



# ILLEGAL BIRD HUNTING

IN THE VIETNAMESE RED RIVER DELTA BIOSPHERE





## ABOUT WILDACT

**WildAct** is a local wildlife conservation, not-for profit organisation based in Vietnam, established in 2015. Our aim is to inspire, motivate and empower society and individuals to engage in the science-based conservation of threatened species and ecosystem.

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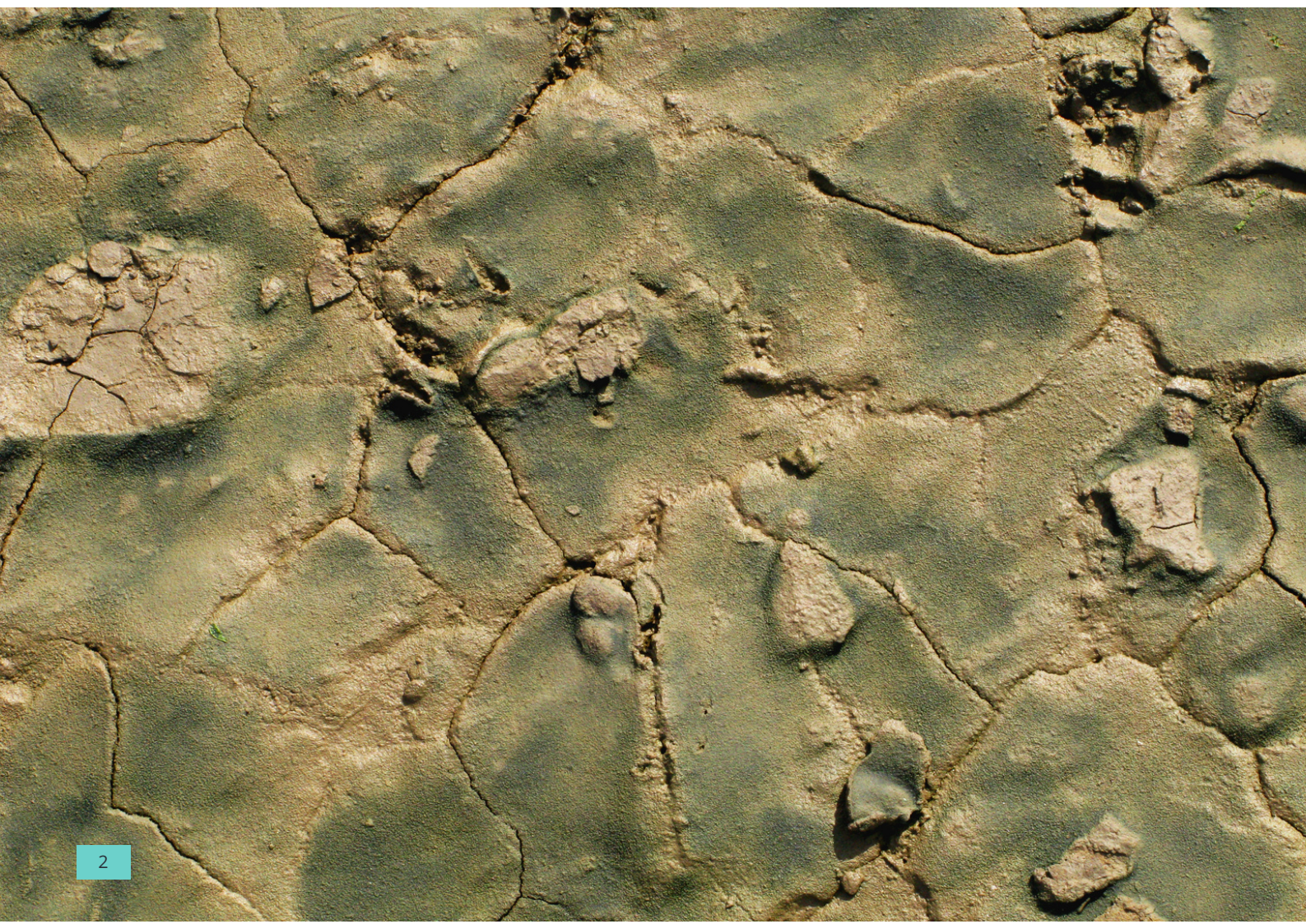
Suggested citation:  
WildAct. 2021. Illegal bird hunting in the  
Vietnamese Red River Delta Biosphere.



# EXECUTIVE SUMMARY

Migratory birds in Vietnam have been over-hunted to supply the demand for bird meat consumption. Accurate estimation of the threat level is therefore important to ensure effective and long-term conservation actions. The primary aim of this research is to provide an understanding of the current threats that migratory birds are facing in the Red River Delta Biosphere. The secondary aim is to explore bird hunters' attitudes, knowledge, practices and motivation toward migratory bird species. We conducted a total of 98 line transect and interviewed 126 bird hunters in Ninh Binh and Thai Binh provinces. Our results show that bird hunting is a common practice in both provinces, with mist nets being the most popular equipment used by hunters. 1300 mist nets were found, with a total length of over 139km.

Hunting equipment are cheap, easy to find and hunters do not have to invest a huge amount of time in hunting activities. As most hunters are male and practice Catholicism, we recommend that actions to improve law enforcement and a collaboration with Catholic leaders are required to ensure the survival of migratory birds.





# INTRODUCTION

Vietnam lies within the Indo-Burma biodiversity hotspot, which itself makes up the central part of the East Asian–Australasian Flyway (EAAF). The four most threatened species known from the Red River Delta Biosphere Reserve are the Spoon-billed Sandpiper *Calidris pygmaea* (CR), Black-faced Spoonbill *Platalea minor* (EN), Saunders's Gull *Larus saundersi* (VU) and the Chinese Egret *Egretta eulophotes* (VU), which are key species for the EAAF Partnership, and all of which are threatened by habitat loss and hunting.

Hunting is the most widespread pressure upon Vietnam's Important Bird Areas (IBAs), yet little is known about the strategies of hunters, which ranges from use of guns and decoys to the intensive use of mist nets (VietNature, 2016).

This project is the first step of WildAct's long-term commitment to reduce threat's pressure on migratory birds through community engagement, and strengthening law enforcement efforts. This report aims to:

## Identify hunting hotspot

and understanding hunting pressure in the Red River Delta Biosphere Reserve (RRDBR) in northern Vietnam



## Explore hunters' motivation,

hunting strategies and techniques as well as preference to identify opportunity to prevent and reduce threats to migratory birds.



## Share learning

to relevant stakeholders to support and inform enforcement and future conservation activities.





# METHODOLOGY

## *Dates and locations*

The project took place between October and November 2021. Our study sites were Thai Binh, Ninh Binh and Nam Dinh provinces. The area is home to around 130,000 people, spread among 100 communes within the six provincial districts where the Red River

passes through, namely Thai Thuy, Tien Hai, Giao Thuy, Hai Hau, Nghia Hung and Kim Son (UNESCO, 2007). However, due to Covid19 travel restrictions in Vietnam, the research team was not able to visit Nam Dinh province.



**Figure 1:** Map of study sites in Ninh Binh and Thai Binh, showing location of traps identified



### *Trap survey*

Surveys of trap intensity were conducted by transect method. The transect lines were chosen prior to the survey using Google Map, with the average length of 1.2km. Due to the openness of the ground, the survey was conducted using motorbike traveling at 10km/hour, with one driver and one observer riding pillion. When it was not possible to travel by bike (i.e. on mudflats), the team conducted the survey by foot traveling at walking pace. Any sightings of nets were recorded, including: number of traps, type of trap, measurement of mist nets (height, width and length), and number of birds being kept as lures. If it was not possible to measure a mist net (i.e., if the net was erected in the middle of a pond), the estimation of the dimensions was recorded.

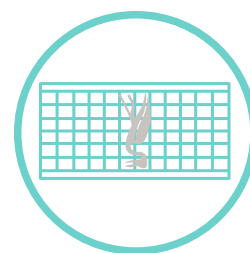
### *Interview survey*

Interview surveys were used to determine hunting strategies. Prior to the interviews, the interviewers introduced themselves as researchers (and/or assistants of the researcher) and that they would like to ask the potential interviewee some general questions about the migratory birds. Potential interviewees were told that their participation was voluntary and that they can refuse to answer any questions or stop the interview at any time. The interviewees were asked questions about their knowledge on migratory birds, their opinion on bird conservation laws and policies, followed by a False Consensus Bias (FCB) question to estimate bird hunting prevalence and finally direct questions (see supporting documents). On average, the interview took 30 – 40 minutes to complete.

In the FCB section, respondents were asked to estimate how many individuals among the people they know have been hunting migratory birds over the last 2 years. They were given six categories to choose from.

FCB operates on a theory that people who conduct certain behaviours tend to believe that others are more likely to behave in the same manner, therefore the respondents give a higher estimation of the population involved in such behaviour (Ross et al., 1977).

To analyse data obtained from FCB method, we counted the amount each category was chosen by respondents. The category that was chosen the most by respondents is used as the prevalence estimate.



Mist nets are commonly used by hunters, typically made of nylon or polyester mesh suspended between two poles.



# TRAP DENSITY

A total of 98 transects were conducted at both study sites. Total length of transect in Ninh Binh was 53,6km and Thai Binh was 88,2km. 760 traps were observed in Ninh Binh and 821 traps were recorded in Thai Binh.

The mean transect length was 1.96km in Ninh Binh and 1.26km in Thai Binh. Traps were observed from 0 – 100m from the transect lines, due to the flatness of the study areas.



**Figure 2:** Pictures of mist-nets and caught birds. (a): Mist-net line in Ninh Binh. (b): Dead yellow bittern (*Ixobrychus sinensis*) found in Thai Binh. (c): Dead Oriental pipit (*Anthus rufulus*) in Ninh Binh. (d): Black-crowned night heron (*Nycticorax nycticorax*) used as bait at a hunting site in Ninh Binh.



# PARTICIPANT RESPONSES

## *Socio-Demographic Structure of Respondents*

A total of 126 previous and current bird hunters and traders were interviewed (Ninh Binh n= 63, Thai Binh n= 63). A majority of respondents are residents (Ninh Binh: 100%, n=63/63; Thai Binh: 98.41%, n=62/63) and have been living in the province since birth (Ninh Binh: 88.89%, n=56/63; Thai Binh: 77.78%, n=49/63).

Amongst the respondents, only 6.34% (n=4) in Ninh Binh and 9.52% (n=6) in Thai Binh are not bird hunters, but are related to bird hunters and/or are traders. 17.69% of the population in Ninh Binh are Catholic, where as in Thai Binh were 6.2% (Ninh Binh gov.2015; Thai Binh Radio&TV station, 2019). See demographic information of the respondents summarised in Table 1.

**Table 1:** Demographic information of respondents from Ninh Binh and Thai Binh provinces, Vietnam

	NINH BINH (n=63)	THAI BINH (n=63)
Gender		
Male	77.78% (n=49)	73.01% (n=46)
Female	22.22% (n=14)	26.98% (n=17)
Average age	49.3 24-74	52.3 21-78
Common occupation	Farmer (63.5%, n=40)	Farmer (73.0%, n=46)
Common religious practice	Catholicism (83.5%, n=52)	Catholicism (61.9%, n=39)



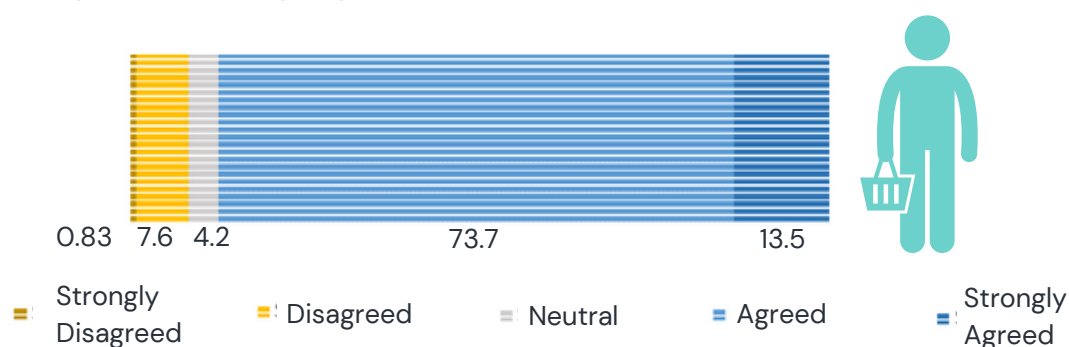
## Knowledge and attitudes

Respondents from Ninh Binh and Thai Binh have similar views on bird hunting. For example, the majority of respondents in each province disagreed that it is easy to

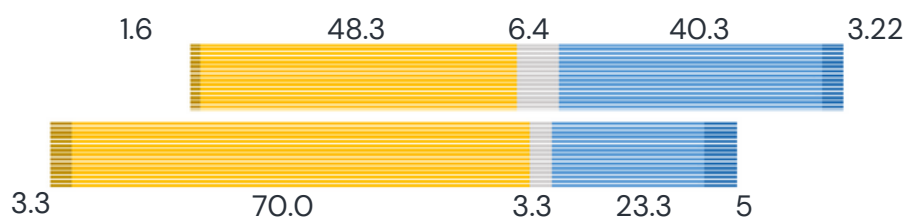
earn money from hunting birds, but they think that it is very easy to purchase hunting equipment and easy to find bird traders (Figure 3).

87.3%

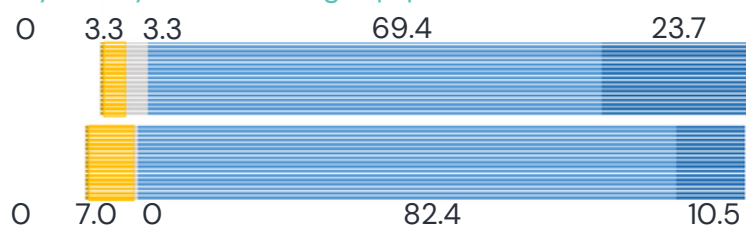
agreed and strongly agreed that it is very easy to find buyers of bird meat



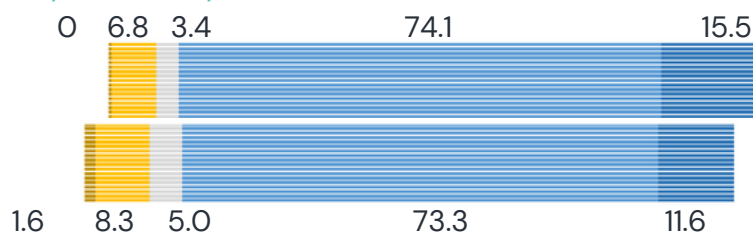
It is easy to earn money from hunting birds



It is very easy to buy birds' hunting equipment



It is very easy to find buyers of bird meat



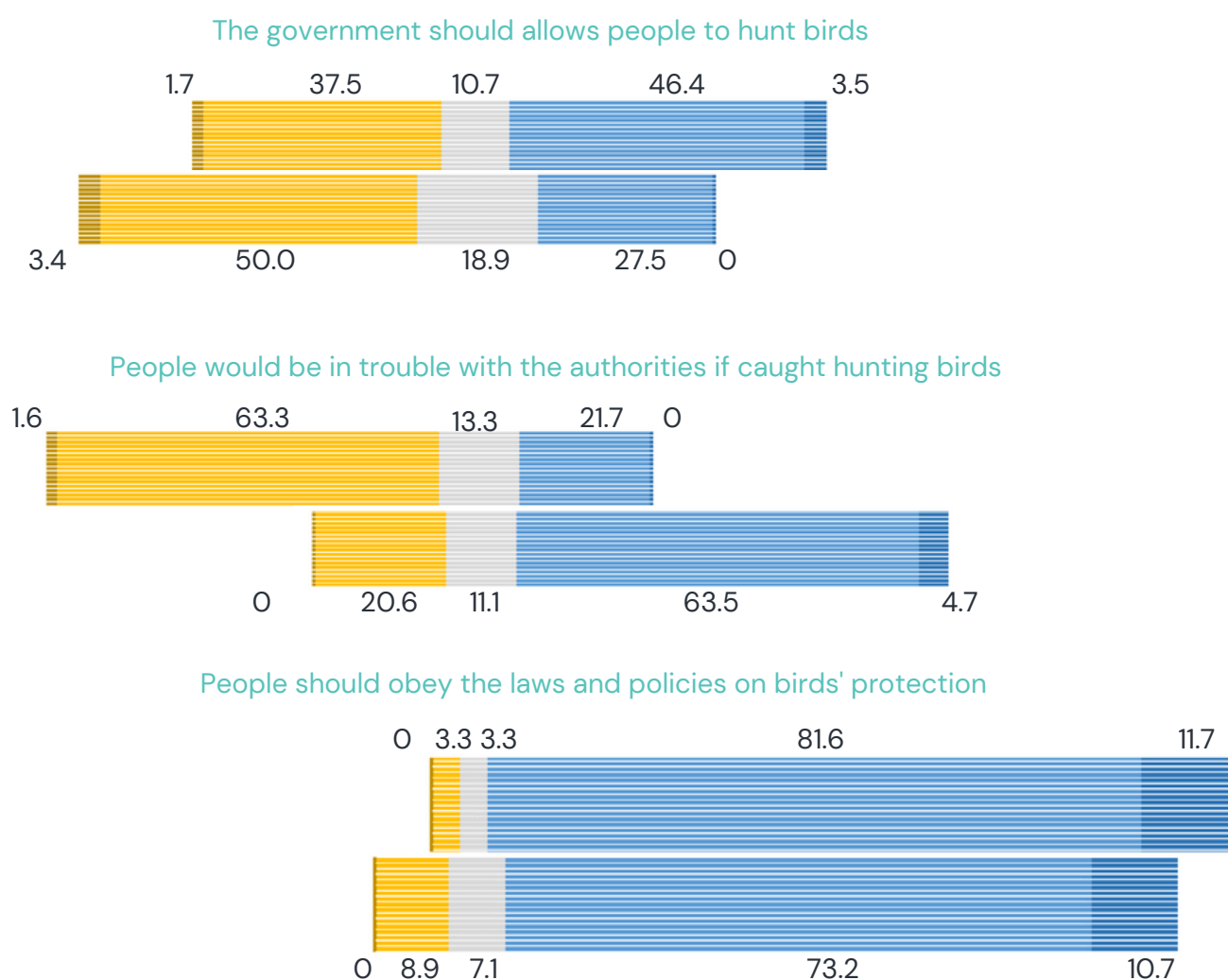
**Figure 3:** Ninh Binh and Thai Binh respondents' belief and attitudes towards bird hunting by percentage of responses for each Likert category, from "Strongly Disagree" (dark orange) to "Strongly Agree" (dark blue).

The upper bar representing Thai Binh, the lower bar representing Ninh Binh.



Respondents' attitudes are split regarding whether the government should or should not allow people to hunt birds in both Thai Binh and Ninh Binh. Some claimed that birds, especially herons, destroyed their rice fields and thus they should be able to protect their field by hunting birds.

In Ninh Binh, 63.49% respondents agreed that people would be in trouble with the authorities if found hunting birds, but only 20.62% in Thai Binh agreed with this statement. This might be due to the fact that recently, Ninh Binh Forest Protection Department has been very active in patrolling and removing bird traps in the province (Cong An Ninh Binh, 2021).

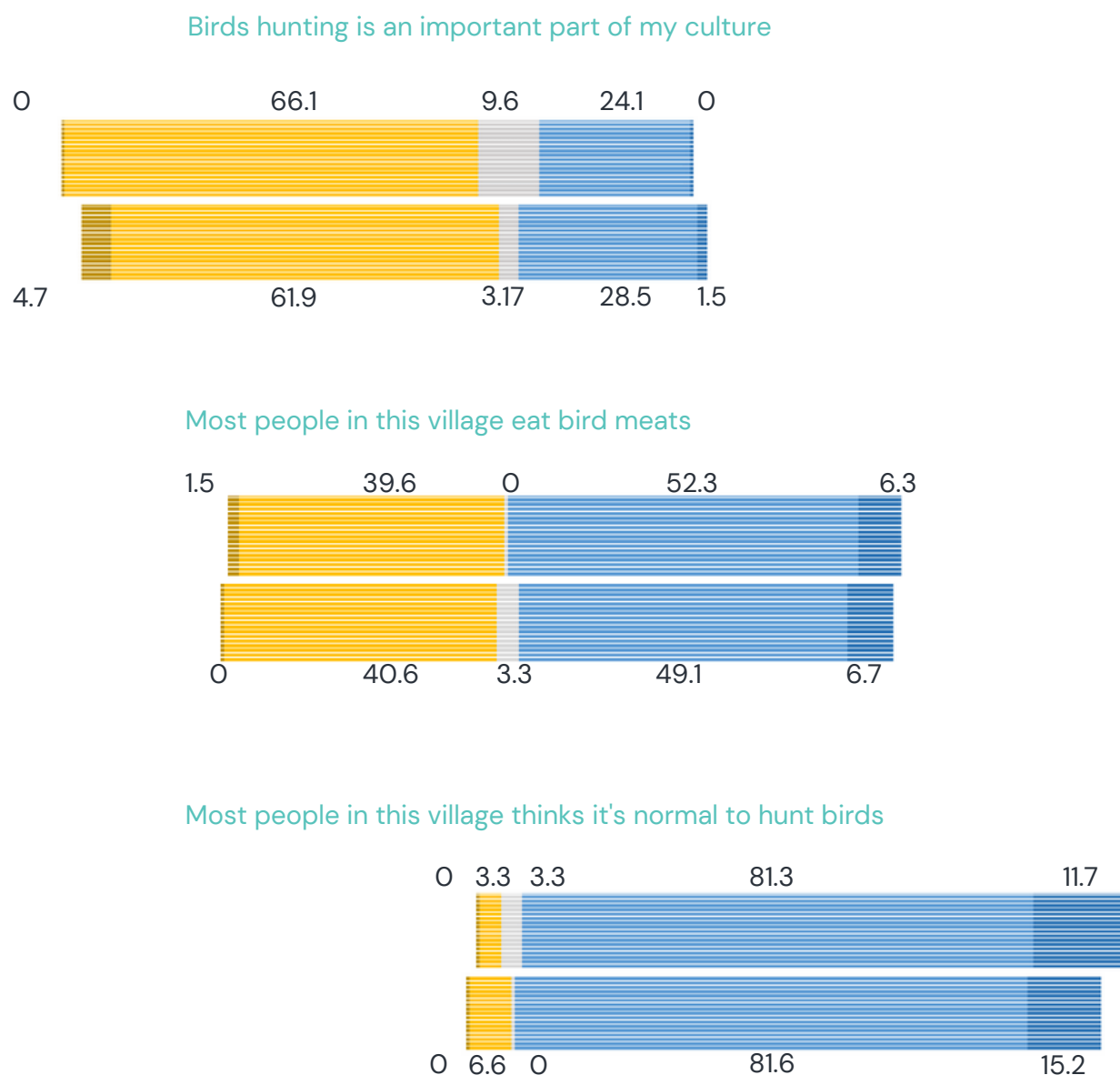


**Figure 4:** Ninh Binh and Thai Binh respondents' belief and attitude towards laws and policies in bird protection by percentage of responses for each Likert category, from "Strongly Disagree" (dark orange) to "Strongly Agree" (dark blue). The upper bar representing Thai Binh, the lower bar representing Ninh Binh.



Most respondents from both Ninh Binh and Thai Binh do not think that bird hunting is a part of their culture, but agreed that the local people do eat bird meat and that the locals think hunting birds is a normal activity (Figure 5).

Interestingly, during the interviews, some people who stated that they “do not eat bird meat” admitted to eat herons, and they do not consider herons to be birds.



**Figure 5:** Ninh Binh and Thai Binh respondents’ belief and attitude towards bird hunting culture and practice by percentage of responses for each Likert category, from “Strongly Disagree” (dark orange) to “Strongly Agree” (dark blue). The upper bar representing Thai Binh, the lower bar representing Ninh Binh.

Most respondents in both provinces agreed with the statement that there are fewer birds migrating to their locations compared to 10 years ago. They think that it would be a good thing if birds still migrated to the area in the future, and that it is easy to find

another alternative income that does not involve hunting birds.

This could be a great opportunity for migratory bird conservation action plan.



### *Hunting preference*

A majority of hunters in Ninh Binh has been hunting for a very long time, since they were less than 20 years old (36.5%, n=23); whereas in Thai Binh hunters started hunting at age range from 41 – 50 (26.98%, n=17) (Figure 6). Amongst the respondents, 7.93%, n= 5/63 were ex-hunters in Ninh Binh and 17.46%, n=11/63 were in Thai Binh. The remaining respondents are still active hunters.

According to the respondents, 80.59% bird hunters in Ninh Binh and 78.79% hunters in Thai Binh are locals. Respondents also estimated that 40% (n=22/55) hunters in Ninh Binh and 52% (n=22/42) hunters in Thai Binh are professional hunters (those who invest money and time to hunt as their main source of income). 80% participants (n=44/55) in Ninh Binh also responded that outside hunters (those who come from different provinces) hunted more birds than locals, whereas in Thai Binh, local and outside hunters seem to hunt equal amount (local: 50.95%, n=27; outsider: 49.05%, n=26).

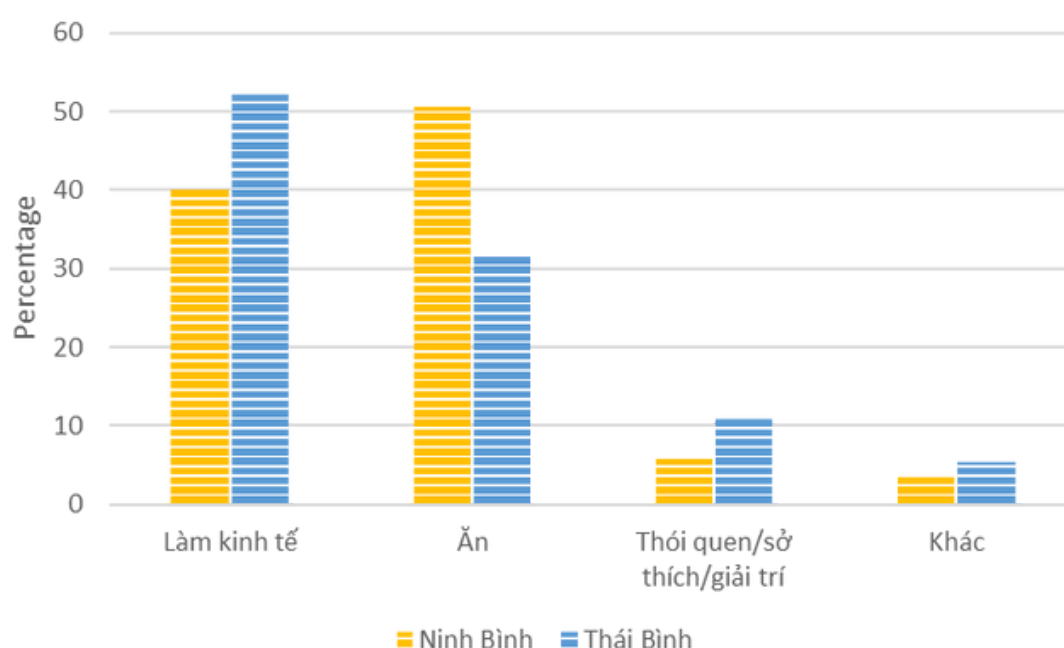


50.58% (n=43) respondents in Ninh Binh stated they mainly hunt to supplement their food. Respondents in Thai Binh (52.17%, n=48) indicated that they hunt for income. Hunting as a hobby was also cited by 5.88% (n=5) in Ninh Binh and 10.86% (n=10) in Thai Binh.

As most respondents are residents, they hunt within the day (Ninh Binh: 90.47%, n=57; Thai Binh: 87.30%, n=55), only a small number of hunters stay at the hunting location from 1 – 5 days (Ninh Binh: 3.17%, n=2; Thai Binh: 1.58%, n=1). Walking (Ninh Binh: 49.20%, n=31; Thai Binh: 39.68%, n=25) and the use of bicycle and motorbike (Ninh Binh: 39.68%, n=25; Thai Binh: 58.73%, n=37)

were the main transportation methods, only 3 respondents (2 Ninh Binh, 1 Thai Binh) stated that they use car to travel for hunting. They also do not have to invest too much time to travel for hunting, as a majority of respondents in Ninh Binh (96.82%, n=61/63) and Thai Binh (96.55%, n=56/58) spent less than 1 hour to travel to hunting sites.

A majority of respondents in both provinces also tend to hunt alone in Ninh Binh (64.51%, n=40/62) and Thai Binh (72.88%, n=43/59). Those who hunt with others stated they mostly hunt with friends (Ninh Binh: 60.86%, n=14/23; Thai Binh: 50.00%, n=8/16), followed by family (Ninh Binh: 39.13%, n=9/23; Thai Binh: 50.00%, n=8/16).



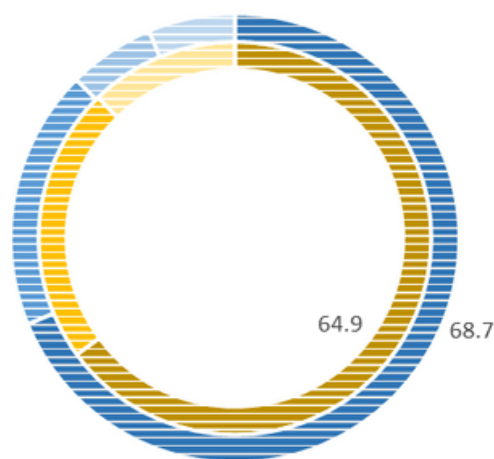
**Figure 6:** Reasons for bird hunting according to respondents from Ninh Binh (n=63) and Thai Binh (n=63)

## Hunting methods

Hunters are active all year round, however respondents identified that August (Ninh Binh: 14.10%, Thai Binh: 13.22%) is the peak hunting period, followed by June – July (Ninh Binh: 13.62%, Thai Binh: 13.00%) and September – December (Ninh Binh: 8.55%, Thai Binh: 9.14%). Hunting activities were lowest during January, possibly due to Tet holiday.

At the beginning of each hunting season, most respondents from both provinces (Ninh Binh: 58.73%, n=37; Thai Binh: 52.38%, n=33) stated that they set out at least 1 – 100 traps. Exceptionally, 3 respondents (4.76%) in Thai Binh admitted to set out over 1000 traps (including mist nets and glue sticks) to catch birds (Figure 7).

As price to purchase bird hunting equipment (such as mist nets and glue) is low, bird hunters do not have to invest too much money on this equipment. 28.57% (n=18/63) respondents in Ninh Binh and 36.50% (n=23/63) in Thai Binh invested 50 – 213 USD at the beginning of each hunting season. They stated the majority of the investment would be used to purchase recordings of bird calls (which are found online through specific Facebook groups), speakers and cassette players. The data shows that hunters in Thai Binh are more

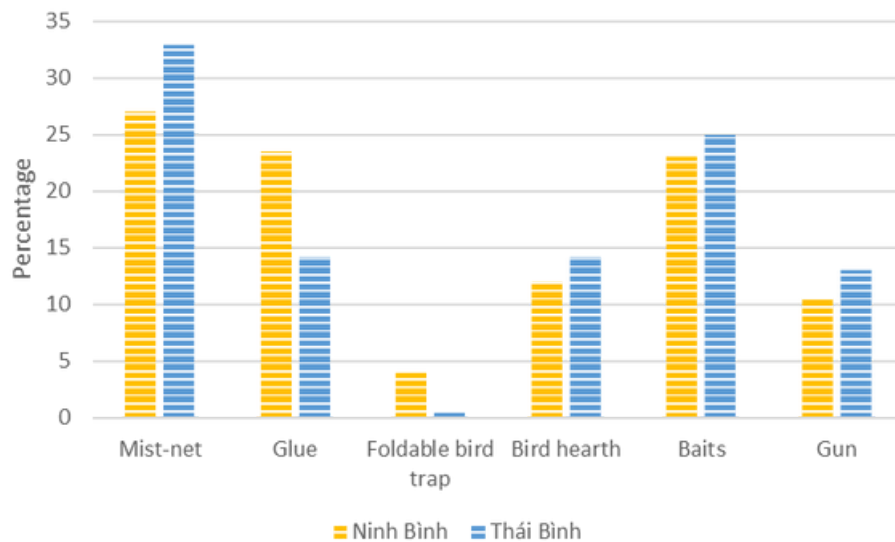


**Figure 7:** Percentages of respondents stated the number of traps being set out at the beginning of hunting season. The orange doughnut representing Ninh Binh (1-100 traps: 58.73%, 101-499: 20.63%, 500 – 1000: 11.11%, over 1000: 0%) and Thai Binh (1-100 traps: 52.38%, 101-499: 14.28%, 500 – 1000: 4.76%, over 1000: 4.76%).

likely to invest more money in bird hunting equipment than those in Ninh Binh.

Mist nests and the use of lures (i.e. live bird and/or bird calls) were the most frequently used methods by respondents in both provinces (Figure 7). This resulted in the high density of mist nets and a live birds found in these provinces showed in Trap Density section. Local people complained that the use of bird calls by hunters caused disturbance in the village. A local person even called the police to complaint, as hunters left speakers out all day long.

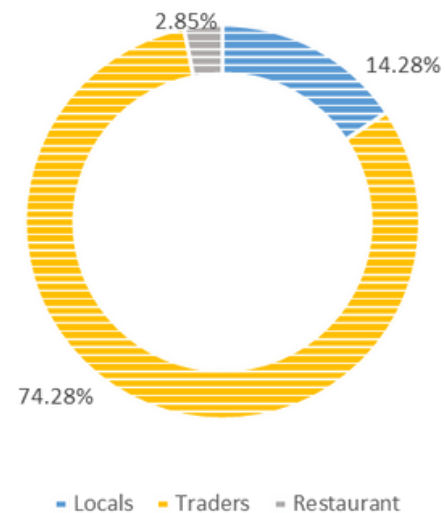




**Figure 8:** Percentages showing the type of bird traps used by respondents in Ninh Binh and Thai Binh provinces.

### *Species and values*

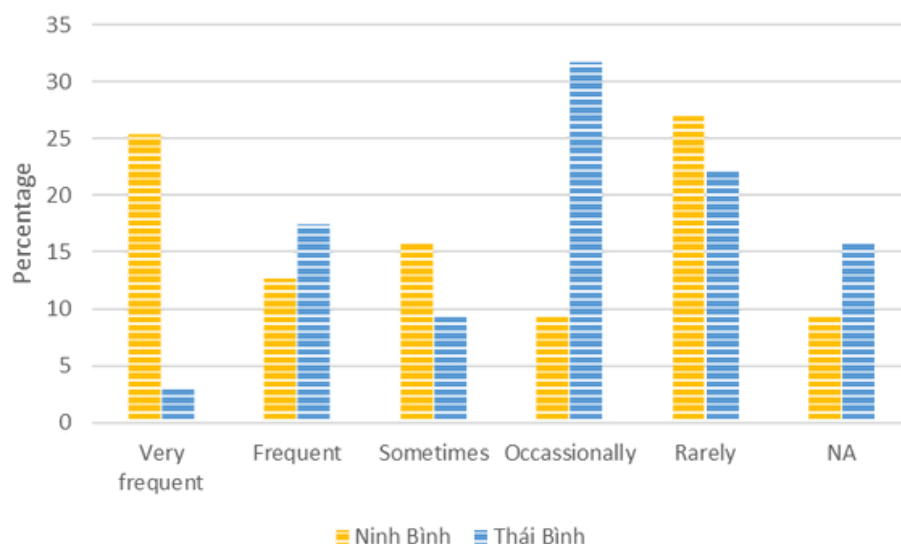
Herons are mostly hunted by the respondents of this survey. Respondents stated that they purposely hunt these birds due to their high value for meat and because they are easy to catch. As expected, birds are mostly sold to bird traders (74.28%, n=26/35), who would come directly to the hunter's house to collect caught birds. Only 1 respondent claimed that he has connection with a restaurant and therefore sold his birds directly to them (Figure 9).



**Figure 9:** Percentage of interviewed hunters reporting selling birds to various purchasers in both provinces.

25.39% (n=16/63) respondents stated that they consume bird meat very frequently

(every week) in Ninh Binh, whereas only 3.17% (n=2) in Thai Binh do so.

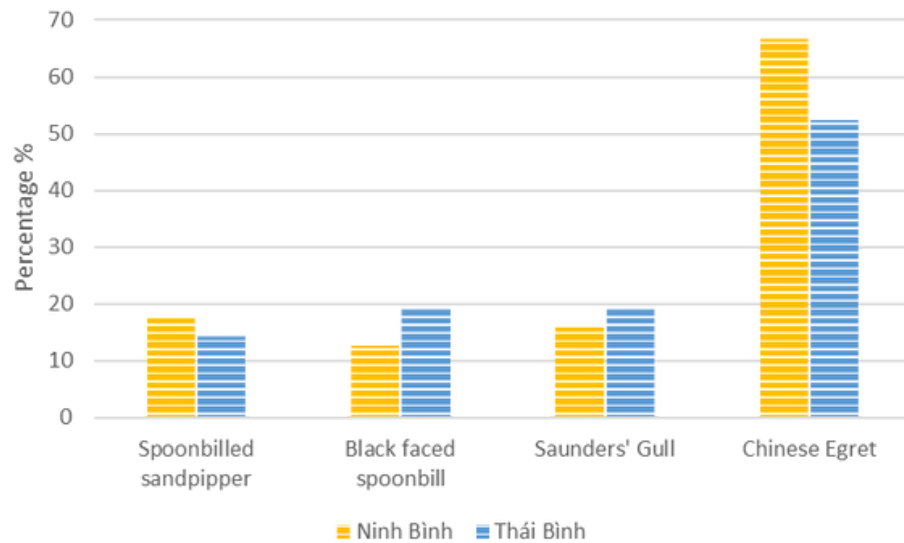


**Figure 10:** Percentages showing frequency of hunters eating bird meat, ranging from very frequent (every week), frequent (2–3 times/month), sometimes (once/month), occasionally (2–9 times/year) to rarely (1–2 time/year).

Amongst the four focus species of this project, Chinese egret were the most frequently consumed species by the respondents (Ninh Binh: 66.67%, n=42/63; Thai Binh: 52.38%, n=33/63). Saunder’s gull (Ninh Binh: 15.87%, n=10/63; Thai Binh: 19.04%, n=12), Black-faced spoonbill (Ninh Binh: 12.69%, n=19/63; Thai Binh: 19.04%, n=12/63) and Spoon-billed sandpiper (Ninh Binh: 17.46%, n=11/63; Thai Binh: 14.28%,

n=9/63) were also mentioned. It is noteworthy that even though the researcher tried to eliminate misidentification by showing pictures of the focus species and only participants who identified and described the species correctly were asked about the frequency of consuming such species, it is still possible that the respondents boasted about their consumption habits (Figure 11).



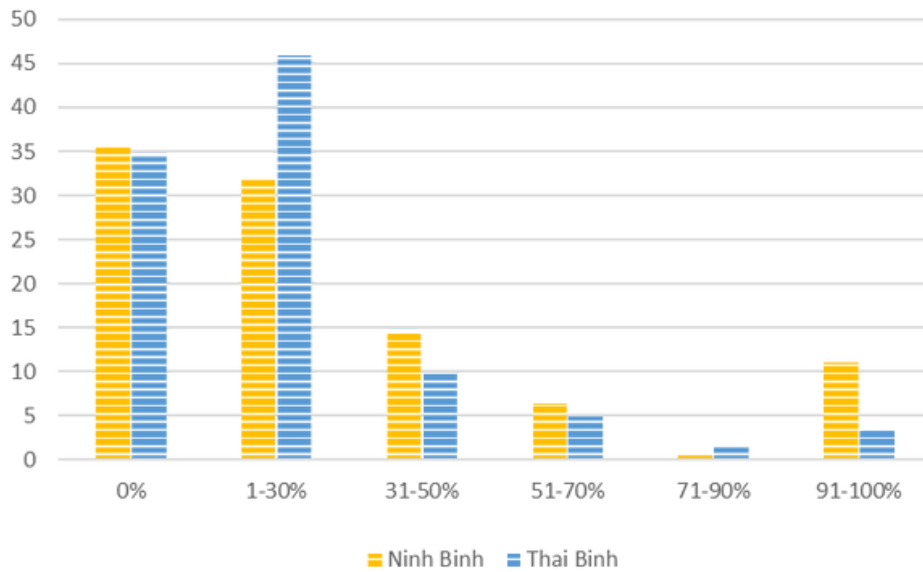


**Figure 11:** Percentages showing respondents frequency of consuming Spoon-billed sandpiper, Black faced spoonbill, Saunders’ gull and Chinese egret in Ninh Binh and Thai Binh.

#### *Prevalence of bird hunters and bird consumers*

Direct question (DQ) and False Consensus Bias (FCB) were used to estimate the number of bird hunters at the study sites. FCB operates on a theory that people who conduct certain behaviours tend to believe that others are more likely to behave in the same manner, therefore the respondents give a higher estimation of the population involved in such behaviour (Ross et al., 1977).

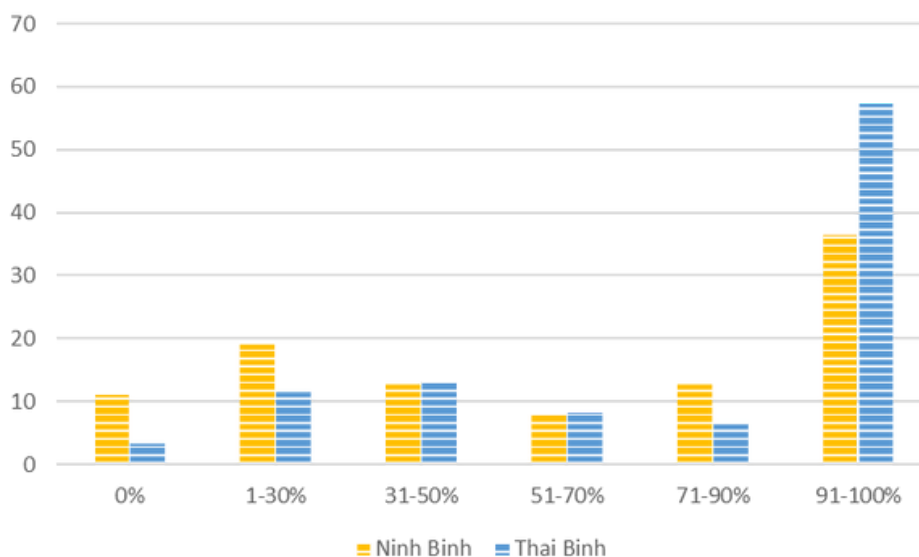
There were 58.06% of respondents in Ninh Binh and 62.90% in Thai Binh admitted through DQ that they are bird hunters. However, FCB estimations were very low. It could be that due to the close relationships between villagers in the study sites, respondents were afraid to get in trouble if admitting to the interviewers that people they know are involve in bird hunting. There is also the possibility that hunters intentionally provided a lower estimate so as to give an impression that they are one of only a few hunters in the village. FCB appears not to be successful under this scenario (Figure 12).



**Figure 12:** Estimated prevalence of bird hunters in Ninh Binh (orange) and Thai Binh (blue) by respondents using False Consensus Bias. Respondents chose one of 6 different categories, from 0% to 100%.

88.89% hunters in Ninh Binh and 82.53% in Thai Binh admitted to also eat bird meat.

Both gave an estimation of 91 – 100% people they know also consume bird meat (Figure 13).



**Figure 13:** Estimated prevalence of bird consumers in Ninh Binh (orange) and Thai Binh (blue) by respondents using False Consensus Bias. Respondents chose one of 6 different categories, from 0% to 100%.



# CONCLUSION & RECOMMENDATION

Endangered migratory birds are under protection from the Vietnamese laws and policies. According to Decree 35/2019/NĐ-CP, a maximum penalty of 400 million VND (equivalent to 17,000 USD) and 15 years imprisonment can be applied to those who violate the law.

Our results show that migratory birds are being hunted intensively and at a large scale across the Red River Delta Biosphere. We found mist nets with birds' rotten carcasses, such as owls and kestrels. It was later admitted by hunters that they only untangled birds that are of high economy values for sale, such as herons. Smaller and less economically valuable birds are left to die in the nets.

The intensive use of mist nets is undoubtedly not only threatening bird populations in the areas, but also anything that flights, including insects. Eating bird meat is a very common practice in the study sites. It was stated by a respondent that hunters often consume the less economically valuable birds, whereas those that are highly sought in the markets are being kept for traders. Birds are sold directly to traders, who collected them directly from hunters' house then transport them for sale in restaurants in Hanoi and other provinces.

Based on the results of this study, we provide the following recommendations:

- Increase enforcement effort, especially patrolling during peak hunting periods;
- Collaborate with Provincial People's Committee to erect warning billboards and campaigns to raise awareness on the Vietnamese laws and policies on protecting migratory birds;
- Collaborate with Catholic leaders in the provinces to change the local peoples' attitudes and behaviour towards bird hunting, as well as to raise awareness on the issues.
- Establish a hotline for locals to report hunting activities to the authorities;
- Provide education activities for children and youth in the provinces to actively involved in bird and nature conservation.

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# 75

birds rescued

# 323

mist-nets removed as a result of the collaboration  
between WildAct & Ninh Binh's Forest Protection  
Department





## Acknowledgements

We would like to thanks the Conservation Leadership Program for the financial and technical supports of this project.



**CONSERVATION  
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