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LOST EGGS AND FAILED FIRST CLUTCHES OF EGGS

AT WILD BALD EAGLE NESTS, 2006-2020

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Lost Eggs

From 2006-2020 at the nests observed, there were a total of **388 nests with first clutches of eggs** (not counting [second clutches](#)), producing a total of **910 eggs** ([See Table 1](#)):

- **1-egg clutches** produced **27** eggs.
- **2-egg clutches** produced **488** eggs.
- **3-egg clutches** produced **378** eggs.
- **4-egg clutches** produced **12** eggs.
- One **5-egg clutch** produced **5** eggs.

Through all years, **20.8%** of the 910 eggs were lost. Table 3 enumerates these.

Table 3

Click on the Pop-Out button to open in a new tab.

YEAR	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL		
TOTAL EGGS	11	29	39	47	44	54	54	44	18	25	30	37	30	39	310	910	High or unknown day / cause	
1-egg nests	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	27	High or unknown day / cause
2-egg nests	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	488	488	High or unknown day / cause
3-egg nests	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	378	378	High or unknown day / cause
4-egg nests	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	12	12	High or unknown day / cause
5-egg nests	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	5	High or unknown day / cause
TOTAL EGGS LOST	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	44	44	High or unknown day / cause
abandoned	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	13	13	High or unknown day / cause
predation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10	10	High or unknown day / cause
hatching failure	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	4	High or unknown day / cause
nonviable	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	3	High or unknown day / cause
unknown	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7	7	High or unknown day / cause
fallen nest	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	High or unknown day / cause
accident	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	High or unknown day / cause
TOTAL EGGS LOST	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	44	44	High or unknown day / cause
TOTAL EGGS LOST	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	44	44	High or unknown day / cause

- **1-egg clutches** lost **55.6%** of their eggs.
- **2-egg clutches** lost **21.1%** of their eggs.
- **3-egg clutches** lost **16.7%** of their eggs.
- **4-egg clutches** lost **25%** of their eggs.
- The single **5-egg clutch** lost all of its eggs.

The causes of the losses include **external events**, such as **bad weather**, a **fallen nest**, **Bald Eagle intruders**, and **intrusions by other animals**, which can lead to broken, abandoned, or predated eggs. Other causes include accidents (such as a misstep by a parent) and hatching failure (when the egg begins to hatch but fails to complete the process). Often, but not always, these events can be observed on cam, and even when they can be viewed, the effect on the eggs is not always clear. Among the lost eggs at these nests:

- **12.7%** were lost as a result of **intruders**.
- **5.3%** fell to **predation**.
- **4.2%** experienced **hatching failure**.
- **3.7%** were **abandoned**.
- **3.2%** succumbed as a result of **bad weather**.
- **1.6%** were lost when the **nest fell**.
- **1.1%** broke as a result of an **accident**.

Eggs that were lost **without observable cause** make up the majority of the lost eggs:

- **29.6%** failed to hatch.
- **21.7%** broke before hatching.
- **7.4%** were lost for **unknown reasons**.
- **4.8%** disappeared.

An egg that fails to hatch is either **infertile** or **nonviable**. ([See discussion of unhatched eggs here](#)):

- **Infertility** is a **reproductive problem with one or both parents** that prevents the female's ovum from being fertilized by the male's sperm. In the data in Table 3, **1.1%** of eggs were found by laboratory examination to be **infertile**.
- **Nonviability** is a **problem with the embryo** that prevents it from developing properly, which can result from myriad reasons, including external events such as enumerated above. In the data in Table 3, **3.7%** of eggs were found either by laboratory examination or by evidence visible on cam (such as a partially developed embryo in a broken egg) to be **nonviable**.

Failed First Clutches

Of 389 first clutches of eggs observed, **11.3%** were **unsuccessful**, resulting in the loss of all eggs, as listed in Table 4.

Table 4

Click on the Pop-Out button to open in a new tab.

YEAR	1-EGG CLUTCHES LOST: NEST, CAUSE	2-EGG CLUTCHES LOST: NEST, CAUSE	3-EGG CLUTCHES LOST: NEST, CAUSE	4-EGG CLUTCHES LOST: NEST, CAUSE	TOTAL FIRST CLUTCHES LOST: NEST, CAUSE	TOTAL FIRST CLUTCHES (ALL NESTS)	TOTAL EGGS LOST: NESTS	PERCENT OF FIRST CLUTCHES
2006	1-egg, unknown				1	1	1	100%
2007					0	0	0	0%
2008	1-egg, unknown	2-egg, unknown			3	3	3	100%
2009	1-egg, unknown	2-egg, unknown			3	3	3	100%
2010	1-egg, unknown	2-egg, unknown			3	3	3	100%
2011	1-egg, unknown	2-egg, unknown			3	3	3	100%
2012	1-egg, unknown	2-egg, unknown			3	3	3	100%
2013	1-egg, unknown	2-egg, unknown			3	3	3	100%
2014	1-egg, unknown	2-egg, unknown			3	3	3	100%
2015	1-egg, unknown	2-egg, unknown			3	3	3	100%
2016	1-egg, unknown	2-egg, unknown			3	3	3	100%
2017	1-egg, unknown	2-egg, unknown			3	3	3	100%
2018	1-egg, unknown	2-egg, unknown			3	3	3	100%
2019	1-egg, unknown	2-egg, unknown			3	3	3	100%
2020	1-egg, unknown	2-egg, unknown			3	3	3	100%
TOTAL CLUTCHES	27	488	378	12	899	389	44	11.3%
TOTAL EGGS LOST	27	488	378	12	899	389	44	11.3%

1-egg first clutches failed at the highest rate, while none of the 4-egg first clutches failed:

- **44.4%** of **1-egg clutches** failed.
- **11.5%** of **2-egg clutches** failed.
- **2.4%** of **3-egg clutches** failed.
- **None** of **4-egg clutches** failed.
- The only **5-egg clutch** failed.

The causes of the failed clutches include some of those described above in reference to lost eggs, including external events, infertility, and nonviability, but a large number failed for unknown reasons. Table 4 enumerates these failed clutches at specific nests (referred to by abbreviated codes, which are identified at the end of the table) and gives the cause, if known. [See this page for discussion of unhatched eggs](#).

The number of lost clutches varies from year to year. **2018** and **2020** saw the most lost clutches, with **7 lost** each year. However, the **highest percentage** of lost first clutches occurred in **2015**, when **22.2%** of first clutches were lost. In 2007 and 2012 no first clutches were lost. **2009**, **2010**, and **2019** were good years, when **5%**, **5.3%**, and **7.9%** clutches were lost respectively.

At nests marked in Table 4 with an asterisk (*) the adults later produced a **second clutch of eggs, which is discussed here**.

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- Numbers from the Nests
- Eggs, Nestlings, and Fledglings
- Success Rates of Clutches and Broods
- Lost Eggs and Failed First Clutches of Eggs
- Lost Nestlings and Failed Broods of Eaglets
- Nests Included
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