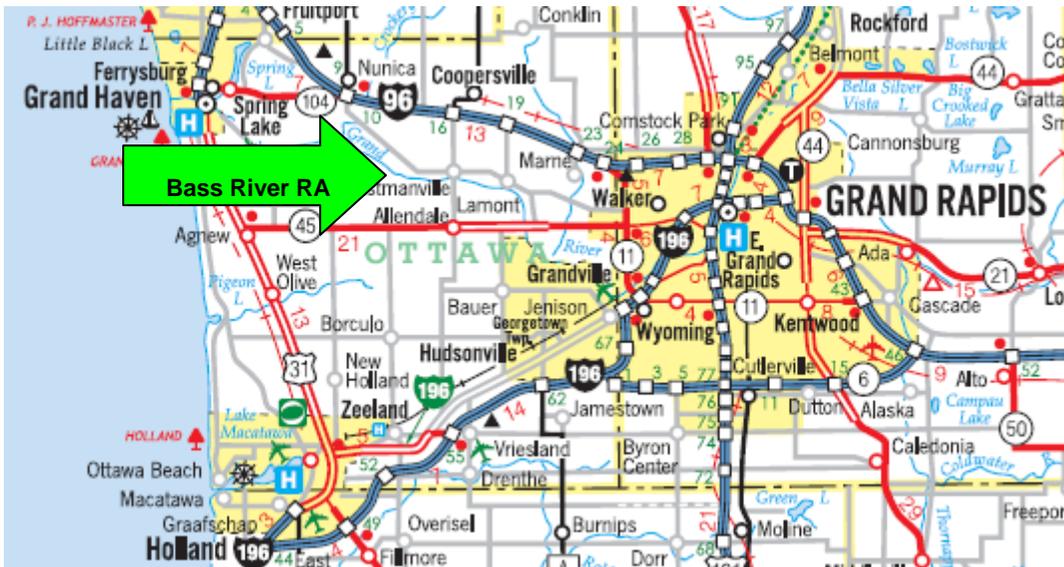


SUPPORTING ANALYSIS



Location Map

Park Setting

- **Location and surrounding community.** Bass River Recreation Area is located within Ottawa County which is composed of seventeen townships, six cities, and one village with a total area of 565 square miles.

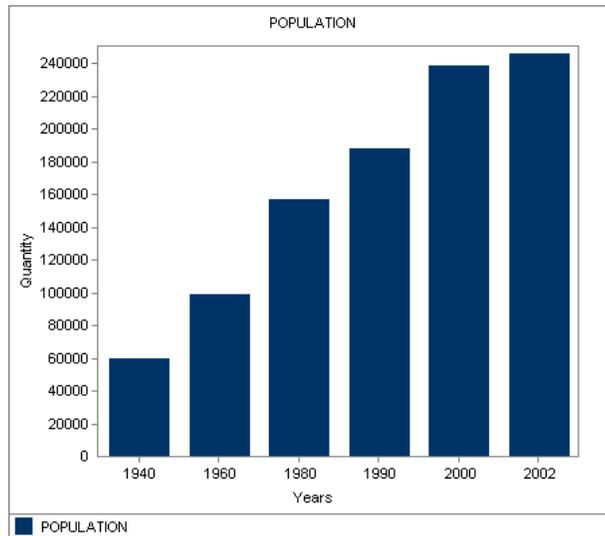
The recreation area itself is located along both, Grand River and Bass River in the center of Ottawa County. Bass River RA, residing in both Allendale and Robinson townships, is directly between the cities of Grand Haven and Grand Rapids.

Bass River RA, when purchased originally, was comprised of approximately 1,115 acres. A subsequent purchase has added another diverse parcel of 550 acres, which adjoins the easterly boundary of the recreation area making for a total of 1,665 acres.

There are several ways to access the recreation area. From M-45, head north for 2.5 on 104th and you will arrive at the parks west entrance. Bass River RA can also be accessed from I-96. From the Eastmanville exit, visitors can head south on 68th Avenue for 4 miles and then head west on Warner Road for 5.5 miles until they reach South Cedar Drive. One mile north on South Cedar Drive will bring you to the parks southern entrance.

Demographics

- Ottawa County had a 2005 estimated population 255,406, which would be a 7.2% increase from 2000 census number of 238,314. The graph below shows a steady increase in population for Ottawa County. Ottawa County is 566 square miles and has a population density of 421.3 persons per square mile (p/sm), which is well above the state average of 175 p/sm.



Source: Michigan.org

Economic and employment statistics

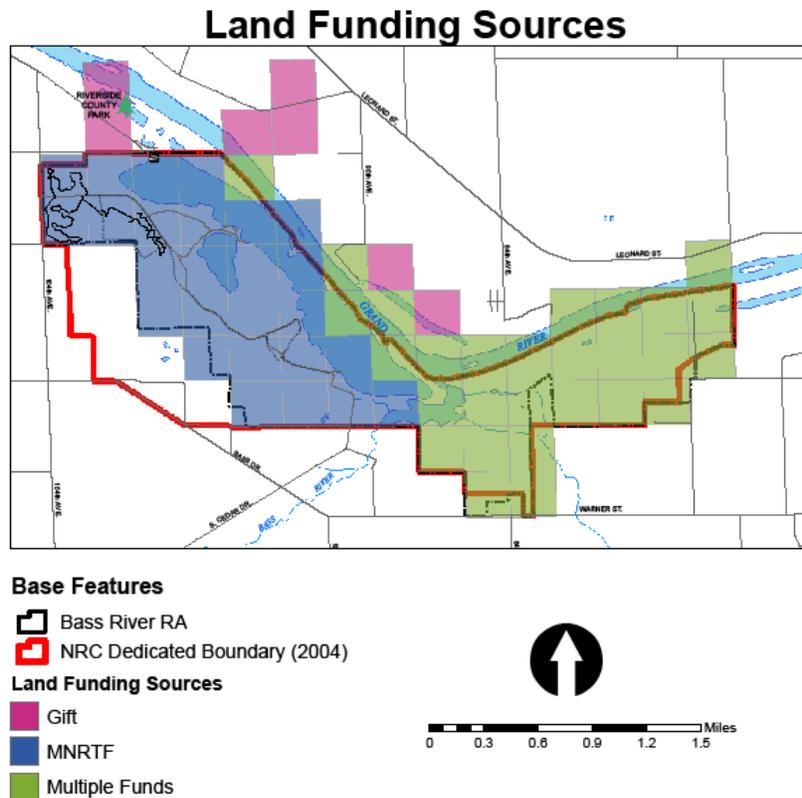
- Ottawa County's economy is very diverse and growing steadily with their big three industries being manufacturing, agriculture, and tourism. There are approximately 800 manufacturing firms in Ottawa County, including General Motors. Ottawa County leads the state in market value of agricultural products sold. (Michigan.org) Ottawa County is also in a good location for tourist because of its proximity to Grand Rapids, Chicago, Lansing, and Detroit.

| EMPLOYMENT BY INDUSTRY (Number of Jobs) | | | | |
|--|-------------|-------------|-------------|-------------|
| Components by Type | 1997 | 1998 | 1999 | 2000 |
| Total Employment | 138,937 | 137,928 | 144,038 | 148,612 |
| Wage and Salary Employment | 117,060 | 118,571 | 124,209 | 128,299 |
| Proprietor's employment | 21,877 | 19,357 | 19,829 | 20,313 |
| Farm Employment | 3,826 | 3,612 | 3,850 | 3,726 |
| Non-Farm Employment | 135,111 | 134,316 | 140,188 | 144,886 |
| Components by Industry | 1997 | 1998 | 1999 | 2000 |
| Private | 122,311 | 121,272 | 126,852 | 131,129 |

| | | | | |
|---|--------|--------|--------|--------|
| Ag. serv., forestry, fishing, and other | 2,226 | 2,214 | 2,352 | 2,553 |
| Mining | 136 | 129 | 132 | 130 |
| Construction | 8,432 | 8,121 | 8,507 | 8,879 |
| Manufacturing | 40,962 | 42,218 | 44,058 | 45,401 |
| Transportation and public utilities | 3,575 | 4,005 | 4,353 | 4,618 |
| Wholesale trade | 5,051 | 5,193 | 5,293 | 5,350 |
| Retail trade | 21,406 | 21,571 | 23,403 | 23,619 |
| Finance, insurance, and real estate | 7,174 | 7,161 | 7,105 | 7,527 |
| Services | 33,349 | 30,660 | 31,649 | 33,052 |
| Government and government enterprises | 12,800 | 13,044 | 13,336 | 13,757 |
| Federal, civilian | 498 | 487 | 503 | 539 |
| Military | 544 | 520 | 520 | 526 |
| State and local | 11,758 | 12,037 | 12,313 | 12,692 |

Source: U.S. Department of Commerce - Economics and Statistics Administration - Bureau of Economic Analysis, Issued May 2002

Land Ownership and Issues



- Michigan Natural Resource Trust Fund.** The MNRTF has funded 1,115 acres of the Bass River Recreation Area. The MNRTF has provided financial assistance to protect natural resources and open space, purchase lands for outdoor recreation, and acquire land for its environmental importance or scenic beauty. The Fund's Board of Trustees and the Grants Administration Division of the DNR administer the program. Only state and local governments may apply to the fund to acquire property. Annual revenue from oil, gas, and mineral leasing supports the fund.

There are eleven evaluation criteria for grant funding: the protection and use of significant natural resources, use of inland waters, population served, economic benefits, hunting, fishing and other wildlife-related values, need for proposal, capability of applicant, site and project quality, special initiatives of the Fund board, financial need of the applicant, and local match contribution. Development projects have a minimum grant amount of \$15,000 and a maximum of \$500,000. There is neither a minimum nor a maximum amount on land acquisition grants. Since 1976, the Fund has purchased more than 135,000 acres of land in Michigan.

*Information obtained from *The Trust for Public Land* (www.tpl.org/)

- Multiple Funding Sources.**

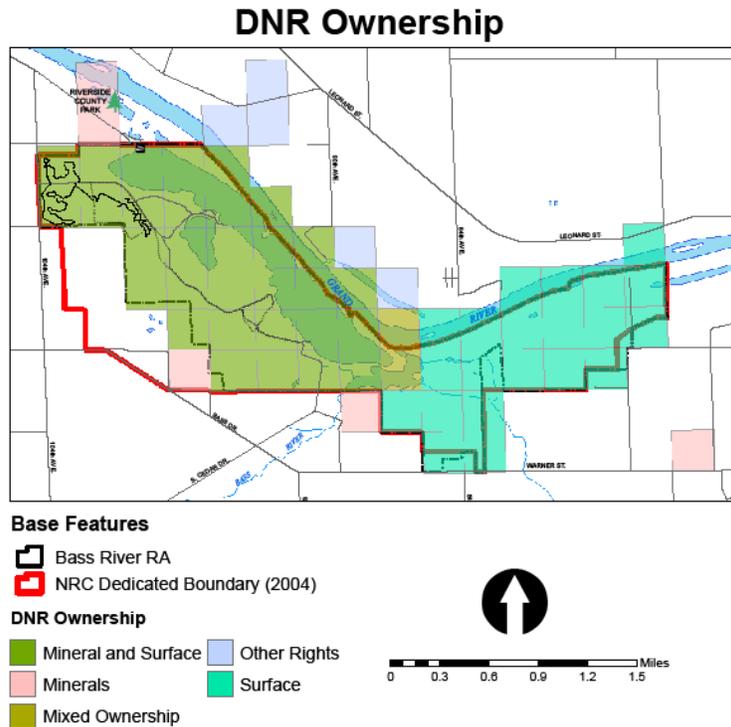
Combined with Michigan Natural Resource Trust Fund dollars, local governmental units, private citizens, and various wildlife constituencies have supported the subsequent acquisition of 550 acres for the recreation area. The monetary contributions came from Duck's Unlimited (\$50,000), Michigan Duck Hunter's Association (\$10,000), and Macatawa Bay Waterfowl Association (\$25,000). These generous pledges were given with a general understanding that the 550 acre addition to the Bass River RA would be managed to sustain and even promote hunting opportunities along the Grand River in Ottawa County.



**Partnerships for Conservation
Plaque**

Ottawa County has also purchased some land parcels along the Grand River as part of their Grand River Greenway Plan, which compliments the existing state-owned land.

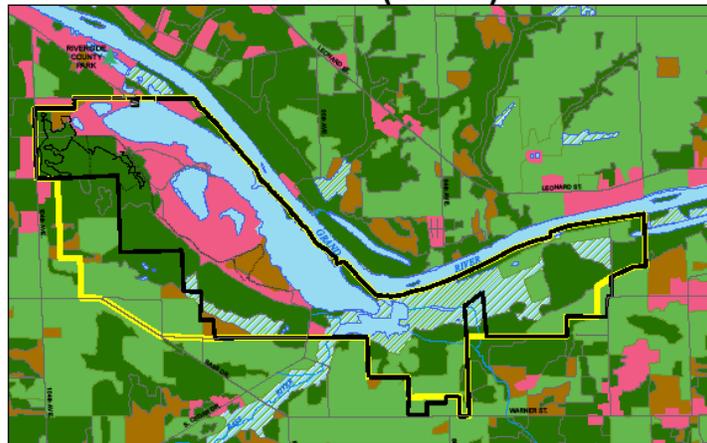
The map below illustrates the land “rights” associated with the purchased lands.



- **Current land use.** Presently, Bass River RA is an undeveloped tract of land. However, Bass River RA is currently used by a number of user groups. The trail system, which is mainly both single-tracks and old two-tracks, is used by hikers, bikers, and equestrian users. Hunting is very popular, primarily on the eastern 550 acres, and fishing is also popular on the Grand River. A local water skiing group signs a use permit each year to water ski on Buddy’s Pond. At one time, Waste Management Inc. sought to put a landfill in at the Gravel Pits, but their efforts failed. Several old monitoring wells exist and an old clay cell/waste disposal system exists within the park.

The following maps illustrates land use of the park property in 1978, and the current park layout.

Landuse (c1978)

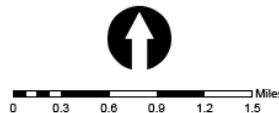


Base Features

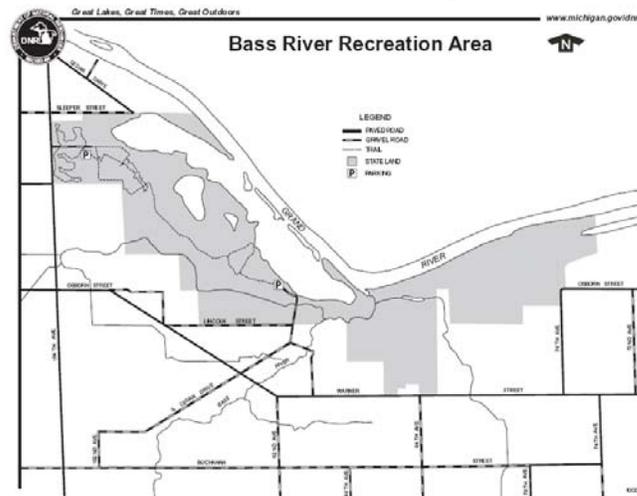
- Bass River RA
- NRC Dedicated Boundary (2004)

Landuse (c1978)

- Agricultural Land
- Forest Land
- Rangeland
- Urban and Built Up
- Water
- Wetlands



Current Park Layout



Local Zoning

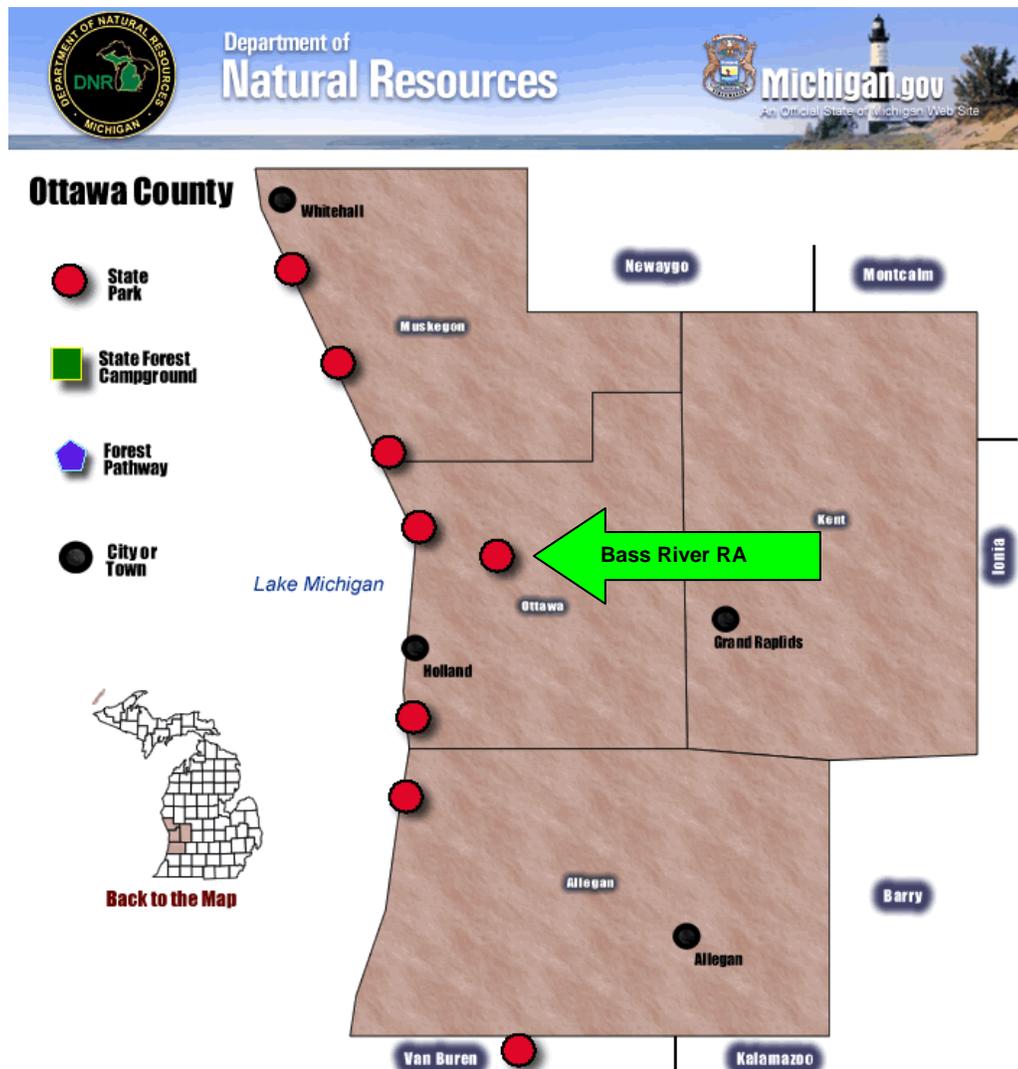
- **Allendale Township** - Zoned Agricultural with the purpose to provide sites for single family development and maintain a rural atmosphere. Lands in this district may be used for recreational purposes, but low intensity uses shall be maintained because there are no municipal services available at this time. Permitted uses include conservation for flora and fauna, forest preserves, and game refuge. Parks and recreation areas owned by a governmental agency are also a conforming use. There are a number of recreational uses that require a special development

approval. These uses include campgrounds, riding stables, marinas, public utilities buildings, and shooting ranges.

- **Robinson Township** - A special building permit is needed for any development within the floodplain area. Development is defined as “any man made change to improved or unimproved real estate, including but not limited to buildings other than structures, mining, dredging, filling, grading, paving, excavation, or drilling operations.

Other regional recreational opportunities

- **State Parks** - Bass River RA is located in an area with a variety of recreational resources. Grand Haven State Park and Holland State Park complement Bass River RA in Ottawa County. North of the park, in Muskegon County, there are another three state parks: Hoffmaster, Muskegon, and Duck Lake state parks. Saugatuck Dunes State Park is located to the south of Bass River RA in Allegan County.



- **State Game Areas** – and other lands open to hunting. The map below illustrates the paucity of public lands open for hunting in Ottawa County. Bass River RA represents a significant opportunity for hunters.

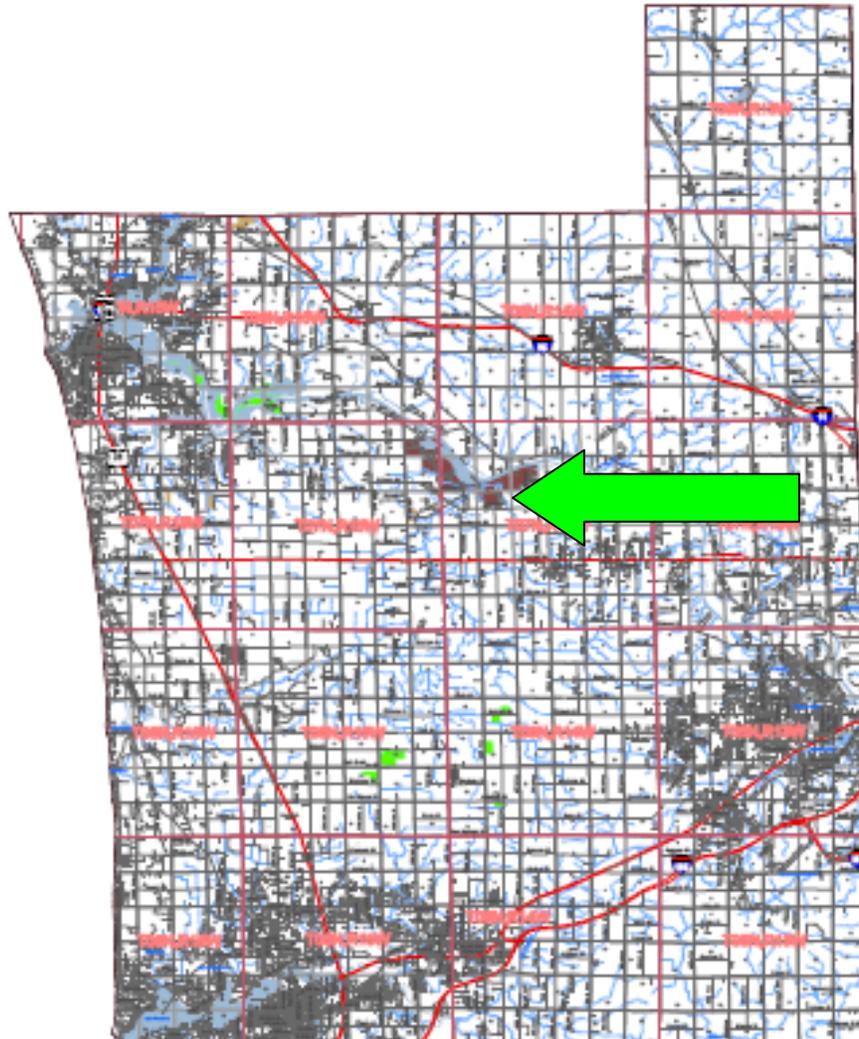
- Open to Public Hunting**
- State Forest Land
 - State Wildlife/Game Areas
 - State Parks and Recreation Areas
 - Commercial Forest Land
 - National Forest
 - National Lakeshore Boundary
 - National Park Service
 - US Fish and Wildlife Service
 - ★ Hunter Access Program (HAP)*

Bass River RA



Great Lakes
Great Times
Great Outdoors
www.michigan.gov/dnr

**Lands Open to Public Hunting
Ottawa County**



- **Local Units of Government** - Ottawa County Parks manages an additional 4,500 acres of lands. Ottawa County has 13 developed parks and seven unimproved parks. Ottawa County's Riverside Park is adjacent to Bass River RA providing visitors another mile of frontage on the Grand River. Riverside Park also has a picnic area, boat launch, and toilets.

For more information on Ottawa County Parks please visit : <http://www.co.ottawa.mi.us/ParksVI/Parks/default.htm>.

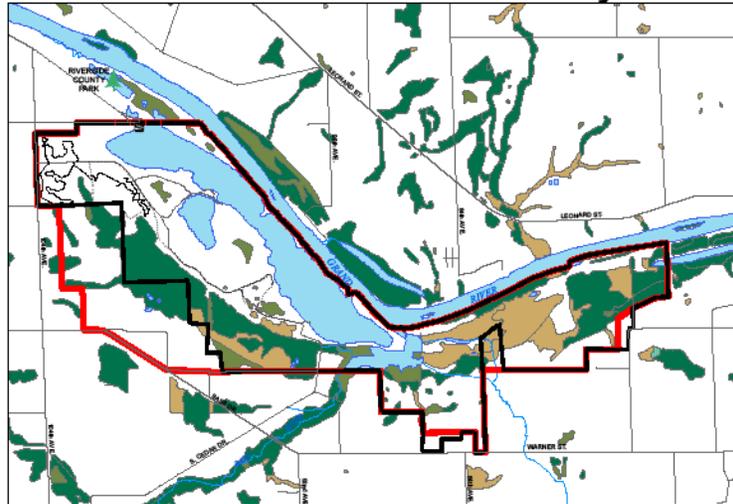


Other parks

Natural Resources

- **Lakes, streams, and wetlands** - Bass River RA has unique water resources adjacent to and within its borders. The recreation area offers significant frontage, 3 miles, on the Grand River at a place where the Bass River flows into the Grand River. The lowlands by the river have created a bayou ecosystem, which is characterized by having wetland soils. Below, is a map of the wetlands of Ottawa County taken from the National Wetlands Inventory.

National Wetlands Inventory

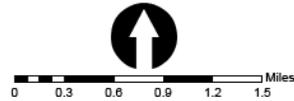


Base Features

- Bass River RA
- NRC Dedicated Boundary (2004)

Wetland Classes

- Aquatic Bed
- Forested
- Emergent
- Scrub-Shrub



- **Flora and fauna.** MNFI has not yet conducted an inventory for the park.

Ottawa County's Natural Features Inventory includes the names of species that are threatened, of special concern, or endangered within the County.



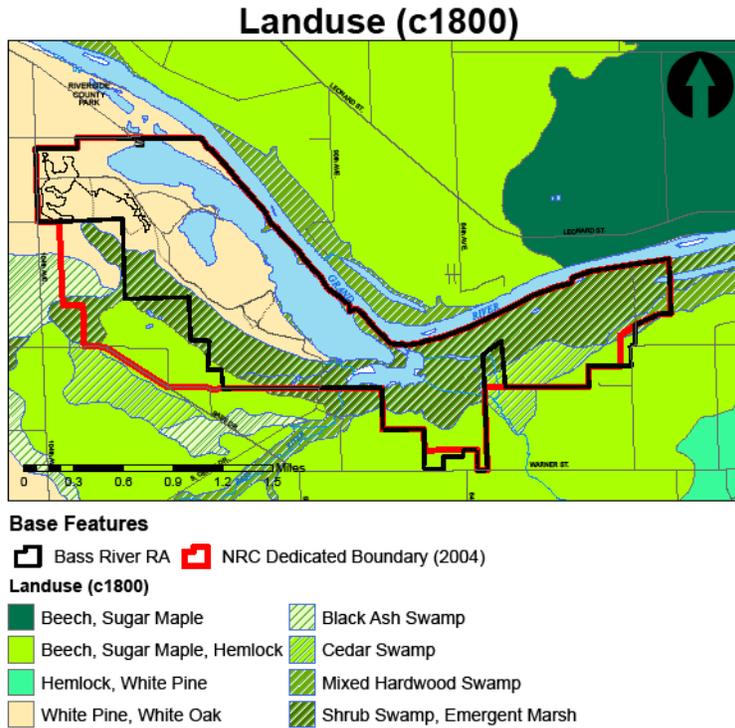
Ottawa County

Current as of 5/25/2006

| Scientific Name | Common Name | Federal Status | State Status |
|-----------------------------------|--------------------------|----------------|--------------|
| <i>Accipiter cooperii</i> | Cooper's Hawk | | SC |
| <i>Acris crepitans blanchardi</i> | Blanchard's Cricket Frog | | SC |
| <i>Adlumia fungosa</i> | Climbing Fumitory | | SC |
| <i>Anodonta subgibbosa</i> | Lake Floater | | T |
| Bog | | | |
| <i>Buteo lineatus</i> | Red-shouldered Hawk | | T |
| <i>Carex davisii</i> | Davis's Sedge | | SC |
| <i>Cirsium pitcheri</i> | Pitcher's Thistle | LT | T |
| <i>Cistothorus palustris</i> | Marsh Wren | | SC |
| <i>Clemmys guttata</i> | Spotted Turtle | | T |
| <i>Clonophis kirtlandii</i> | Kirtland's Snake | | E |
| <i>Coregonus artedi</i> | Cisco or Lake Herring | | T |
| <i>Dendroica dominica</i> | Yellow-throated Warbler | | T |
| Dry-mesic southern forest | | | |

| | | | |
|--|--|--------|----|
| <i>Eleocharis tricostata</i> | Three-ribbed Spike-rush | | T |
| Emergent marsh | | | |
| <i>Emys blandingii</i> | Blanding's Turtle | | SC |
| <i>Euphorbia commutata</i> | Tinted Spurge | | T |
| <i>Euxoa aurulenta</i> | Dune Cutworm | | SC |
| <i>Falco peregrinus</i> | Peregrine Falcon | | E |
| <i>Galearis spectabilis</i> | Showy Orchis | | T |
| Great Blue Heron Rookery | Great Blue Heron Rookery | | |
| Great lakes barrens | Barrens, Upper Midwest Type | | |
| Great lakes marsh | | | |
| <i>Gymnocladus dioicus</i> | Kentucky Coffee-tree | | SC |
| <i>Haliaeetus leucocephalus</i> | Bald Eagle | LT,PDL | T |
| <i>Hybanthus concolor</i> | Green Violet | | SC |
| <i>Hypericum gentianoides</i> | Gentian-leaved St. John's-wort | | SC |
| <i>Ictiobus niger</i> | Black Buffalo | | SC |
| Interdunal wetland | Alkaline Shoredunes Pond/marsh, Great Lakes Type | | |
| <i>Lithospermum latifolium</i> | Broad-leaved Puccoon | | SC |
| <i>Lycopodium appressum</i> | Northern Prostrate Clubmoss | | SC |
| <i>Mertensia virginica</i> | Virginia Bluebells | | T |
| Mesic northern forest | | | |
| Mesic southern forest | Rich Forest, Central Midwest Type | | |
| <i>Morus rubra</i> | Red Mulberry | | T |
| <i>Moxostoma carinatum</i> | River Redhorse | | T |
| <i>Nelumbo lutea</i> | American Lotus | | T |
| <i>Notropis dorsalis</i> | Bigmouth Shiner | | |
| <i>Notropis texanus</i> | Weed Shiner | | X |
| Open dunes | Beach/shoredunes, Great Lakes Type | | |
| <i>Panax quinquefolius</i> | Ginseng | | T |
| <i>Poa paludigena</i> | Bog Bluegrass | | T |
| <i>Proserpinaca pectinata</i> | Mermaid-weed | | E |
| <i>Pterospora andromedea</i> | Pine-drops | | T |
| <i>Pycnanthemum verticillatum</i> | Whorled Mountain-mint | | SC |
| <i>Rallus elegans</i> | King Rail | | E |
| <i>Ranunculus ambigens</i> | Spearwort | | T |
| <i>Rhexia mariana</i> var. <i>mariana</i> | Maryland Meadow-beauty | | T |
| <i>Rhexia virginica</i> | Meadow-beauty | | SC |
| <i>Rotala ramosior</i> | Tooth-cup | | SC |
| <i>Sisyrinchium atlanticum</i> | Atlantic Blue-eyed-grass | | T |
| <i>Strophostyles helvula</i> | Trailing Wild Bean | | SC |
| <i>Terrapene carolina carolina</i> | Eastern Box Turtle | | SC |
| <i>Trillium nivale</i> | Snow Trillium | | T |
| <i>Wilsonia citrina</i> | Hooded Warbler | | SC |
| <i>Zizania aquatica</i> var. <i>aquatica</i> | Wild-rice | | T |

This map shows the 1800's presettlement vegetation that existed within Bass River RA. The western portion of the park was mostly comprised of White Pine and White Oak Forest. The southern and easterly portions of the park were made up of shrub swamp / emergent marsh and cedar swamp. Mixed hardwood swamp existed along the Grand River and Bass River. Mixed hardwood swamp existed along the Grand River and Bass River.



Climate

| CLIMATE | | |
|----------------|--------------------|--------------------|
| MONTH | AVG. MIN TEMP | AVG. MAX TEMP. |
| January | 19F./-7C. | 31F./-1C |
| July | 62F./17C. | 79F./26C. |
| PRECIPITATION | RAINFALL | SNOWFALL |
| Average Annual | 31in./79cm. | 75in./191cm. |
| GROWING SEASON | DAYS ABOVE 90F/32C | DAYS BELOW 0F/-18C |
| 173 | 3 | 3 |

Source: NOAA Climate Summary, 1995

Recreational Resources

Bass River RA provides hunting, hiking, biking, equestrian, and other outdoor recreational activity. The picturesque views of the waterfront along the Grand River provides for excellent nature viewing. The Public Boat Access Site, while unimproved, allows visitors a chance to fish Max Lake, Bass River, and Grand River for their numerous species of fish. In the winter, cross-country skiers utilize the existing trail system and gravel pits.

Features



Hunting



Hiking



Bridle Trails - Trails may have other designated uses.

About six miles of trails are shared with mountain bikers and hikers.



Mountain Biking

About six miles of trails are available on Blue and Red loops and are shared with equestrian riders and hiking. A small gravel parking area can be accessed off 104th Avenue between Sleeper and Johnson Roads.



Boating Access Site/Launch - Access for boating and fishing.

The launch provides access to the Grand River from Max Lake. This is an unimproved, gravel boat launch.



Cross Country Ski

Trails

[Bass River-Multi-Use Trail](#) - 6
(Miles), Hiking, Bridle, Mountain
Biking, Cross Country Ski

PARK USE STATISTICS AND ECONOMIC IMPACTS – 2008 Data

- **Park Use** – Bass River RA is within one hour's drive of greater metropolitan Grand Rapids and Muskegon. As an undeveloped recreation area, it still drew in 26,530 visitors in 2008. These visitors primarily engaged in trail use (mountain bike and equestrian), boating, fishing, and hunting.

Characterization of park use is described as follows: (based on 2004 MDNR-Park Attendance Statistics)

- Peak-Use Season – While the park shows strong visitor use all throughout the year, the highest use period occurs from the months of May to October. During this time, Bass River RA averaged 3,434 visitors per month for six months.
- Moderate-Use Season – April and November show less use, while winter use from December to March averaged approximately 1,000 visitors per month. A steady attendance during the winter months illustrates the popularity of trail use at Bass River RA.
- **Economic Impacts** - Michigan State University (Dr. Dan Stynes) developed an economic analysis model known as “MGM2”. This model is an update of the MGM model developed by Dr. Ken Hornback for the National Park System in 1995. The purpose of the updated MGM2 model is to estimate the impact of park visitor spending on the local economy. These economic impacts are reflected in terms of sales, income, employment, and value added.

This analysis tool, like others, relies on three primary factors in the common equation:

Economic Impact of Tourism Spending = Number of Tourists (x)
Average Spending per Visitor (x) Multiplier (to estimate extended effects of direct spending).

For our purposes of conducting a very basic review of impacts, we have utilized the “MGM2-Short Form” version of the program, which simplifies the extent of analysis required for input, and utilizes more generalized multipliers for spending outputs. For the non-economist, this provides an excellent tool for this desired baseline assessment of the economic impacts of our parks.

Because Bass River RA is an unimproved park, the economic impacts to the local community are modest. Following are the relative economic impacts (based on 2008 data) of Bass River RA to the economy of Ottawa County:

- **Direct Economic Effects To The Community** - (all from Day-Use activity...no camping revenues at this park)
 - Direct spending attributable to Bass River RA visitors totaled \$282,000.
 - Jobs totaled 9. (Note...jobs are not full-time equivalent. They include part-time and seasonal positions.)

- Personal Income total is \$96,000.
- Value added (total income plus business taxes) totaled \$145,000.
- **Total Economic Effects To The Community** - (NOTE...this reflects 'Direct Effects' plus the 'Secondary Effects' of visitor spending on the local economy. Secondary Effects (sometimes called 'Multiplier Effects') capture economic activity that results from the re-circulation of money spent by the park visitors in the community.
 - Total spending = \$373,000 (32% over direct spending)
 - Jobs = 10 (10% over direct job impacts)
 - Personal Income = \$126,000 (31% over direct spending)
 - Value added = \$201,000 (39% over direct value added)

For purposes of updating economic values, the Consumer Price Index (CPI) is often used to adjust values over time. At the following site, <http://www.bls.gov/home.htm> a CPI Inflation Calculator is located in the category of "Inflation and Consumer Spending".

PLANNING OVERVIEW

Meetings:

- | | |
|----------------------|---------------------------------|
| ▪ September 12, 2006 | Start-up Planning Team Meeting |
| ▪ June 12, 2007 | Follow-up Planning Team Meeting |
| ▪ (Date) | Stakeholder Meeting |
| ▪ (Date) | Public Input Meeting |

Plan Reviews:

- | | |
|----------|---|
| • (Date) | RD - Section Chiefs |
| • (Date) | RD – Management Team |
| • (Date) | SLP – Ecoteam |
| • (Date) | DNRE - Statewide Council |
| • (Date) | Michigan State Parks Advisory Committee |