



2022 Wild Rice Harvester Survey

3/3/2023

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Contact information

Adam Landon. Ph.D.
Conservation Social Scientist
Fish and Wildlife Division
Minnesota Department of Natural Resources
Email: Adam.Landon@state.mn.us
Phone: 651-259-5183

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Background and study purpose

The Minnesota Department of Natural Resources (MNDNR) periodically conducts assessments of stakeholders' values, beliefs, attitudes, and behaviors pertinent to the natural resources it is entrusted to manage. In this study, we surveyed 2022 wild rice license holders to better understand their:

- 1) Participation in wild rice harvesting, and size of harvest;
- 2) Locations of wild rice harvest;
- 3) Timing of wild rice harvest;
- 4) Encounters and perceptions of conflict with waterfowl hunters;
- 5) Satisfaction with wild rice harvesting;
- 6) Perception of crowding;
- 7) Motivations for wild rice harvesting, and
- 8) Constraints to wild rice harvesting

Methods

Sampling and data collection

DNR Wildlife staff (we) conducted a census of all 2022 wild rice license holders (n = 1,532) aged 18 and over at the time of survey administration (October 1, 2022). We solicited responses using a repeat mail design with three points of contact. Each participant received a letter describing the study purpose, a questionnaire, and a postage-paid self-addressed return envelope (survey packet) at each contact. Non-respondents received a second and/or third survey packet roughly 3 weeks after the previous packet. Data collection ceased mid-December 2022.

Results of this study are representative of Minnesota Department of Natural Resources wild rice license holders. Tribal governments regulate the gathering of wild rice (*manoomin*) on their sovereign lands. Since 2016, members of Minnesota Tribes can harvest wild rice in Minnesota without needing a state harvesting license.

Response rate

We removed 89 individuals from the population owing to incomplete or inaccurate contact information. Data collection efforts results in 841 responses for an adjusted response rate of 58% (Table 1).

Table 1. Study response rate, undeliverable mail, and number of respondents

| Initial sample | Undeliverable | Respondents | Adjusted sample | Raw response rate | Adjusted response rate |
|----------------|---------------|-------------|-----------------|-------------------|------------------------|
| 1532 | 89 | 841 | 1443 | .55 | .58 |

Weighting

We weighted results according to proportional representation of respondents versus the population of wild rice license holders by age. Table 2 contains a summary of weights applied to the data to make representative estimates at the population level. We created four quartiles of age to calculate weights.

Table 2. Weighting schedule

| Weight Category | Population # | Population % | Respondent # | Respondent % | Weight |
|-----------------|--------------|--------------|--------------|--------------|--------|
| 18-28 | 391 | .2551 | 128 | .1522 | 1.6761 |
| 29-39 | 384 | .2505 | 194 | .2307 | 1.0858 |
| 40-55 | 403 | .2629 | 258 | .3068 | 0.8569 |
| 55+ | 355 | .2316 | 261 | .3103 | 0.7464 |

Summary of results

Participation and harvest

We asked respondents to report if they participated in harvesting wild rice during the 2022 season, how much rice they harvested, if they sold any rice they harvested, and how many days they spent harvesting wild rice during the season.

- Nearly all respondents (91%) indicated that they participated in wild rice harvesting in Minnesota during the 2022 season (Table 3).
- Of those that went ricing, the average reported harvest was 128 pounds per person (Table 4). We estimated a statewide harvest of 178,432 pounds of unprocessed wild rice.
- We estimated that 14% of wild rice harvesters sold rice that they harvested in 2022 (Table 5).
- On average, wild rice harvesters spent 2.8 days harvesting wild rice during the 2022 season. We estimated a total of 3,092 person days were spent harvesting wild rice in Minnesota in 2022 (Table 6).

Harvest location

We asked respondents to report their top 5 locations of harvest by waterbody, county, and nearest town, and the number of days they spent harvesting wild rice at that location. Figure 1 contains a depiction of the reported days spent harvesting wild rice in counties in Minnesota. These data are not an estimate of the population, but the raw number of days reported by survey respondents.

- Wild rice harvest effort was concentrated in the Northern half of the state (Figure 1).
- More than half (52%) of the days Minnesotans spent harvesting wild rice, as reported by survey respondents, occurred in Itasca, Cass, St. Louis, and Aitkin counties combined (Table 7).

Time and date of harvest

We asked respondents to report what days during the season they were active harvesting wild rice, and the time of day that they harvested wild rice during a “typical day” during the 2022 season.

- Harvesting effort peaked during the period September 3rd to September 7th, where greater than 50% of license holders reported going ricing (Figure 2). Very few license holders reported harvesting during the first and last days of the wild rice harvest season.
- More than 50% of wild rice harvesters reported that they were active harvesting wild rice during the entirety of the legal harvest day on a typical days, (Figure 3), and more than 80% reported harvesting between the hours of 10am and 12pm.

Experience and perceived conflict with waterfowl hunters

We asked wild rice license holders about their interactions with waterfowl hunters, whether or not those interactions negatively impacted their wild rice harvesting experience, perception of safety when encountering waterfowl hunters, and how they responded to encountering waterfowl hunters. Figure 4 contains a summary of estimates of the number of wild rice license holders that participated in the season, encountered waterfowl hunters, and perceived conflict from the encounter.

- Very few (5%) wild rice license holders reported that they avoided going ricing during the experimental early teal season in order to avoid waterfowl hunters (Table 10).
- Around a quarter (28%) of wild rice license holders reported that they encountered waterfowl hunters while they were harvesting wild rice in Minnesota in 2022 (Table 11). We estimated that 390 wild rice license holders encountered waterfowl hunters.
- Of the 28% of wild rice license holders that encountered waterfowl hunters while harvesting wild rice, 26% reported that encountering waterfowl hunters negatively impacted their experience (Table 12). We estimated that 101 wild rice harvesters encountering waterfowl hunters while ricing in 2022 perceived that the encounter negatively impacted their experience.
- Table 13 contains a summary of wild rice harvesters' responses to encountering waterfowl hunters. The majority of wild rice harvesters reported that they continued ricing as usual when they encountered waterfowl hunters. Some wild rice harvesters reported moving to another location in the waterbody. Very few rice harvesters quit ricing, moved to another waterbody, or decided that ricing was not important to them.
- Harvesters reported their agreement with the statement "I felt unsafe when encountering waterfowl hunters while harvesting wild rice in Minnesota in 2022." The majority of respondents that encountered waterfowl hunters (57%) either strongly, moderately, or slightly disagreed with the statement, while slightly more than a third (34%) agreed (Figure 5 and Table 14).

Satisfaction and crowding

We asked wild rice license holders about their overall satisfaction with ricing in Minnesota in 2022, and about their satisfaction with elements of the wild rice harvesting experience.

- Overall satisfaction with wild rice harvesting in Minnesota was very high. Three-quarters of respondents reported feeling either slightly, moderately, or very satisfied (Figure 6 and Table 15).
- Nearly 60% of wild rice harvesters reported satisfaction with elements of the wild rice harvest experience presented to them (Table 16).

Motivations

We asked respondents their agreement or disagreement with statements about why they go wild rice harvesting, including: to be outdoors; to gather food; to harvest rice to sell; to spend time with friends or family;

for relaxation; for challenge, and to maintain the ricing tradition. Figure 7 contains a summary of respondents' mean agreement/disagreement with motivation statements.

- Wild rice harvesters reported the strongest agreement with the statements “to be outdoors” and “to gather food” as motivations for participating in wild rice harvesting. Respondents, on average, disagreed that harvesting wild rice to sell was a motive for their participation (Table 17).

Constraints

We asked respondents how limiting certain elements of wild rice harvesting were to their participation, including: finding a processor; finding a buyer; knowing when to harvest; financial expense; knowing where to harvest; having proper equipment; physical challenge; finding a partner, and timing of the rice crop. Figure 8 contains a summary of respondents mean perceptions of constraint items.

- Wild rice harvesters, on average, reported that the timing of the rice crop and finding a rice processor were the most limiting factors to their participation, among those evaluated (Table 18).
- On average, wild rice harvesters rated finding a buyer the least constraining element of their participation (Table 18).

Figure 1. Days spent harvesting wild rice by Minnesota county as reported by survey respondents

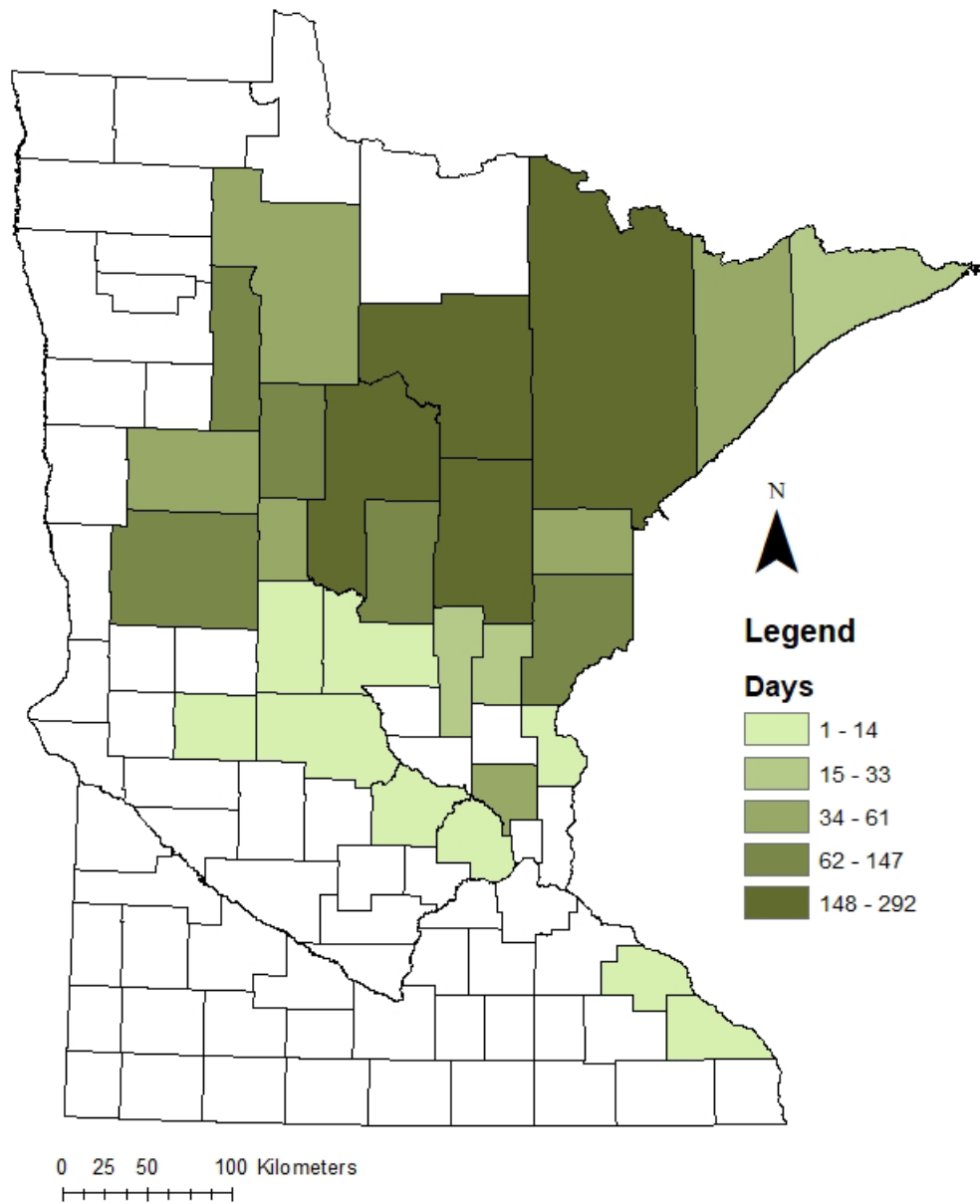
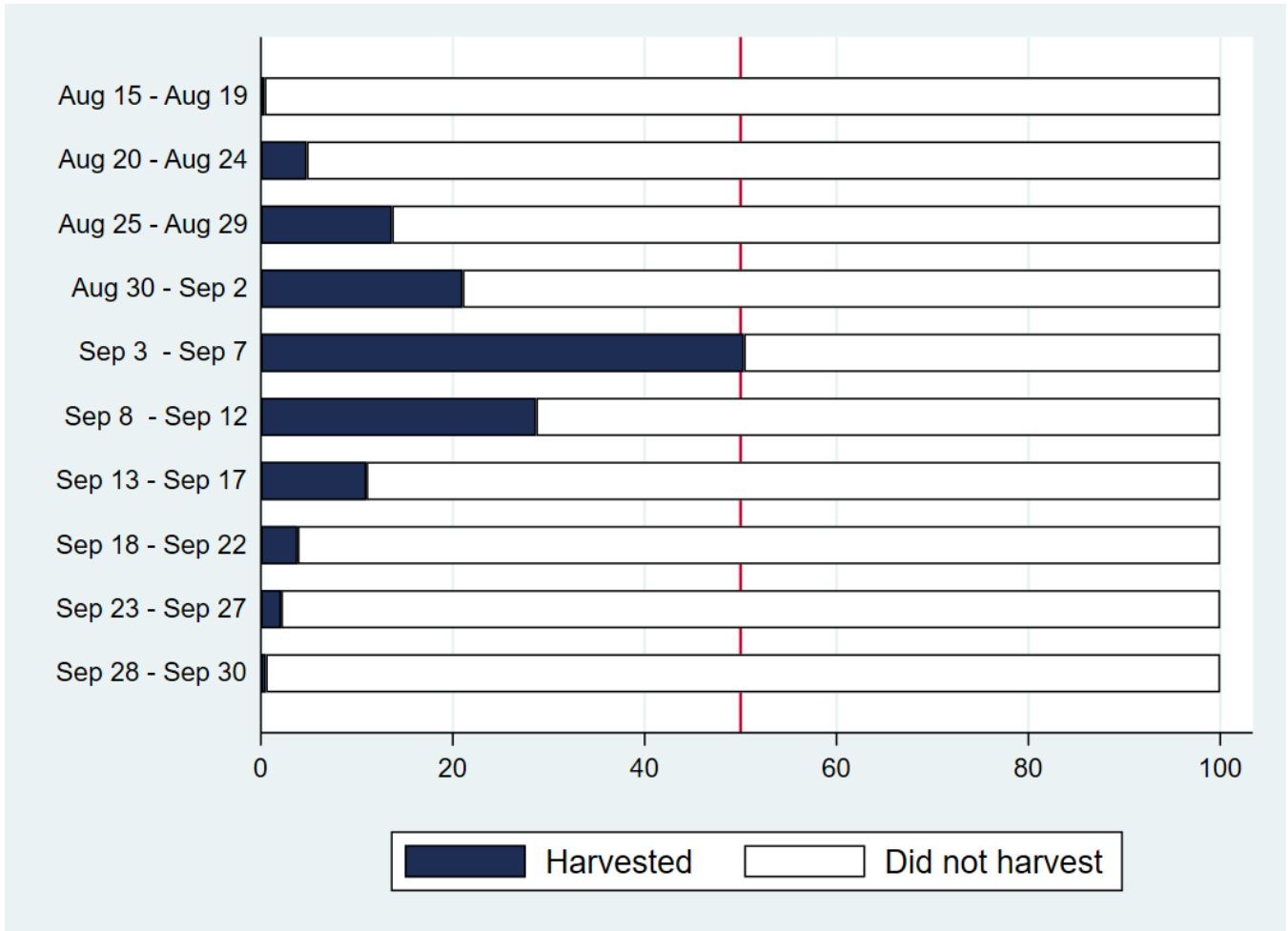
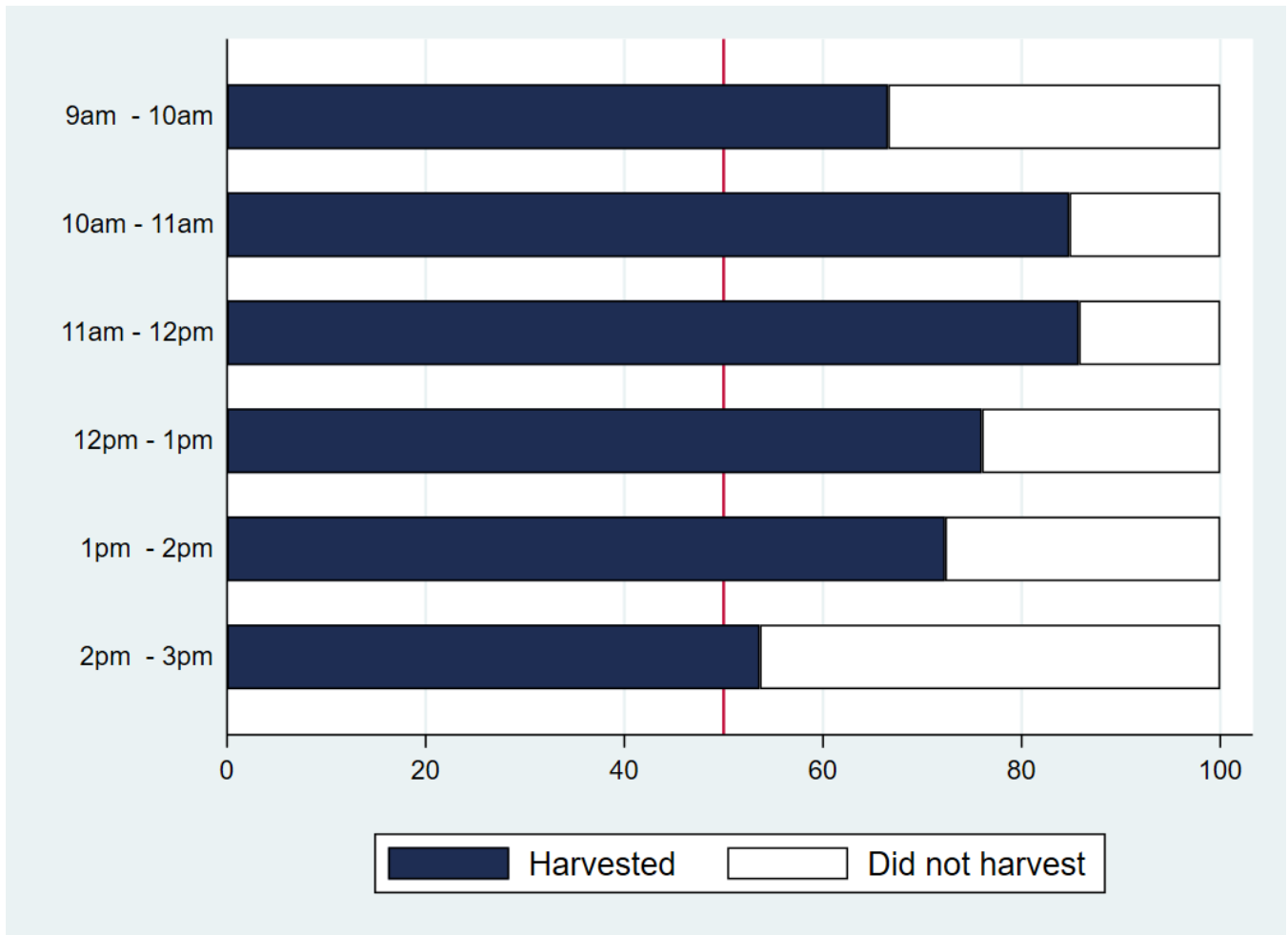


Figure 2. Percent of wild rice license holders active during parts of the 2022 wild rice harvest season



Wild rice license holders' pattern of participation during the 2022 wild rice harvest season. Blue bars are the percent of license holders that harvested wild rice on any day during that period. Red line is 50% for reference.

Figure 3. Percent of wild rice license holders active during parts of a typical day spent harvesting wild rice in 2022



Wild rice license holders' pattern of participation during a typical day spent harvesting wild rice during the 2022 wild rice harvest season. Blue bars are the percent of license holders that harvested wild rice during that period of time. Red line is 50% for reference.

Figure 4. Number and percent of wild rice license holders participating in wild rice harvesting in 2022, encountering waterfowl hunters while harvesting wild rice, and perceiving that encountering waterfowl hunters had a negative impact on their wild rice harvesting experience

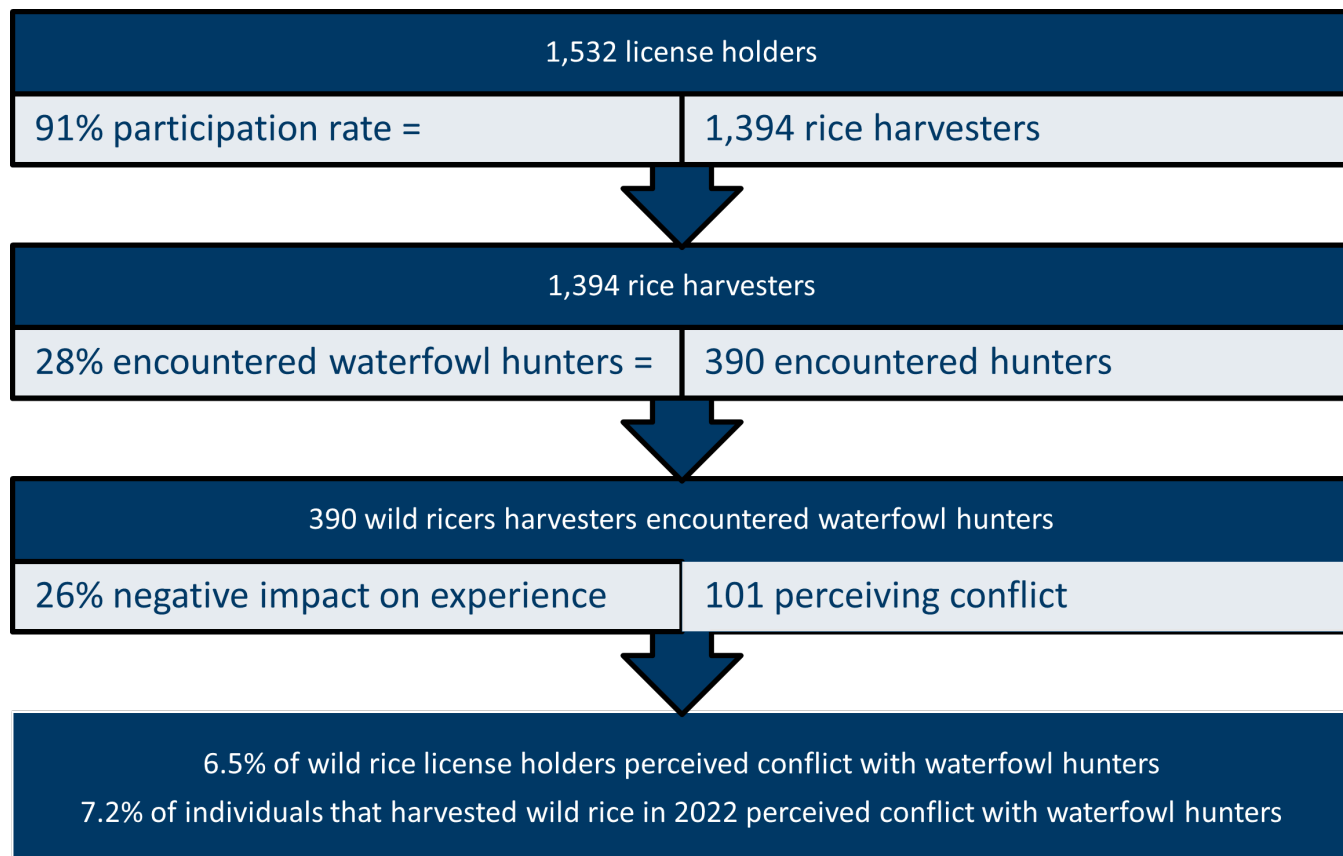
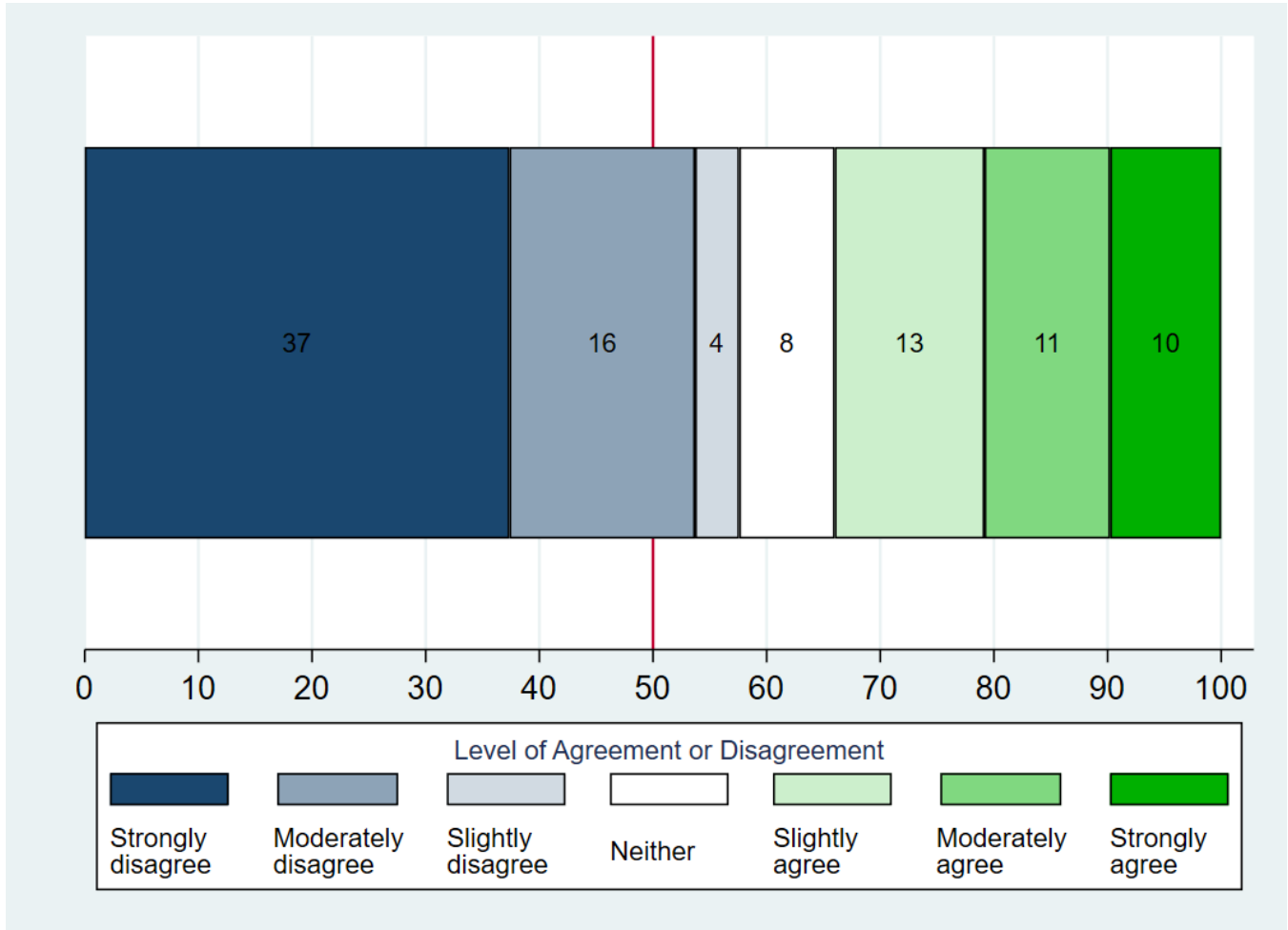
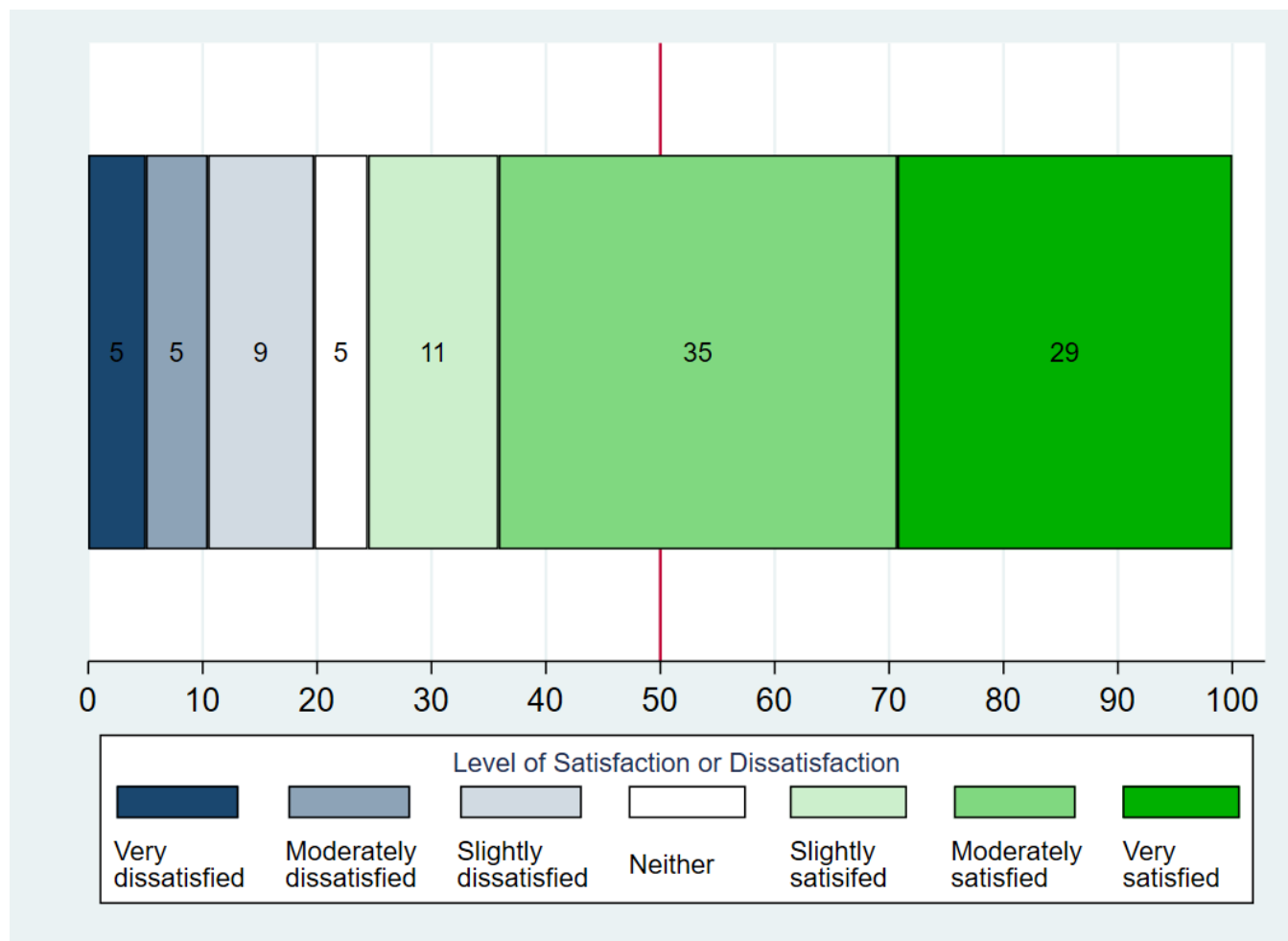


Figure 5. Percent of wild rice harvesters' who encountered waterfowl hunters while harvesting wild rice in 2022 agreement or disagreement with the statement: I felt unsafe encountering waterfowl hunters while harvesting wild rice in Minnesota in 2022.



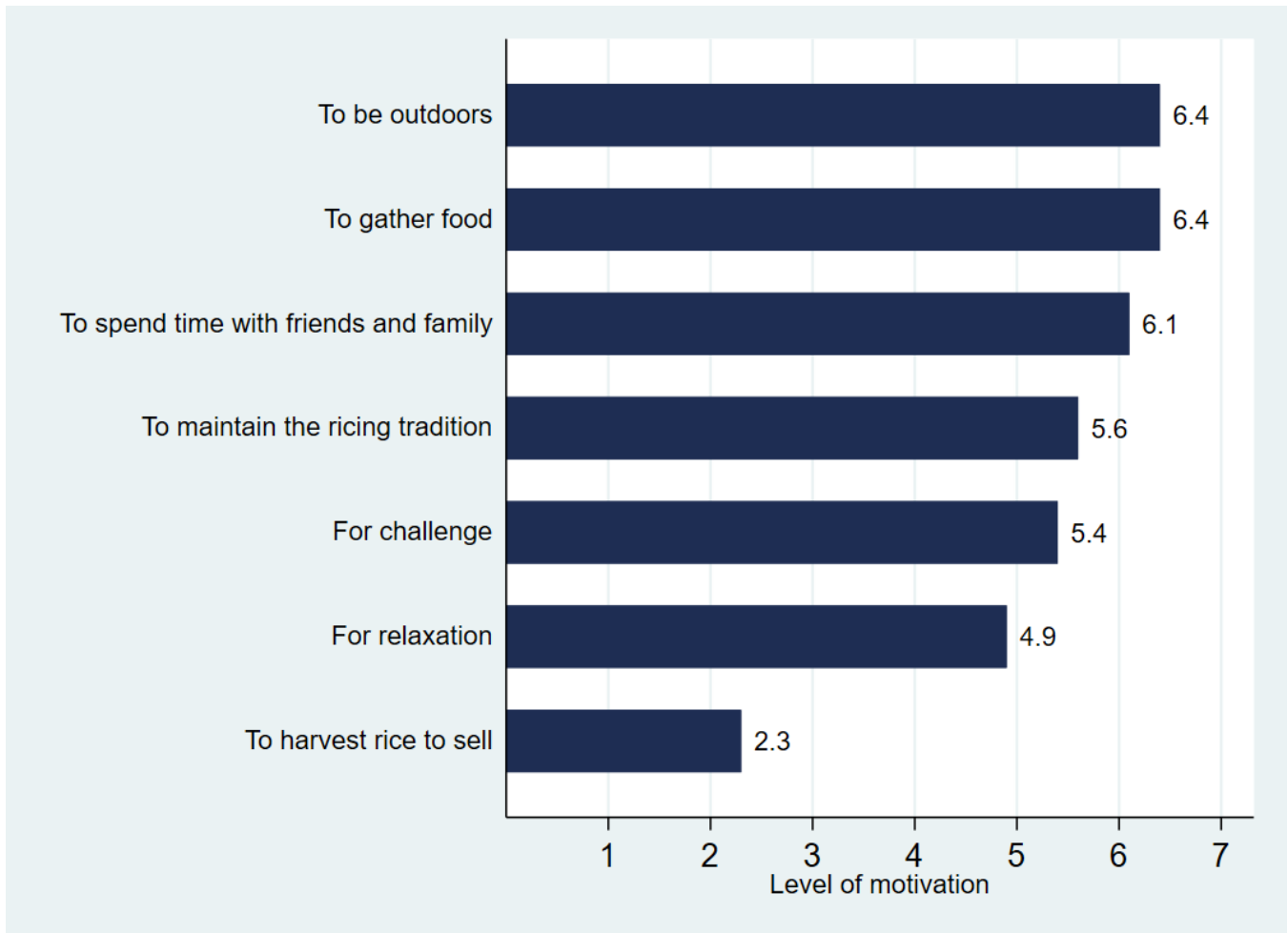
**Each colored box represents the percent of respondents selecting that category, and the row sums to 100%. The red line in the center is for reference at 50%.*

Figure 6. Percent of wild rice license holders' satisfaction or dissatisfaction with their overall wild rice harvesting experience in Minnesota in 2022



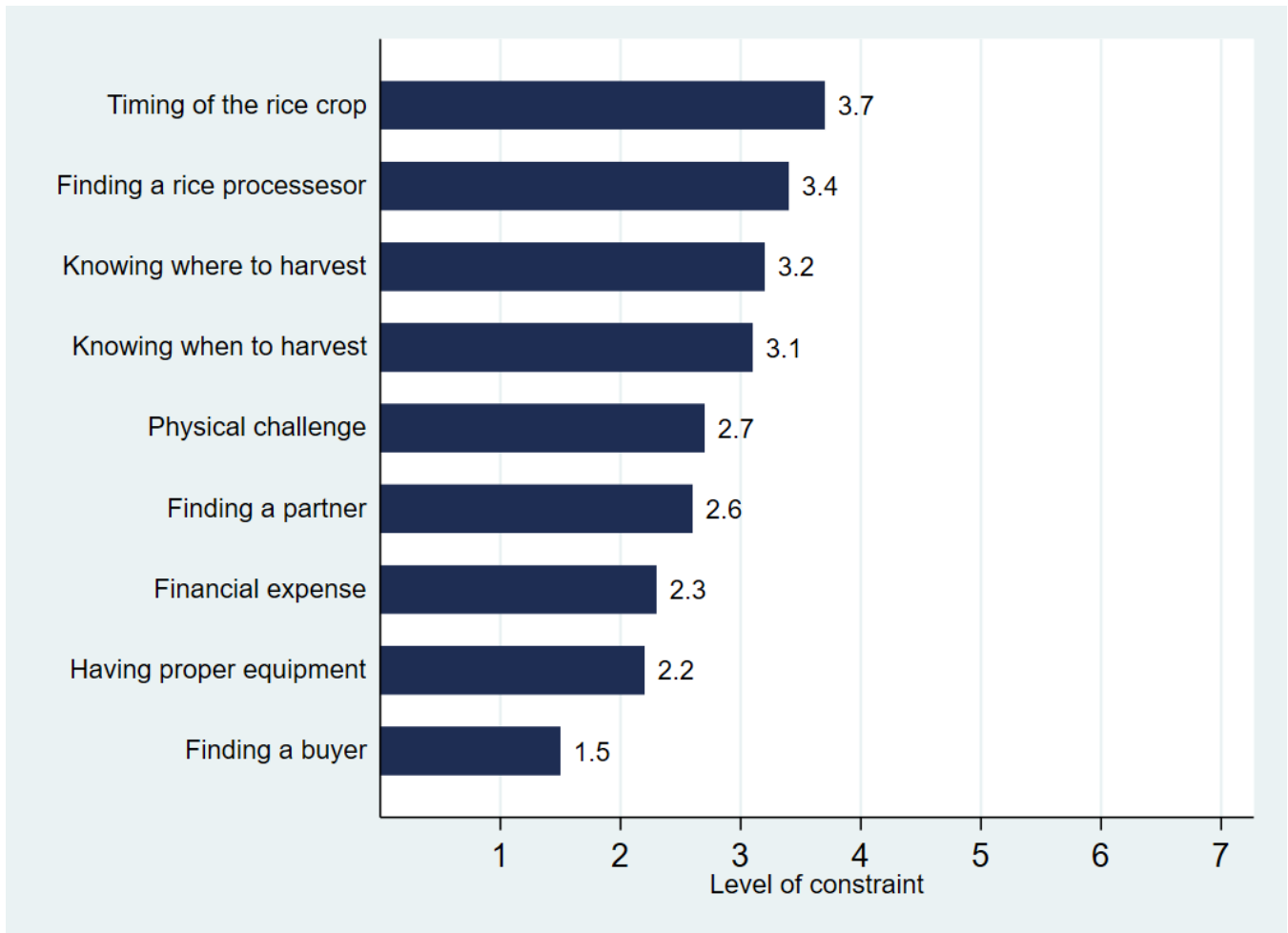
**Each colored box represents the percent of respondents selecting that category, and the row sums to 100%. The red line in the center is for reference at 50%.*

Figure 7. Wild rice license holders' motivations for participating in wild rice harvesting



*Responses recorded on a bipolar scale where 1 = strongly disagree, 2 = moderately disagree, 3 = slightly disagree, 4 = neither, 5 = slightly agree, 6 = moderately agree, and 7 = strongly agree.

Figure 8. Wild rice license holders' perceived constraints to participation in harvesting wild rice



*Responses recorded on a unipolar scale where 1 = not at all limiting, and 7 = very limiting

Table 3. Proportion of Minnesota wild rice harvest license holders that participated in the 2022 wild rice harvest season

| | Proportion that harvested wild rice | Estimated total number of wild rice harvesters in 2022 |
|---|-------------------------------------|--|
| Did you harvest wild rice in Minnesota in 2022? | .91 [.89, .93] | 1,394 |

- $n = 832$
- *Estimated total wild rice harvesters from: 1,532 (license holders) x .91 (proportion that harvested)*
- [95% Confidence interval]

Table 4. Mean, 95% confidence interval, median, minimum and maximum pounds of wild rice harvested during the 2022 wild rice harvest season

| | Mean | Median | Min | Max | Estimated total harvest of green unprocessed rice in 2022 |
|---------|----------------|--------|-----|------|---|
| Harvest | 128 [112, 144] | 60 | 0 | 4000 | 178,432 |

- $n = 750$
- Estimated total harvest from: 1,394 (rice harvesters) x 128 (mean pounds harvested)
- [95% Confidence interval]

Table 5. Proportion of wild rice harvesters that sold rice they harvested during the 2022 season

| | Proportion sold wild rice | Estimated total number of license holders selling rice in MN in 2022 |
|--|---------------------------|--|
| Did you sell any of the rice your harvested in 2022? | .14 [.11, .16] | 195 |

- $n = 755$
- Estimated total rice sellers from: 1,394 (estimated harvesters) x .14 (proportion selling rice)
- [95% Confidence interval]

Table 6. Mean days spent harvesting wild rice in Minnesota during the 2022 wild rice harvest season, estimated total days spent harvesting wild rice, and estimated harvest per person per day.

| | Mean | Estimated total days harvesting during the 2022 season | Estimated harvest per person per day in 2022 |
|--------------------------------------|----------------|--|--|
| Mean days spent harvesting wild rice | 2.8 [2.6, 2.9] | 3,906 | 45.7 |

- $n = 672$
- Estimated total days from: 2.8 (days per harvester) x 1,394 (estimated harvesters)
- Estimated pounds per person per day: 128 lbs per person per season/2.8 days per person per season
- [95% Confidence interval]

Table 7. Days spent harvesting wild rice by county of waterbody, and percent of total days reported

| | County 1 | County 2 | County 3 | County 4 | County 5 | Days | Percent of Days |
|--------------|-------------|------------|------------|-----------|-----------|-------------|-----------------|
| Itasca | 229 | 49 | 12 | 2 | 0 | 292 | 16 |
| Cass | 164 | 44 | 25 | 7 | 1 | 241 | 13 |
| St. Louis | 183 | 38 | 12 | 4 | 1 | 238 | 13 |
| Aitkin | 131 | 36 | 16 | 6 | 3 | 192 | 10 |
| Crow Wing | 119 | 20 | 5 | 1 | 2 | 147 | 8 |
| Pine | 66 | 9 | 9 | 7 | 4 | 95 | 5 |
| Otter Tail | 68 | 12 | 4 | 9 | 0 | 93 | 5 |
| Clearwater | 52 | 30 | 3 | 1 | 0 | 86 | 5 |
| Hubbard | 51 | 20 | 13 | 0 | 0 | 84 | 4 |
| Beltrami | 47 | 13 | 1 | 0 | 0 | 61 | 3 |
| Anoka | 38 | 11 | 2 | 1 | 0 | 52 | 3 |
| Lake | 39 | 9 | 1 | 0 | 0 | 49 | 3 |
| Becker | 41 | 4 | 3 | 0 | 0 | 48 | 3 |
| Carlton | 36 | 3 | 4 | 0 | 0 | 43 | 2 |
| Wadena | 28 | 13 | 1 | 0 | 0 | 42 | 2 |
| Cook | 25 | 7 | 1 | 0 | 0 | 33 | 2 |
| Kanabec | 19 | 1 | 0 | 0 | 0 | 20 | 1 |
| Mille Lacs | 19 | 0 | 0 | 0 | 0 | 19 | 1 |
| Stearns | 12 | 2 | 0 | 0 | 0 | 14 | 1 |
| Morrison | 4 | 1 | 0 | 0 | 0 | 5 | <1 |
| Pope | 2 | 2 | 0 | 0 | 0 | 4 | <1 |
| Winona | 3 | 0 | 0 | 0 | 0 | 3 | <1 |
| Chisago | 2 | 0 | 0 | 0 | 0 | 2 | <1 |
| Hennepin | 1 | 1 | 0 | 0 | 0 | 2 | <1 |
| Kandyohi | 1 | 1 | 0 | 0 | 0 | 2 | <1 |
| Manhomen | 2 | 0 | 0 | 0 | 0 | 2 | <1 |
| Wabasha | 2 | 0 | 0 | 0 | 0 | 2 | <1 |
| Todd | 1 | 0 | 0 | 0 | 0 | 1 | <1 |
| Wright | 1 | 0 | 0 | 0 | 0 | 1 | <1 |
| Total | 1386 | 326 | 112 | 38 | 11 | 1873 | 100 |

Respondents reported places of harvest for up to 5 locations. Counties 1-5 refer to those locations reported by respondents.

Table 8. Percent of Minnesota wild rice harvesters active during wild rice harvesting hours on a typical day

| | Percent active | Estimated total wild rice harvesters active |
|--------------|----------------|---|
| 9am to 10am | 69 | 961 |
| 10am to 11am | 86 | 1,198 |
| 11am to 12pm | 87 | 1,212 |
| 12pm to 1pm | 77 | 1,073 |
| 1pm to 2pm | 74 | 1,031 |
| 2pm to 3 pm | 56 | 781 |

- Responses from wild rice harvest season participants only
- Estimated total rice harvesters active from: 1,394 (estimated harvesters) x percent active
- $n = 760; 761; 761; 761; 760; 759$ from top to bottom

Table 9. Percent of Minnesota wild rice harvesters active during increments of the wild rice harvest season

| | Percent active | Estimated wild rice harvesters active |
|------------------------------|----------------|---------------------------------------|
| August 15 to August 19 | 1 | 14 |
| August 20 to August 24 | 6 | 84 |
| August 25 to August 29 | 16 | 223 |
| August 30 to September 2 | 24 | 334 |
| September 3 to September 7 | 52 | 724 |
| September 8 to September 12 | 29 | 404 |
| September 13 to September 17 | 12 | 167 |
| September 18 to September 22 | 5 | 70 |
| September 23 to September 27 | 2 | 28 |
| September 28 to September 30 | 1 | 14 |

- Responses from wild rice harvest season participants only
- Estimated total rice harvesters active from: 1,394 (estimated harvesters) x percent active
- $n = 759; 759; 759; 759; 759; 761; 759; 759; 759; 759$ from top to bottom

Table 10. Proportion of wild rice harvesters that abstained from harvesting wild rice during the experimental early teal hunting season

| | Proportion that abstained | Estimated total number of wild rice harvesters that abstained from harvesting wild rice to avoid waterfowl hunters |
|---|---------------------------|--|
| Did you intentionally abstain from harvesting wild rice on any day during the experimental early teal hunting season to avoid encountering waterfowl hunters? | .05 [.04, .07] | 70 |

- $n = 743$
- Estimated wild rice harvesters that abstained from harvesting wild rice to avoid waterfowl hunters: 1,394 (estimated harvesters) x .05 (proportion abstaining)
- [95% Confidence interval]

Table 11. Proportion of wild rice harvesters that encountered waterfowl hunters while harvesting wild rice in Minnesota in 2022

| | Proportion that encountered waterfowl hunters | Estimated total number of wild rice harvesters that encountered waterfowl hunters |
|---|---|---|
| Did you encounter anyone hunting waterfowl while you were harvesting rice in Minnesota in 2022? | .28 [.25, .32] | 390 |

- $n = 749$
- Estimated wild rice harvesters that encountered waterfowl hunters: 1,394 (estimated harvesters) x .28 (proportion encountering hunters)
- [95% Confidence interval]

Table 12. Proportion of wild rice harvesters that reported that encountering waterfowl hunters while harvesting wild rice in Minnesota in 2022 negatively impacted their experience

| | Proportion that were negatively impacted | Estimated total number of wild rice harvesters that encountered waterfowl hunters and it negatively affected experience |
|---|--|---|
| Did encountering waterfowl hunters negatively affect your rice harvesting experience? | .26 [.20, .32] | 101 |

- $n = 212$
- Estimated wild rice harvesters that encountered waterfowl hunters: 390 (estimated harvesters that encountered waterfowl hunters) x .26 (proportion encountering hunters impacted experience)
- [95% Confidence interval]

Table 13. Percentage of wild rice harvesters' responses to encountering waterfowl hunters.

| | Does not describe at all | | | | Describes very well |
|---|---------------------------------|---|---|----|----------------------------|
| Continued ricing as usual | 8 | 6 | 8 | 12 | 66 |
| Moved to another waterbody to rice | 84 | 5 | 2 | 3 | 6 |
| Moved to another area of the same waterbody to rice | 44 | 8 | 6 | 17 | 25 |
| Quit ricing for the day | 87 | 5 | 2 | 3 | 3 |
| Decided ricing wasn't that important to me | 95 | 1 | 1 | 1 | 2 |

- $n = 200; 195; 198; 191; 193; 199$ (in order top to bottom)
- Responses from wild rice harvest season participants only
- Responses from wild rice harvesters that encountered waterfowl hunters only

Table 14. Percentage of wild rice harvesters' who encountered waterfowl hunters while harvesting wild rice in 2022 agreement or disagreement with the statement: I felt unsafe encountering waterfowl hunters while harvesting wild rice in Minnesota in 2022.

| Strongly disagree | Moderately disagree | Slightly disagree | Neither | Slightly agree | Moderately agree | Strongly agree |
|-------------------|---------------------|-------------------|---------|----------------|------------------|----------------|
| 38 | 16 | 4 | 8 | 13 | 11 | 10 |

- $n = 211$
- Responses from wild rice harvesters that encountered waterfowl hunters only

Table 15. Percentage of wild rice harvesters' overall satisfaction or dissatisfaction with their wild rice harvest experience in Minnesota in 2022

| Very dissatisfied | Moderately dissatisfied | Slightly dissatisfied | Neither | Slightly satisfied | Moderately satisfied | Very satisfied |
|-------------------|-------------------------|-----------------------|---------|--------------------|----------------------|----------------|
| 5 | 5 | 9 | 5 | 11 | 35 | 29 |

- $n = 737$
- Question wording: *Overall, how satisfied were you with wild rice harvesting in Minnesota in 2022?*
- Responses from wild rice harvest season participants only

Table 16. Percentage of wild rice harvesters' satisfaction or dissatisfaction with elements of the 2022 wild rice harvest season in Minnesota

| | Very dissatisfied | Moderately dissatisfied | Slightly dissatisfied | Neither | Slightly satisfied | Moderately satisfied | Very satisfied |
|--|----------------------|----------------------------|--------------------------|---------|-----------------------|-------------------------|-------------------|
| Pounds of rice harvested | 6 | 11 | 11 | 7 | 16 | 31 | 18 |
| Quality of rice beds | 7 | 11 | 13 | 8 | 17 | 26 | 18 |
| Number of other rice harvesters encountered | 2 | 3 | 8 | 26 | 11 | 17 | 32 |
| Rice harvest regulations | 4 | 6 | 8 | 24 | 8 | 24 | 26 |
| Access to places to rice | 2 | 4 | 7 | 18 | 12 | 28 | 29 |
| Number of non-ricers encountered (e.g., kayakers, anglers) | 3 | 2 | 2 | 37 | 5 | 16 | 37 |

- $n = 747; 744; 742; 738; 741; 735$ (in order top to bottom)
- Responses from wild rice harvest season participants only

Table 17. Percentage of wild rice harvesters' perception of crowding during the wild rice harvest season in Minnesota in 2022

| Not at all crowded | | Slightly crowded | | | Moderately crowded | | Extremely crowded | |
|--------------------|----|------------------|---|---|--------------------|---|-------------------|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 45 | 18 | 15 | 3 | 6 | 8 | 3 | 2 | 0 |

- $n = 737$
- Question wording: *Thinking about your MN rice season as a whole, how crowded did you feel while harvesting wild rice?*
- Responses from wild rice harvest season participants only

Table 18. Percentage of wild rice harvesters' satisfaction or dissatisfaction with elements of the 2022 wild rice harvest season in Minnesota

| I harvest wild rice... | Strongly disagree | Moderately disagree | Slightly disagree | Neither | Slightly agree | Moderately agree | Strongly agree |
|--------------------------------------|--------------------------|----------------------------|--------------------------|----------------|-----------------------|-------------------------|-----------------------|
| To be outdoors | 1 | 0 | 0 | 4 | 11 | 20 | 64 |
| To gather food | 1 | 0 | 1 | 3 | 10 | 18 | 67 |
| To harvest rice to sell | 61 | 7 | 2 | 13 | 7 | 4 | 6 |
| To spend time with friends or family | 2 | 1 | 1 | 6 | 13 | 22 | 54 |
| For relaxation | 8 | 7 | 5 | 18 | 18 | 15 | 28 |
| For challenge | 3 | 4 | 2 | 17 | 17 | 26 | 31 |
| To maintain the ricing tradition | 5 | 2 | 1 | 17 | 12 | 20 | 42 |

- $n = 826; 831; 811; 822; 817; 815; 824$ (in order top to bottom)
- Responses from wild rice harvest season participants only

Table 19. Percentage of wild rice harvesters' satisfaction or dissatisfaction with elements of the 2022 wild rice harvest season in Minnesota

| | Not at all limiting | | | | | | Very limiting |
|--------------------------|---------------------|----|----|----|----|----|---------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Finding a rice processor | 36 | 9 | 7 | 11 | 15 | 11 | 11 |
| Finding a buyer | 80 | 6 | 3 | 8 | 1 | 1 | 1 |
| Knowing when to harvest | 32 | 14 | 10 | 18 | 15 | 8 | 3 |
| Financial expense | 50 | 17 | 10 | 12 | 6 | 3 | 2 |
| Knowing where to harvest | 31 | 12 | 10 | 16 | 16 | 10 | 5 |
| Having proper equipment | 55 | 13 | 8 | 10 | 7 | 5 | 2 |
| Physical challenge | 36 | 19 | 13 | 14 | 11 | 5 | 2 |
| Finding a partner | 45 | 14 | 9 | 13 | 10 | 6 | 3 |
| Timing of the rice crop | 21 | 11 | 11 | 16 | 19 | 13 | 8 |

- $n = 826; 831; 811; 822; 817; 815; 824$ (in order top to bottom)
- Responses from wild rice harvest season participants only

Appendix A. Survey questionnaire

THE 2022 WILD RICE SEASON IN MINNESOTA

A study of wild rice harvesters' opinions and activities



Photo: Greg Hoch

Your help on this study is greatly appreciated!

PLEASE COMPLETE EVEN IF YOU DID NOT HARVEST RICE

Please return your completed questionnaire in the enclosed envelope. The envelope is self-addressed and no postage is required. Thanks!

mn DEPARTMENT OF
NATURAL RESOURCES

{PIN}

Minnesota Department of Natural Resources
Fish and Wildlife Division
500 Lafayette Rd.
St. Paul, Minnesota 55155
WildRiceSurvey.DNR@state.mn.us

Part I. Participation in the 2022 Wild Rice Harvest Season

Q1. Did you harvest wild rice in Minnesota in 2022? (Please choose one.)

Yes No → (If "No," please *Skip to Part V.*)

Part II. Wild Rice Harvest in 2022

Q2. Approximately how many pounds of wild rice did you personally harvest in 2022 in Minnesota? Please report the rice weight BEFORE processing.

_____ lbs. Do not include your partners' share, if applicable.

Q3. Did you sell any of the rice that you harvested in 2022?

Yes No

Q4. How many days did you spend harvesting wild rice in Minnesota in 2022? _____ days.

Q5. On which 5 waterbodies did you spend the MOST time harvesting wild rice during the 2022 season?

| Name of waterbody | MN County where waterbody located | Nearest town | # Days harvesting this waterbody |
|-------------------|-----------------------------------|--------------|----------------------------------|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |

Q6. Please think about a typical day you spent harvesting wild rice during the 2022 season in Minnesota. For this day, please check the hours below that you were on the water actively harvesting wild rice. (Please choose all that apply.)

9am to 10am 10am to 11am 11am to 12pm

12pm to 1pm 1pm to 2pm 2pm to 3pm

Q7. During which of the following periods did you actively harvest wild rice in Minnesota during the 2022 season? (Please choose all that apply).

Aug. 15 to Aug. 19 Aug. 20 to Aug. 24 Aug. 25 to Aug. 29 Aug. 30 to Sep. 2

Sep. 3 to Sep. 7 Sep. 8 to Sep. 12 Sep. 13 to Sep. 17 Sep. 18 to Sep. 22

Sep. 23 to Sep. 27 Sep. 28 to Sep. 30

Part III. Experiences with Waterfowl Hunters

Q8. The experimental early teal waterfowl hunting season occurred September 3-7, 2022 in Minnesota. Did you intentionally abstain from harvesting wild rice on any day during the experimental early teal waterfowl hunting season to avoid encountering waterfowl hunters? (Please choose one).

Yes No

Q9. The early teal season, youth waterfowl season, and early goose seasons coincide with wild rice harvest season in Minnesota. Did you encounter anyone hunting waterfowl while you were harvesting rice during the 2022 season in Minnesota? (Please choose one.)

___ Yes ___ No -> (If "No," please *Skip to Part IV.*)

Q10. Did encountering waterfowl hunters negatively affect your rice harvesting experience? (Please choose one.)

___ Yes ___ No

Q11. The following are some responses you may have had when encountering waterfowl hunters while harvesting rice. Choose the option that best describes how you reacted. (Please circle one for each.)

| | Does not describe at all | | | Describes very well | |
|--|--------------------------|---|---|---------------------|---|
| Continued ricing as usual. | 1 | 2 | 3 | 4 | 5 |
| Moved to another waterbody to rice. | 1 | 2 | 3 | 4 | 5 |
| Moved to another area of the same waterbody to rice. | 1 | 2 | 3 | 4 | 5 |
| Quit ricing for the day. | 1 | 2 | 3 | 4 | 5 |
| Decided ricing wasn't that important to me. | 1 | 2 | 3 | 4 | 5 |

Q12. How much do you agree or disagree with the following statement: *I felt unsafe encountering waterfowl hunters while harvesting wild rice in Minnesota during the 2022 season.* (Please circle one.)

| Strongly disagree | Moderately disagree | Slightly disagree | Neither | Slightly agree | Moderately agree | Strongly agree |
|-------------------|---------------------|-------------------|---------|----------------|------------------|----------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Part IV. Satisfaction with Wild Rice Harvesting

Q13. Overall, how satisfied were you with wild rice harvesting in Minnesota in 2022? (Please circle one.)

| Very dissatisfied | Moderately dissatisfied | Slightly dissatisfied | Neither | Slightly satisfied | Moderately satisfied | Very satisfied |
|-------------------|-------------------------|-----------------------|---------|--------------------|----------------------|----------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Q14. How satisfied or dissatisfied were you with the following elements of the wild rice harvest season in Minnesota in 2022? (Please circle one for each).

| | Very dissatisfied | Moderately dissatisfied | Slightly dissatisfied | Neither | Slightly satisfied | Moderately satisfied | Very satisfied |
|---|-------------------|-------------------------|-----------------------|---------|--------------------|----------------------|----------------|
| Pounds of rice harvested. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Quality of wild rice beds. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Number of other rice harvesters encountered. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Rice harvest regulations. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Access to places to harvest rice. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Number of non-ricers encountered (e.g., kayakers, anglers). | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Q15. Crowding is the negative feeling you may experience while encountering other people, including other ricers, while ricing. Thinking about your MN ricing season as a whole, how crowded did you feel while harvesting wild rice? (Please circle one response that best matches how you felt).

| Not at all crowded | | Slightly crowded | | Moderately crowded | | Extremely crowded | | |
|--------------------|---|------------------|---|--------------------|---|-------------------|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Part V. Motives for Harvesting Wild Rice

Q16. How much do you agree or disagree with the following statements as reasons why you harvest wild rice? (Please circle one for each.)

| I harvest wild rice... | Strongly disagree | Moderately disagree | Slightly disagree | Neither | Slightly agree | Moderately agree | Strongly agree |
|---------------------------------------|-------------------|---------------------|-------------------|---------|----------------|------------------|----------------|
| To be outdoors. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| To gather food. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| To harvest rice to sell. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| To spend time with friends or family. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| For relaxation. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| For challenge. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| To maintain the ricing tradition. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Part VI. Factors Limiting Wild Rice Harvesting

Q17. Many factors limit peoples' ability to continue harvesting wild rice. How limiting are each of the following factors to your ability to go ricing? (Please circle one for each.)

| | Not at all limiting | 1 | 2 | 3 | 4 | 5 | 6 | Very limiting |
|---------------------------|---------------------|---|---|---|---|---|---|---------------|
| Finding a rice processor. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| Finding a buyer. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| Knowing when to harvest. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| Financial expense. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| Knowing where to harvest. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| Having proper equipment. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| Physical challenge. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| Finding a partner. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| Timing of the rice crop. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |

Q18. Is there anything else that you would like to share with us about wild rice harvesting in Minnesota?

Thank you! Please return this questionnaire in the envelope provided.