy lakes and the community of people using them.

Managing the lakes will require raising awareness and participation among lakers, visitors, communities, and managers.

¹ Map Sources: OGRIP, 2012; Portage Co. GIS; Summit Co. GIS, 2017; Stark Co. GIS, 2016; Wayne Co. GIS, 2016; USGS NHD, 2016; AMATS 2017 parks data shapefile; Western Reserve Land Conservancy 2015 parks data shapefile; Ohio Dept. of Development, 2019. 2018 Population Estimates by City, Village, and Township by County, May 2019; USDA <https://development.ohio.gov/files/research/P5027.pdf>; Base Map: ESRI, MAXAR, GeoEYE, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGrid, IGN, and the GIS User Community.

²Studies and data sources indicate the importance and popularity of outdoor recreation include:
Outdoor Recreation (general):

Ken H. Cordell, 2012. Outdoor recreation trends and futures: a technical document supporting the Forest Service 2010 RPA Assessment. Gen. Tech. Rep. SRS-150. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station, 167 p. <https://www.srs.fs.usda.gov/pubs/40453> Retrieved Feb., 2021.

Outdoor Foundation, 2020. Outdoor Participation Report 2019. Outdoor Foundation, Boulder, CO, pp. 1-10; <https://outdoorindustry.org/resource/2019-outdoor-participation-report/> Retrieved April, 2020.

Eric M. White, et al, 2016. Federal outdoor recreation trends: effects on economic opportunities. Gen. Tech. Rep. PNW-GTR-945. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Station. 46 p <https://www.fs.usda.gov/treesearch/pubs/53247> retrieved Feb., 2021.

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USCGboating.org, n.d. National Recreational Boating Survey 2011

https://www.uscgboating.org/assets/1/workflow_staging/News/614.pdf Retrieved Feb. 5, 2021.

Boat Registrations:

ODNR, 2021. Data and Records, Ohio Boating Registration. <https://ohiodnr.gov/wps/portal/gov/odnr/business-and-industry/services-to-business-industry/data-records/ohio-boating-registrations>. Retrieved February 5, 2021.

ODNR Customer Service Center (CSC), 2021. Boating Registration Records for Medina, Portage, Stark, Summit, and Wayne Counties, 2018-2019; ODNR, 2021. Data and Records. General Boating Statistics for Ohio.

<https://ohiodnr.gov/wps/portal/gov/odnr/business-and-industry/services-to-business-industry/data-records/general-boating-statistics-in-ohio>. Retrieved February 5, 2021

³ Ohio Dept. of Development, 2019. Op. cit.

⁴ M. Studeny, 2020. ODNR Parks and Watercraft, Wingfoot and Portage Lakes Parks Manager. Suffield, OH. Pers. comm.

⁵ Map sources, Maps 3.2-3.5: OGRIP, 2012. (aerial photos); ODNR GIS, 2017 (bathymetry, dams); ODNR fishing maps Portage Lakes.

⁶ Map sources 3.6 and inset 3.7: Summit County GIS, 2020 (parcels); Summit County GIS 2017 (roads); NEFCO, 2021 (sewered areas); U.S. Census, 2020, Zip Code shape file.

⁷ U.S. Census, 2017. Census of Businesses. <https://www.census.gov/data/developers/data-sets/cbp-nonemp-zbp/zbp-api.2017.html> Retrieved April, 2020.

⁸ U.S. Census, 2020. American Community Survey. U.S. Census 2018. Housing Summary, filtered by Summit County, Green, New Franklin, and Coventry; Summit County GIS, 2020. Parcels.

⁹ USCGboating.org, n.d., op. cit., p. 23

¹⁰ Ibid, pp. 37, 42

¹¹ ODNR 2021. Ohio Boating Registrations. Op. cit.

¹² US Army Corps of Engineers 2008. Great Lakes regional boating In response to Public Law 106-53, Water Resources Development Act of 1999, Section 455(c), John Glenn Great Lakes Basin Program, Great Lakes Recreational Boating. Main Report - Final. Obtained Sept., 2017 from <https://www.lre.usace.army.mil/portals/69/docs/pppm/planningandstudies/johnglenn/boating.pdf>

¹³ ODNR 2021. Ohio Boating Registrations, *ibid*. ODNR CSC 2021. Op. cit.

¹⁴ ODNR, 2021. Historical Wildlife License Information. Searched by year. <https://ohiodnr.gov/wps/portal/gov/odnr/business-and-industry/services-to-business-industry/data-records/historic-wildlife-licenses> Retrieved Feb., 2021. In 2010, the five counties within 10 miles of the Portage Lakes (Medina, Portage, Stark, Summit, and Wayne) represented 9.6 percent of fishing license sales. However, as internet sales have increased, fewer license sales are tracked by county. If the percentage has remained the same, the five counties would represent 111,200 licenses.

¹⁵ C. Aman, 2021. ODNR Div. of Wildlife, pers. commun.

¹⁶ K. Cordell., 2012. Op. cit.; Outdoor Foundation, 2020. Op. cit; White, et al., 2016. Op. cit.

¹⁷ US Green Building Council, This is LEED. <http://leed.usgbc.org/leed.html>; Audubon International ACSP for Golf. <https://auduboninternational.org/acsp-for-golf/>; Ohio Seagrant, Ohio Clean Program. <https://ohioseagrant.osu.edu/clean>

¹⁸ Craftsman Park.com, 2016. <https://craftsmenpark.com/> Accessed April, 2020.

¹⁹ Information about ODNR involvement from a series of discussions with ODNR staff:

Dams projects, waterways, harvesting: J. Garretson, 2020-21. ODNR Parks and Water Craft, Canal Lands, Akron, OH. Pers. commun

Park management: M. Studeny, 2021, op cit.

Fish stocking and monitoring: C. Wagner, 2020. ODNR Division of Wildlife Div. 3, Akron, OH.

²⁰ Information about the Portage Lakes Advisory Council is from discussions with TAC participants and PLAC website: <https://portagelakesadvisorycouncil.com/>