

Shiawassee River State Game Area



Photo: Incoming storm over Prior Rd. refuge units. J. Heise 2020

2020-2021 Annual Hunting and Trapping Season Report

Management Unit: Southeastern Management Unit

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Introduction

The Shiawassee River State Game Area (SRSGA) is 9,878 acres of lowland hardwoods, diked impounded cropland, cropped upland, riverine marsh, and managed impounded emergent marsh located about 10 miles southwest of Saginaw in the town of St. Charles. The game area is located within the Saginaw River floodplain (Shiawassee Flats Critical Flood Storage Area) and lies at the confluence of the Shiawassee River, the North and South branches of the Bad River, and Wolf, Beaver, Pickerel, Marsh, and Swan Creeks.

SRSGA initial planning and construction efforts began in 1951 with the clearing of floodplain forest to allow for farmed impoundments, the dredging of ditches, and placement of pumps and water control structures to allow for year-round water level manipulation, and the subsequent placement of over 40 miles of dike. All this effort was geared towards making the game area, and neighboring 10,000-acre Shiawassee National Wildlife Refuge, a preeminent migration stopover for the tens of thousands of Canada geese and puddle and diving ducks that move through the area each year during spring and fall migrations.

Area Goals and Management Emphasis

The primary goals for the SRSGA are to provide essential habitat for migratory and resident game and non-game wildlife species and to provide recreational opportunities for hunting, trapping, and wildlife viewing.

The operation of managed waterfowl areas is identified as a high priority action for the Wildlife Division and meets the following Guiding Principles and Strategies (GPS) goals and objectives:

Goal 1: Manage for sustainable populations of wildlife species.

Objective 1.1: Manage game populations to provide hunting and trapping opportunities while maintaining populations in balance with available habitat, land use practices, and stakeholder values.

Goal 4: Increase public participation, acceptance, and support of hunting and trapping to increase participation in non-consumptive wildlife-related recreation.

Objective 4.3: Increase the retention rate of hunting and trapping license purchasers by 25%.

Goal 5: Improve communication and engagement with the public regarding wildlife issues.

Objective 5.1: Increase public understanding and awareness of wildlife management and Division programs.

Significant Habitat Management

Providing food and cover on upland units continues to be one of the main management objectives for SRSQA. This year due to the COVID-19 restrictions, which included Executive Directive 3 (spending restrictions) and Executive Directive 4 (hiring restrictions), there was a reduced amount of habitat and upland food plot work completed in 2020 compared to previous years.

Habitat work and food plot planting work was also significantly impacted by severe and prolonged flooding of the Shiawassee Flats due to the Sanford and Edenville dam failures. This event inflicted substantial damage to the game area's infrastructure resulting in 48 locations that were impacted with dike erosion, complete dike failures, flooded pump motors, and large debris deposits. Increases in Tittabawassee River flows directly impact the game area regardless of the year, but this event was the largest to occur since the flood of 1986. The DNR is working with the Natural Resources Conservation Service via their Emergency Watershed Protection Program, which is a federal aid funding program, to help fund ongoing repairs.

Because of this flooding, additional spring rains, and Stay Home, Stay Safe telework protocols, planting on the entire game area was delayed. John Oakes, one of the area's sharecroppers, managed to get his shares planted on the game area prior to the dam failures. Unfortunately, all those shares were lost due to resultant flooding conditions. Around the 20th of June Bob Walker, the area's other sharecropper, was able to get all his upland shares planted after flood waters receded. Because of a reduction of sharecropping and budget restrictions, a local farmer and member of the Shiawassee Flats Citizens and Hunters Association (SFCHA), Leo Gross planted approximately 30 acres of corn during the week of June 21st (some of his costs were covered by the SFCHA). This corn matured well and provided good cover in most of the hunting zones. Due to a failed pump, the 30-38 and 39-48 field remained wet well into the summer and never dried enough to get corn planted. Eleven acres of sorghum was planted in some of the zones but only provided marginal cover. DNR staff planted 60 acres of small grains in 55-60 and planted approximately 30 acres of Japanese millet during the week of July 1st. Approximately 200 acres of small grains were planted in fields 1-5, 9-14 and the 30's by DNR staff and Leo Gross. SFCHA members hand-broadcast millet seed in the 40's in areas that were dry enough to traverse with a quad.

Land Acquisition Update

There were no new land acquisitions in 2020.

Area Maintenance

- Manipulated water levels for planting, hunting, and wetland management.
- Distributed 100 tons of 23a crushed limestone and 100 tons of 4a limestone to dike tops throughout the area to maintain structure and access.
- Rented a front-end loader for two months to help with dike repairs.
- Administered sharecrop agreements covering about 2,500 acres of land.

- Hauled approximately 4,500 yards of fill to holes in dikes throughout the area to address and repair flood damage.
- Installed new 30's pump and pad.
- Repaired six major holes in dikes with help from staff from other areas (Todd Owen, Marvin Kish, Pat Brickel, Glen Lampela, Dan Bailey and Cole Kelly).
- Monitored water levels and relocated equipment due to the flood waters from the dam failures in Midland county.

Special Projects

Upon completion of an application and associated fee, a local beekeeper was again allowed to place beehives throughout the area to provide for more effective crop pollination.

All special projects were put on hold due to COVID-19 and associated work restrictions from the pandemic.

Recreational and Educational Activities and Special Events

Table 1. Number of user trips and harvest numbers for recreational consumptive activities at Shiawassee State Gamer Area 2016–2020.

HUNT/TRAP ACTIVITY	2016 TRIPS	2017 TRIPS	2018 TRIPS	2019 TRIPS	2020 TRIPS	2016 HARVEST	2017 HARVEST	2018 HARVEST	2019 HARVEST	2020 HARVEST
Waterfowl	6,046	5,337	4,932	4,400	4,480	6,994	8,049	6,823	6,169	6,293
Deer	N/A	N/A	N/A	N/A	N/A	75	75	70	54	N/A
Muskrat	N/A	N/A	N/A	N/A	N/A	1,636	3,194	2,449	N/A	N/A
Beaver	N/A	N/A	N/A	N/A	N/A	10	25	1	N/A	N/A
Raccoon	N/A	N/A	N/A	N/A	N/A	37	35	64	N/A	N/A
Fox	N/A	N/A	N/A	N/A	N/A	1	0	0	N/A	N/A
Mink	N/A	N/A	N/A	N/A	N/A	20	11	14	N/A	N/A
Opossum	N/A	N/A	N/A	N/A	N/A	1	2	0	N/A	N/A
Otter	N/A	N/A	N/A	N/A	N/A	4	1	1	N/A	N/A
Coyote	N/A	N/A	N/A	N/A	N/A	1	0	0	N/A	N/A
Woodchuck	N/A	N/A	N/A	N/A	N/A	0	0	0	N/A	N/A

The listed waterfowl harvest (ducks plus geese) and hunter trips in Table 1 are for the regular, 60-day waterfowl season, and they do not include early seasons (September teal, September goose, or youth/Liberty hunts) or the late Canada goose seasons.

Deer harvest is the total number of deer reported on returned post-harvest surveys; because the surveys are not required to be returned, actual harvest is higher than indicated. No post-hunt harvest surveys were mailed for 2020 hunt due to spending restrictions.

Trapping permit totals were not collected from 2019 trappers due to required telework restrictions prior to the end of the trapping season. Due to low fur prices that past few years, it is likely that 2019 trapping harvest was below the past few year's average. Trapping permits for the 2020 season were issued out of the DNR Bay City Customer Service Center. These permits are still valid through March 31, 2021 for the 2020 season, which is after the publishing of this report; 2020 season totals will be included in the 2021 version of this report.

Waterfowl Banding

Due to reduced staffing, there was a reduction in banding efforts in 2020. Staff ran three floating traps and were able to band 76 wood ducks and 12 blue-winged teal.

Waterfowl Hunting Season

General Introduction

In 2020, there was a total of 4,480 hunter trips for the first split (58-days) of the 60-day waterfowl season and hunters harvested an average of 1.45 birds per trip, up from 1.40 birds per hunter trip in 2019. Permits were required to be returned either in person, by email, text, fax, regular mail, the kiosk drop box, or by using the drop tubes available in the area's four main parking lots. There was a strong effort taken to ensure permits were returned this year. Due to COVID-19 restrictions the location of the draw was changed for 2020. The drawing was conducted out of a booth in the equipment shop with drive thru service only; announcements, draw rules, and drawing results were broadcast over FM radio to prevent hunters from gathering in parking lots. There was only one draw per day (permit good for entire day) and the entire area was closed to waterfowl hunting on Thursdays. The waterfowl check station was open from 4:30 a.m. until the a.m. draw was complete and closed for the rest of the day. There were no cropped field permits available after the draw was complete. There were self-service permits available for the Wahl Rd. marsh (zones 67-76), flooded woods (zones 77-117), and rookery marsh (zones 137-150) areas of the game area. No zone changes were allowed, there was no checking of licenses, and hunters were not limited to what areas they could pick in the draw by party size.

Due to Executive Directive restrictions on hiring, there were no seasonal employees hired for check station operations in the fall. Victor Weigold and Jeremiah Heise conducted the waterfowl check station operations with assistance from Nate Levite (Saginaw Bay Field Operations Manager), Vicky Nagy (Wildlife Secretary), Cole Kelly (Wildlife Assistant), and Tammy Giroux (Wildlife Biologist). On November 13th Victor Weigold was advised of a non-work-related exposure to COVID-19 and was required to quarantine for 14 days. This put a large burden on remaining staff for both waterfowl check station and the upcoming 4 days of deer check.

During the regular goose season (October 10th – December 6th) hunters harvested 441 geese. The youth waterfowl hunting weekend, which occurred September 19th and 20th, coincided with the new veterans and active duty military waterfowl hunting days. These hunt periods were conducted via self-registration. Due to improperly filled out registration cards, continued stealing

of self-registration cards, and lack of cards being returned with accurate numbers, harvest data are not available for this hunt period.

Participation was low for the late split of the general waterfowl season, December 26th and 27th, due to cold weather and the area being largely froze over. This hunt was conducted via self-registration and 49 hunters were able to harvest an additional 200 ducks and one Canada goose.

The late goose season ran from January 23 – February 8, 2020. Late goose hunting was available on the area through self-registered permits but no hunters participated.

Weather and Habitat Conditions

For the 2020 farming season, sharecroppers planted only upland shares on the state game area (John Oakes got all of his shares planted just before the dam breeches but then lost all of them due to flooding). Between floods, continuous rainfall, and the Midland County dam failures, conditions never dried enough for the planting of corn and soybean shares on the bottomlands. The magnitude of this flood was said to be a 500-year flood event.

With the decision from the sharecroppers not to plant the bottomlands we had to come up with an alternative plan to get cover and small grains planted for migrating waterfowl. The SFCHA hired two local farmers (Leo Gross and John Oakes) to plant approximately 60 acres of corn. The corn did well and provided for good cover and food for migrating waterfowl.

Josh Imber planted approximately 60 acres of small grains in the Prior Road fields. Approximately 300 acres of small grains were planted in the zones 1-5, 9-14 and 30-38 fields. The 40's field never dried out enough to get traditional type corn or small grains plantings so members of the SFCHA broadcast 40 acres of Japanese millet throughout the field.

The south Prior Road field was left to 90 % moist soil with 60 rows of corn planted in the hunting zones. This field harvested more birds than any other field on the area.

Due to crop damage by deer and sandhill cranes, members of the SFCHA continued their scare program. The group took care of all aspects of the program filling propane cannons and moving them around the fields. It is believed to have helped some but did not completely obviate the problem. The group also took on the ambitious task of placing hundreds of scarecrows in the fields. This project evolved into what looked like someone having a family reunion out in the field but seemed to significantly reduce deer damage to the downsized corn strips in our hunting units. Members of the SFCHA donated over 400 hours this year just for the habitat program here and over \$40,000.

During the 60-day waterfowl season, temperatures ranged from a low of 17 degrees on December 31 to a high of 77 degrees on November 7.

Table 2. Days of high and low temperatures across the 2019 waterfowl hunting season with comparisons to 2020 at Shiawassee State Game Area, St. Charles, MI.

TEMPERATURE	2019 HIGHS	2020 HIGHS	2019 LOWS	2020 LOWS
ABOVE 50	19	30	0	4
40-49	19	21	10	13
32-39	18	9	20	27
BELOW 32	4	0	30	16

Migration and Waterfowl Numbers

Weekly waterfowl counts were completed on the Prior Road refuge (Table 3). Counts were conducted every Wednesday around 12:00 noon. The same observers, route and methods were used each week.

The east half of the flooded woods were again designated as a waterfowl refuge, but archery deer hunters could hunt the area.

Table 3. Shiawassee River State Game Area 2020 Prior Rd. refuge weekly waterfowl surveys.

DATE	DUCKS	GEESE	TOTAL WATERFOWL
12-SEP	774	96	870
19-SEP	1682	97	1,779
26-SEP	1960	135	2,095
03-OCT	1627	165	1,792
10-OCT	4265	810	5,075
17-OCT	3132	905	4,037
24-OCT	3271	980	4,251
31-OCT	6425	1585	8,010
07-NOV	9820	1850	11,670
14-NOV	10577	1650	12,227
21-NOV	12460	2150	14,610

Refuge count discontinued due to ice

Season Dates and Regulations

There was an early teal season held again this year that ran from September 1-16 with a 6-bird bag limit.

The waterfowl season was a 60-day, 6 bird daily limit. The first split (58 days) of the south zone opened on October 10th and ran through December 6th. There was a two-day December 26th and 27th late split. The six ducks per day bag limit could include no more than four mallards (no more than two of which could be a hen), three wood ducks, two redheads, one or two scaup depending on the date, one pintail, two black ducks and two canvasbacks. Hunters could also take five

mergansers, only two of which could be hooded merganser. The Canada goose bag limit was a part of an aggregate daily bag limit. From September 1-30, the dark goose aggregate daily bag limit for Canada geese, white-fronted geese and brant is 5, which only 1 can be a brant. After September 30, the daily limit for dark geese is 5, only 3 of which can be Canada Geese and 1 of which can be a brant.

Permits and Harvest

For the first two days of the regular waterfowl season, all hunt periods were preregistered with a maximum of 40 parties (Table 4). The opening day p.m. hunt and November 7 hunt were both youth priority draws; there was a veteran preference hunt day on November 11. There were no leftover draws after these priority draws.

Table 4. Pre-registered hunt attendance for the Shiawassee River State Game Area 2019-2020.

DATE	PERIOD	2019 PERMITS AVAILABLE	2020 PERMITS AVAILABLE	2019 PARTICIPANTS	2020 PARTICIPANTS
OPENING DAY	AM	40	40	36	34
OPENING DAY	PM	40	40	27	33
SECOND DAY	AM	40	40	30	31
SECOND DAY	PM	40	40	32	42

Table 5. Shiawassee River SGA waterfowl harvest totals 2015-2020.

CATEGORY	2015	2016	2017	2018	2019	5-YR AVERAGE	2020
HUNTER TRIPS	6,607	5,537	6,046	4,932	4,440	5,512	4,480
DUCKS	5,666	6,507	7,433	6,149	5,433	6,237	6,093
GEESE	1,051	916	933	674	869	888	441
DUCKS/HUNTER TRIP	0.86	1.00	1.34	1.24	1.14	1.11	1.36
TOTAL BIRDS/TRIP	1.02	1.15	1.24	1.38	1.25	1.20	1.45

Species Harvest

Species harvest by zone and field can be found in the Appendix.

Management Activities

Marsh restoration work that began was put on hold for 2020 due to COVID-19 and flood conditions.

Significant Projects

The new 30's pump station was completed in 2020.

Dike repairs due to the May flooding (ongoing).

Recommendations

- Continue with the number of pre-registered parties at 40, pending annual area conditions.
- Continue the following draw procedures that were adopted in 2020 for future seasons:
 - Do not check for waterfowl hunting licenses
 - Remove party zone draw preference
 - Utilize FM radio for draw speech and zone selection
- Continue to allow for fall tillage in the bottomlands in a manner with minimal topsoil disturbance; do not allow fall tillage of any kind in the decoy opening areas of the field.
- Purchase front-end loader.
- Purchase dump truck.
- Purchase new disk.
- Pursue long-term sharecrop agreements.
- Work closely with constituent groups while still being able to manage our game areas to benefit wildlife and improve habitats.
- Trust local staff to make judgments and decisions in matters concerning their areas when following the GPS.
- Replace the D41P dozer
- Back fill wildlife assistant left vacant by Joshua Imber, who accepted a position in Ohio (critical).
- Staff here will continue to explore options for our agricultural program here (examples - sharecrop agreements, moist-soil management, wildlife crop damage, tillage operations).
- Due to rising Great Lakes levels we will have to make recommendations on how to best manage our resources.

Prominent Partners and Volunteers

The following groups helped us to reach some of our management goals. Their generous donations of both time and money are greatly appreciated.

Shiawassee Flats Citizens and Hunters Association

- Funded repairs, planted crops, and provided recommendations in helping to establish waterfowl check station protocols.
- Contributed over \$40,000 to game area operations this year when our budgets were froze due to Executive Directive 3.

- Undertook major posting of the area, which included navigational signs throughout the area to better direct hunters to their hunting spot. This project was funded by the M.D.N.R. and the posting was done by SFCHA.
- Mowed willow brush at various locations
- Continued crop depredation activities to alleviate damage from sandhill cranes and deer in corn zones

St. Clair Flats Waterfowlers Association

- Contributed \$10,000 that was used for corn and small grains plantings.

Economic Benefits

Hunters, trappers, fishermen, wildlife viewers, and other area recreationalists use this area frequently throughout the year. The biggest influx of users on the area is during the fall when waterfowl and deer harvest opportunities exist. It is hard to put a dollar amount or percentage of sales amount on the contributions made to local businesses from users of the game area. With 4,400 waterfowl hunter trips, approximately 900 deer hunting days, and the number of trapping days, it is quite significant. This does not include fishing days, bird watching days, kayaking days or days where people are just enjoying the area on a walk. When talking to local business owners the percentage of increase varied from season to season and business-to-business. Overall, the estimates were from 5% to 25% increase in sales from people using the area and doing business with local merchants during times of open hunting seasons.

Opportunities

- Focus 2021 seasonal hiring on equipment operation to aid in ongoing, significant repairs.
- Due to the vast area that we manage and the susceptibility to floods, it is imperative that we take a proactive approach to dike maintenance. To take such an approach, we suggest a replacement schedule to update equipment. Large ticket items include a large dozer with 6-way blade (Cat D6 category), a front-end loader and a dump truck. Along with this approach it would be beneficial to have an additional wildlife assistant, which the game area used to have.
- Deer numbers on the game area seem to be stabilizing this year. Deer hunters seem to like the reduction in number of permits available and report seeing more deer with better antler development. The annual winter aerial survey was not flown this year due to COVID-19 restrictions.
- River levels are remaining high. This promotes ongoing challenges such as not being able to use gravity flow to dewater fields, which increases operational cost due to required pumping. This also provides challenges when completing projects- keeping project areas dry to accomplish earth moving operations continues to be challenging.

Deer Hunting Season

Season length and regulations

For the 2020 deer season, all aspects of the application and permitting process were completed through the State's Retail Sales System. The online application period ran from July 15 – August 15, 2020. Hunters were only allowed to apply for either the state or federal hunt areas but not both. Any leftover permits from hunt periods that did not fill up were available on a first come first serve basis until the hunt period met its quota. Hunters who were successful in the draw were also eligible to pick up a leftover permit. The 2020 season regulations were very similar to 2019 regulations save for a few adjustments in access permit allocations across the available hunt periods. Statewide rules and regulations applied to deer hunting on the game area. The youth hunt period for September 14th and 15th was also handled through the online process with 30 permits available.

Participation in drawings

Participation in a given years' drawing are posted with the [DMU 273 deer reserved hunt information sheet](#). Results from the 2020 drawing will be posted with the information sheet when it becomes available in July before the application period.

Hunter success

Deer harvest numbers are based solely on returned surveys and are applicable to the state land side of DMU 273 only. Due to spending restrictions, no post-hunt harvest surveys were mailed for 2020 hunts. With survey results from 2015-2019 hunts, staff have deemed this survey is likely not required on an annual basis.

Deer Check Station

Statewide deer check station operations were substantially curtailed compared to prior years in an effort to observe safety protocols for DNR staff and hunters. The St. Charles deer check station was open November 15–18 only and utilized the same drive-through process as the waterfowl check station. Hunters were required to stay in their vehicles throughout the deer check process and, outside of poor weather on opening day, ran very smoothly. Local staff, with assistance from other offices, registered a total of 498 deer across the four days that they check station was open.

Appendices

Follow on next pages

Appendix A. Daily duck harvest by zone and hunt period

Shiawassee River SGA - 2020 DUCK Harvest by Season Date and Zone

2020 DUCK	Hunt Date ¹	Hunt Period	1-4 Field				6-8 Field				9-14 Field				30s Field				40s Field				North Prior				South Prior				Marsh Zones						Period Total	Daily Total													
			1	2	3	4	6	7	8		9	10	11	12	13	14	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	55	56	57			58	59	60	61	62	63	64	65	66	A	River zones	Federal marsh	29
	Oct-10	AM	8	8	5	3		6	11	14	14	3				4				3	1	4				3	3	4	1		1	12	4	16	17	2				9					27	183					
	Oct-10	PM	8	9		11	3	1	2	11	7	9	10				2				12				1	1	3			20	16	6	17	5	1	1						6	3	5	170	353					
	Oct-11	AM	2	4			1	2	14	10	5	5								4				1	4	2	2	1	8	1	3	3	9					13	9	7	12	6	128								
	Oct-11	PM	2	15	2			1	2	15	4	4	2				13				2	1				1	9	8	1	1	3	12	1	6	2			3	15	5		13	142	270							
	Oct-12	All day	2	2	6			1	1	6	10	2	2	1				9	1				8				1	1	1	7	2	3	9	1	8	3	7	10		8		3	6	14	4	139	139				
	Oct-13	All day	6	12	14	2			2	1	4	2	2	1	1				14								1	2	3	1	9	1	18	10	1	9							11	127	127						
	Oct-14	All day	3	19	1			1		8	12	3	3				8								1	2	2	4	2	2	5	5	5	12	3						4	10	108	108							
	Oct-16	All day	1	4	4	11			4	2	4	2	10	2	7	9				2				1	3		6	5	11	10	2	12	5	17	1	8	8	3	7	7		26	194	194							
	Oct-17	All day	10	2	5				1	2	5	6	9	1				8				4				1	1	6	5	2	12	4	7	4	17	11	12	5	2			7	17	169	169						
	Oct-18	All day	9	18					4	1	12	19	18	3				2				2				13	5	5	18	7	1	1	8	8	3	1	6	10	6	5	18	210	210								
	Oct-19	All day	1	5						1		7	1	6	3				4									4	12		3	3	5	3			1	2		5	7	1	74	74							
	Oct-20	All day	1	20	2				3	2	3						1				8					5	12	1	5	4	1	2	2	3	2			9		6		6	92	92							
	Oct-21	All day	8	2	4					2	4	1	1	4				11									9	8	3	6	1	11	4	3			5					102	102								
	Oct-23	All day	1	3	2	2			1		7	8	6	1	1	2				3				1	8		7	1	12	3	4	9	1	6	1	9	12	17	6	8				19	161	161					
	Oct-24	All day							1		1	3	1	3	5												2	5	2	6	4	1	4	5	6	1	2	10	18	15			1	21	117	117					
	Oct-25	All day	2						2		4	1	5	2	4				9				1	10		3	17	1	5	1	1	1	3	3	13	9	6		9	3		6	2	2	123	123					
	Oct-26	All day									6	3	2						5	6						11	13	6	2	3	5	3	4	1	4			8				7	89	89							
	Oct-27	All day	2	1							5	6	1	5				12								3	8	10	4	3	3	4	6	3	8		6	10	4	1	9	3	117	117							
	Oct-28	All day	1						3	1	1	1	7	1				3	5				1				2	5	1	3	6	4	2	4	4	2	1		18	8			3	3	86	86					
	Oct-30	All day							2		12	2	3	2				9	11	6				7		13	6	4	7	6	2	5	5	9	1	7	6	18	8	6			32	3	192	192					
	Oct-31	All day							4	2			3	1				5	12						3	15	10	2	3	5	8	2	7	6	8	3	1	3			11	1	115	115							
	Nov-01	All day	3	6	4					3	5	8	12	10	6	6	6	9	10	16				1	4		8	7	9	12	4	4	6	2	15	22	1	8	24	29	12	12	6		20	4	4	314	314		
	Nov-02	All day	7	3					2		2	4	3	4	2				5	1	2				2		2	12	3	8	7	2	1	1	6		5	12			2	2	98	98							
	Nov-03	All day	1						1	1	1						6	3	3	2				2		3	6	5	3	4	10	7	3	4	10	7	1	27	5	2					90	90					
	Nov-04	All day	1						1		4	7						8	1	3	3				4		5	3	4	1	4	10	8	3		4					3		77	77							
	Nov-06	All day							4	4	2						3								4		4	1	3	1		3	2	1		3	2					58	58								
	Nov-07	All day							7	1							6	1	3								6	1	3								7		3		16	6	2	16	2	70	70				
	Nov-08	All day	1						6								2								2		5	1		2		1	2		1	1			13			3		34	34						
	Nov-09	All day							4	4							1								2		10				3	1					3					7			35	35					
	Nov-10	All day							1	2	2						2								2		10		1	1	1	2									3				15	15					
	Nov-11	All day	1						4	11		1					2								2		12	4	1	1	1	11	10	13			4	6	5			7		93	93						
	Nov-13	All day							5	1	4						1	1				2				14		1	9	4		6	5	17		4	4	6	5			22		111	111						
	Nov-14	All day							4	6	1	5						1								11	9	9	8	4	10	12	3	3		5	2			2		95	95								
	Nov-15	All day	1	4			2	1	1	13	2	2	9	4	10	4	18	2				4				5	1	12	1	18	1	4	1	6	1	14	32		3			11		187	187						
	Nov-16	All day							6	8		4								2	9				9	2	12	12	7	6	3	3				7		5		93	93										
	Nov-17	All day							4	12	13	1	7				3	2	8				2				3	12	2	4	12	1	16	5	12	1	10			1	1			20		154	154				
	Nov-18	All day							4	8	2	6	3														9	9	1	5	3	4	5	9					1		14		83	83							
	Nov-20	All day							1	8	7	2								3								4	3	5	1	7		5	4			1	4	4			3		59	59					
	Nov-21	All day							1	3	1						3								3		1		4		2	11	2	4	12		3	3			5		58	58							
	Nov-22	All day							1	3	2	2	2				4		7							5	5	2	2						15	10	7	2			11		88	88							
	Nov-23	All day							2	3	1						1								1		6	16	7			4	2	12	18	2		4			2		81	81							
	Nov-24	All day	1						6	12	6	4	3	3														14	4	9	10	4	2			3	6	1	24	4	4	6			11		138	138			
	Nov-25	All day	1						3	2							2								2		5	1	6	2	3		4	10	15	16	4	22	3	3			9	1	114	114					
	Nov-27	All day	1						1	4	3	1	2														3	7		4		13	4	3	3	4	2	4													

Shiawassee River SGA Waterfowl Species Harvest by Zone - 2020

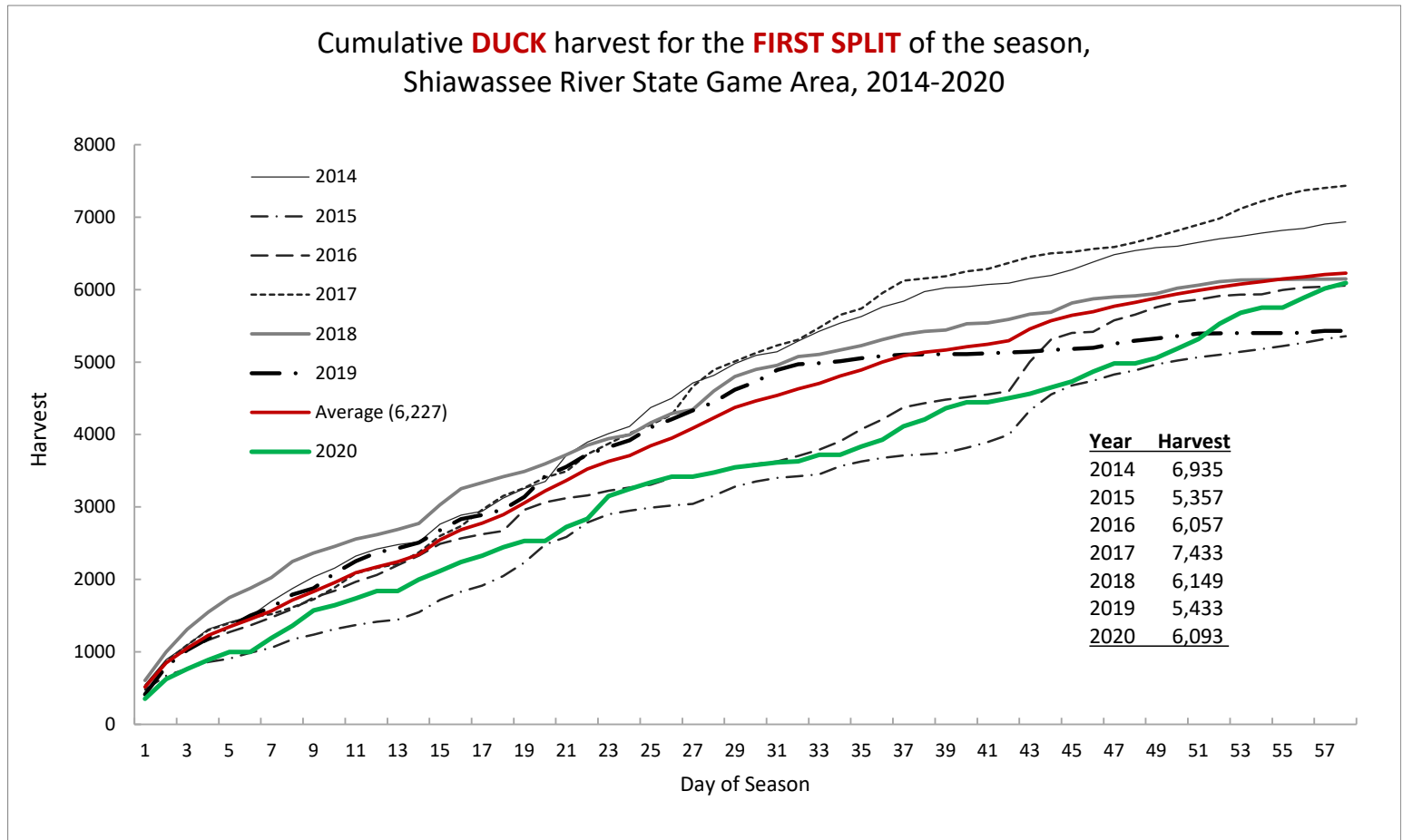
2020 Species Harvest by Zone/Marsh		1-5 Field			6-8 Field			9-14 field							30s Field							40s Field							North Prior						South Prior						Marsh Zones							Grand Total					
	Species	1	2	3	4	6	7	8	9	10	11	12	13	14	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	55	56	57	58	59	60	61	62	63	64	65	66	A zones	Federal marsh	29	Triangle marsh		53-54	Wahl Rd. marsh	Flooded woods	Rookery marsh	
Geese	Canada goose	2	7	2	5	5	14	11	18	29	29	10	7	11	1	1	4	2	13	3	3	2	2																						10	14	3	35	2	2	9	441	
Ducks	Mallard, male	15	31	43	25	5	4	1	90	104	105	28	45	33	10	9	6	47	28	3	8	12																						125	29	31	158	15	5	125	17	2,315	
	Mallard, female	11	23	23	16	7	1	2	29	62	48	23	16	23	12	12	5	59	42	1	12	8																						101	22	19	92	10		100	8	1,481	
	Total MALLARDS	26	54	66	41	12	5	3	119	166	153	51	61	56	0	22	21	11	106	70	4	20	20	0	0	0	17	16	31	0	2	137	219	99	189	43	153	57	181	98	238	121	243	8	226	51	50	250	25	5	225	25	3,796
		Wood duck	7	3	2	2	4	11	3	38	26	17	10	3	3																											37	7	7	5	3	55	33	273	11	667		
		Pintail	9	15	15	7	4	2	4	15	30	23	3	11	8	2	1	11	13	1																							12	4	4	25				2		442	
		Black duck	2	2			1	1		8	12	5	1	2	1	3	1	14	14																							17	4	2	12	3			14		241		
		Gadwall	1	2	2	2				1	3	2	2					2	2																							49	92	13	33	1	1	1	2		227		
		Green-winged teal	6	11	9	2	1			20	8	3	1	9	11			3	4	2	2																					12	4	1	6	1	6	17	5		200		
		Wigeon	1	5	6	1	1	1		5	12	1	3	5				1																								34	38		10	5			2		177		
		Shoveler	1	1						2	2	1	1	1				2	2																							1	2	14	15	6					155		
		Blue-winged teal	4	9	6					2	6	2	2	5																												2	16	6	1			1	3		73		
		Ring-necked	1							3	3	2	1																																1				2		53		
		Merganser spp.					2																																		4	4		2				2		22			
		Redhead								1		1	3					1																							1			1						13			
		Bufflehead								2																															1	1	2							8			
		Scaup																																										2						8			
		Goldeneye																																										1						2			
	Ruddy																																										1						2				
	Unk duck								2																															2							2		7				
	Total DUCKS	53	97	110	61	23	22	12	204	256	227	71	97	96	0	27	25	14	144	101	4	23	20	0	0	0	24	21	49	0	5	179	300	129	268	49	223	70	242	143	353	169	349	48	383	230	96	349	90	46	543	48	6,093
Other game	Coot	7	1	2	2						1	3	1		2																									3	1								26				
	Other game (unk spp.)														1																									1			1						3				
Grand Total (Geese + Ducks + Other)		62	105	114	68	28	36	23	222	285	256	82	108	108	3	28	29	16	157	104	7	25	22	0	0	0	25	25	50	0	6	182	331	132	284	55	239	74	276	153	383	175	373	48	396	245	99	384	90	48	545	57	6,563

Field/Marsh	Duck Harvest	Goose Harvest	Hunter Trips	Ducks per trip	Birds per trip
S. Prior	1326	105	708	1.9	2.0
N. Prior	1148	73	707	1.6	1.7
9-14	951	104	684	1.4	1.5
Flooded woods	543	2	463	1.2	1.2
River zones	383	10	378	1.0	1.0
30s	358	31	285	1.3	1.4
Triangle marsh	349	35	148	2.4	2.6
1-4	321	16	341	0.9	1.0
Federal marsh	230	14	168	1.4	1.5
40s	99	7	115	0.9	0.9
29	96	3	68	1.4	1.5
53-54	90	30	63	1.4	1.9
6-8	57		132	0.4	0.4
A	48		97	0.5	0.5
Rookery marsh	48	9	44	1.1	1.3
Wahl Rd. marsh	46	2	79	0.6	0.6
Grand Total	6,093	441	4,480	1.4	1.5

Species	2014	2015	2016	2017	2018	2019	2020
Mallard, male ¹		2,260	1,980	3,083	2,391	2,098	2,315
Mallard, female		1,616	1,370	1,731	1,527	1,302	1,481
Total MALLARDS	4,724	3,876	3,350	4,814	3,918	3,400	3,796
Wood duck	653	597	975	753	721	410	667
Shoveler	77	61	147	200	66	243	155
Green-winged teal	295	339	476	465	340	238	200
Pintail	307	178	372	348	212	228	442
Black duck	271	152	122	200	222	205	241
Wigeon	180	65	140	122	193	179	177
Blue-winged teal	73	40	65	40	47	164	73
Gadwall	96	64	158	165	201	143	227
Ring-necked	63	61	104	138	101	72	53
Redhead	32	28	38	35	34	59	13
Scaup	12	32	36	42	20	30	8
Merganser spp.	82	105	18	47	12	24	22
Unk duck	57	23	24	28	32	16	7
Ruddy	5	2	11	3		13	2
Bufflehead	9	30	15	10	14	9	8
Canvasback		11	4	11	6		
Hooded merganser			1		1		
MALL x ABDU			1	1	3		
Long-tailed duck					2		
Goldeneye		1		3	4		2
Grand Total	6,936	5,665	6,057	7,425	6,149	5,433	6,093

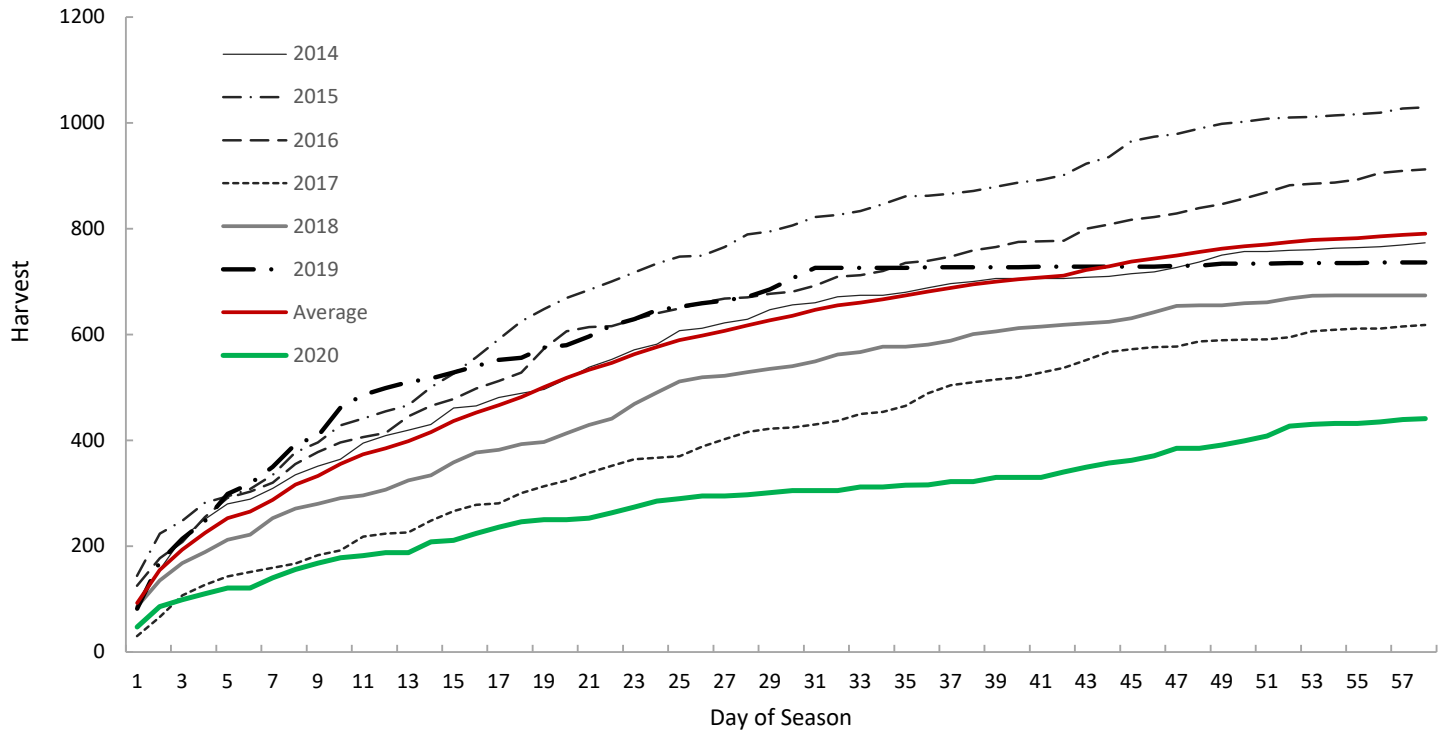
¹Mallard harvest data was collected at the sex level starting in 2015

Appendix D. Cumulative duck harvest by season day and year, 2014-2020.



Appendix E. Cumulative goose harvest by season day and year, 2014-2020.

Cumulative **GOOSE** harvest for the **FIRST SPLIT** of the season,
Shiawassee River State Game Area, 2014-2020



Appendix F. Cumulative hunter trips by season day and year, 2014-2020.

Cumulative **HUNTER TRIPS** for the **FIRST SPLIT** of the season,
Shiawassee River State Game Area, 2014-2020

