Alberta Conservation Association (ACA)

Date: 2014-2015

Project Name: Upland Gamebird Studies

Wildlife Program Manager: Doug Manzer

Project Leader: Layne Seward

Primary ACA staff on project:

Doug Manzer, Kyle Prince, Blair Seward, Layne Seward and Mike Uchikura

Partnerships

- Landowners
- Pheasants Forever – Calgary Chapter
- Volunteers

Key Findings

- We surveyed 30 km of high-quality habitat in late summer 2014 for upland gamebirds. We flushed 1.96 pheasants and 3.53 partridge coveys per hour, which translates to 2.43 pheasants and 13.23 partridge for each kilometre walked.
- Pen-reared pheasant hens dispersed more quickly and over greater distances than anticipated when given a hard release.
- Twenty weeks after release, 6 hens were alive, 29 were dead and 15 had an unknown fate.
- Some hens moved up to 11.2 km from the release location within the first week of release.
- After a 20-week period, some pheasants travelled a linear distance of greater than 17 km from the release location.

Introduction

Alberta Conservation Association (ACA) is striving to improve habitat that benefits upland gamebirds. We are engaged in several programs aimed at improving habitat (Habitat Legacy Partnership, Demonstration Farm) as well as re-establishing gamebird numbers (4-H Raise and Release, Pheasant Release Program) to improve hunting opportunities in the future. To better understand habitat features and treatments that provide viable recruitment and survival, we monitor upland bird trends in select locations. We also monitor the dispersal and survival of hen pheasants to understand and improve the efficiency of pen-reared releases. Understanding patterns of recruitment, survival and yearly population trends with respect to habitat will help direct our projects that seek to re-establish gamebirds over time.

Methods

We conducted annual upland bird surveys (pheasant, grey partridge) in select locations to better understand the habitat conditions associated with annual recruitment and survival, as well as provide a forecast of gamebirds to encourage hunting. We used hunting dogs to flush gamebirds and tracked the time and distance travelled to measure effort over space and time.

To better understand the efficiency of approaches and habitat needs for re-establishing pheasant populations, we released pen-reared pheasant hens at a study site and tracked their survival and movement using radio collars attached to the birds. After the initial release, we monitored survival weekly for the first month and monthly thereafter. The collars have a mortality feature that alerts us if a pheasant is still alive or dead. We mapped the location of each individual during each monitoring event.

Results

Our late summer surveys in 2014 indicated another good year for grey partridge and pheasants in southern Alberta. Dogs and handlers walked approximately 30 km in some of the best habitat the south has to offer. With a late harvest underway, these surveys were more difficult to conduct and were generally delayed by three weeks compared with previous years. The flush rate for pheasants was similar to 2013 although brood size was down. However, the flush rate for partridge was more than two-fold greater compared with 2013. Overall, we flushed 73 pheasants and 397 partridge in just 12.7 hours! The dogs were busy, with 1.96 pheasant flushes and 3.53 partridge coveys per hour (Table 1). Averaged over the entire sample period, this equates to roughly 5.5 flushes of either partridge or pheasant per hour, or a flush every 11 minutes. In terms of distance, we flushed 2.43 pheasants and 13.23 partridge for each kilometre walked (Table 1).

We released 14-week-old pen-reared hens on a 5 km^2 study site in an agriculturally dominated landscape (Figure 1). The site had abundant escape cover and food resources. The 50 hen pheasants that were fit with radio collars dispersed much farther than we anticipated. Twenty weeks after release, some hens had travelled at least 17 km in a straight-line distance. Within the first week of release, one hen travelled 11.2 km from the original release site! Six hens were alive and 29 were dead after 20 weeks; 15 had an unknown fate (lost). Anecdotally, it appears that surviving hens were near large cattail complexes.

Table 1. Total counts and encounter rates for pheasant and grey partridge during late summer surveys in 2012, 2013 and 2014.

Survey results	**Ring-necked pheasant**			**Grey partridge**		
Survey year	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**
Distance surveyed (km)	53.6	60	30	53.6	60	30
Total count	111	215	73	354	420	397
Flushes/hour	1.37	2.59	1.96	1.37	1.59	3.53
Flushes/kilometre walked	2.07	3.58	2.43	6.60	7.00	13.23

Figure 1. Location and fate of 50 pen-reared pheasant hens 20 weeks after release. Hens were released using a hard-release approach at 14 weeks of age.

Conclusions

The pheasant and grey partridge counts were again quite good in select areas. Encounter rates were particularly good for grey partridge coveys.

The movement of pen-reared pheasant hens was more rapid and over a much greater distance than anticipated. We expected to see high mortality with the hard-release approach used, and this appears to be occurring. We intend to modify the release approach in 2015 to assess if survival improves and movement decreases.

Communications

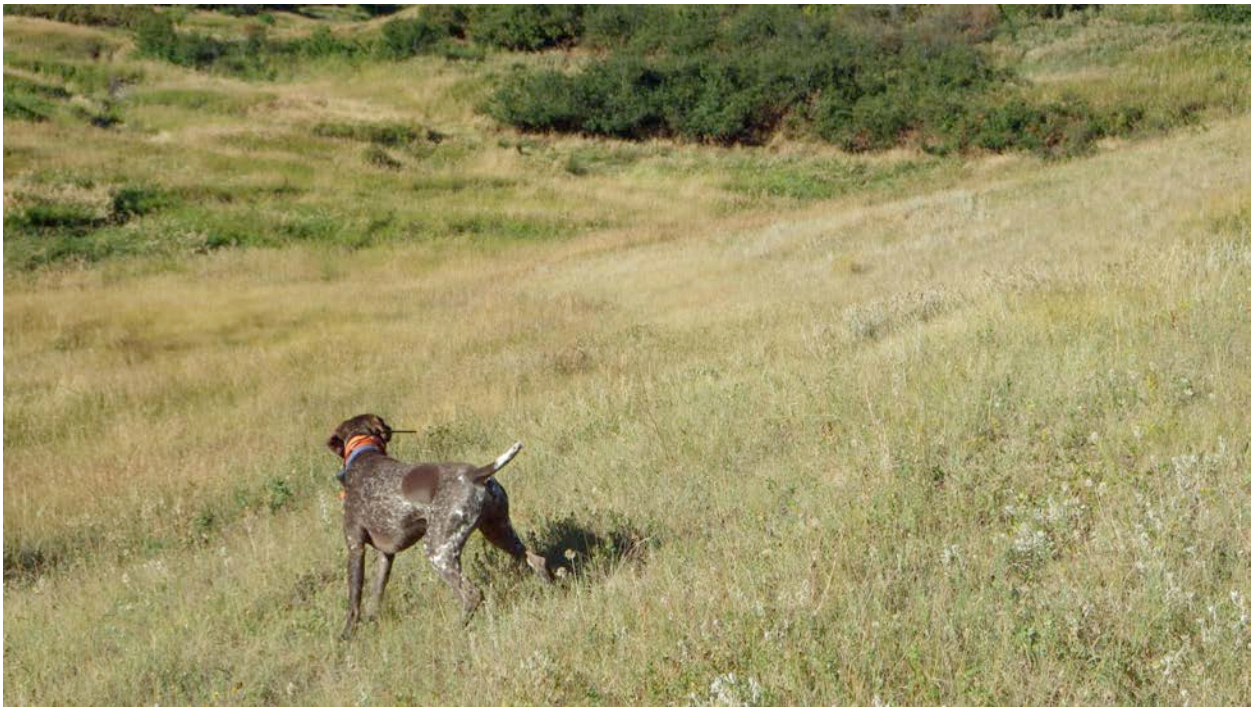
- Shared the pheasant population survey results on our website and via social media.
- Shared survey results with Pheasants Forever – Calgary Chapter, which this organization then shared through an e-newsletter and through hard copies mailed out to members.

Literature Cited

N/A

Photos

A pheasant being released in excellent habitat by Alberta Conservation Association volunteer Dave Small. Photo: Kelli Seward



Jid, one of the hunting dogs used during the upland bird survey, holding steady on point. Photo: Mike Uchikura

A grey partridge pair observed during one of our surveys. Photo: Doug Manzer