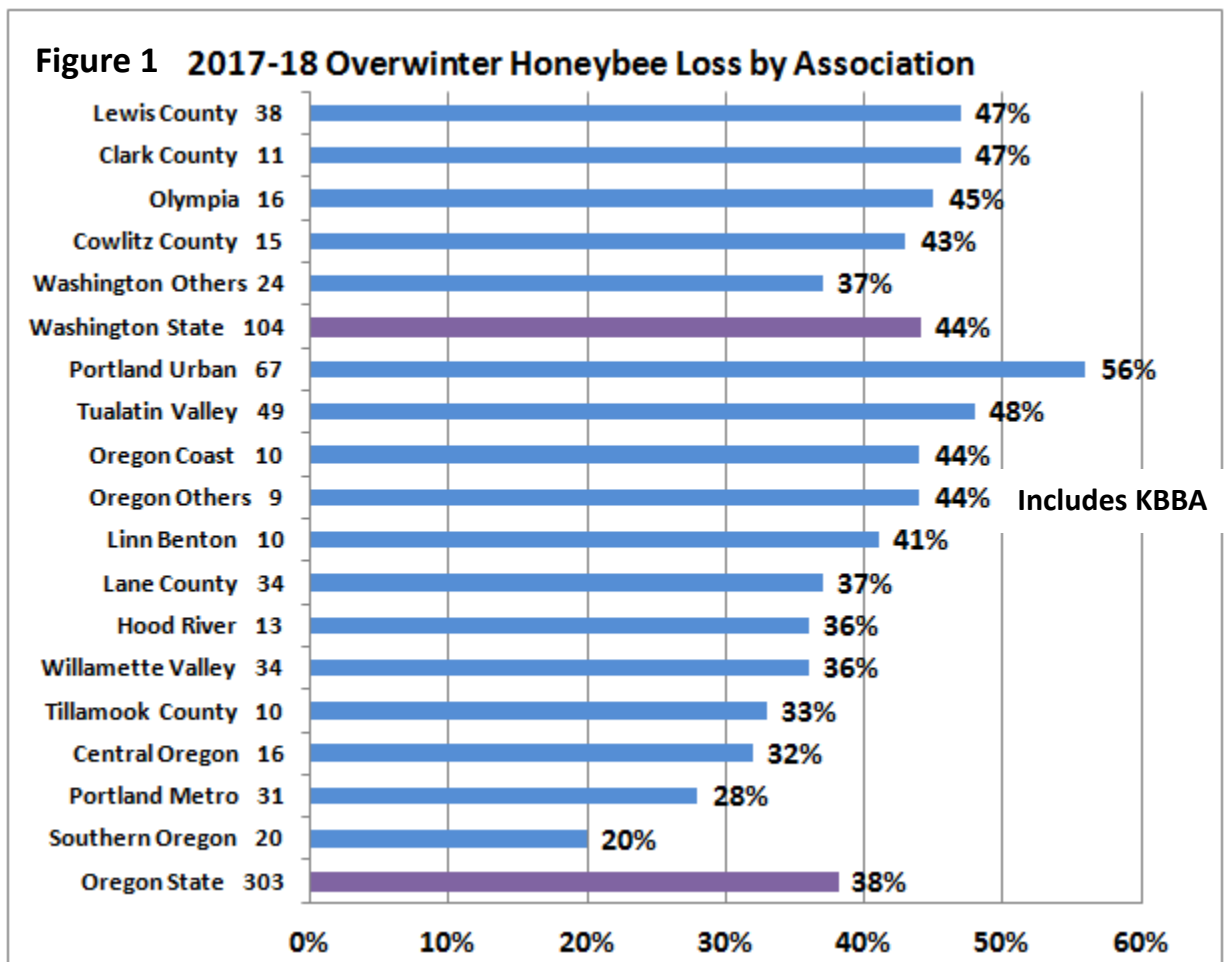
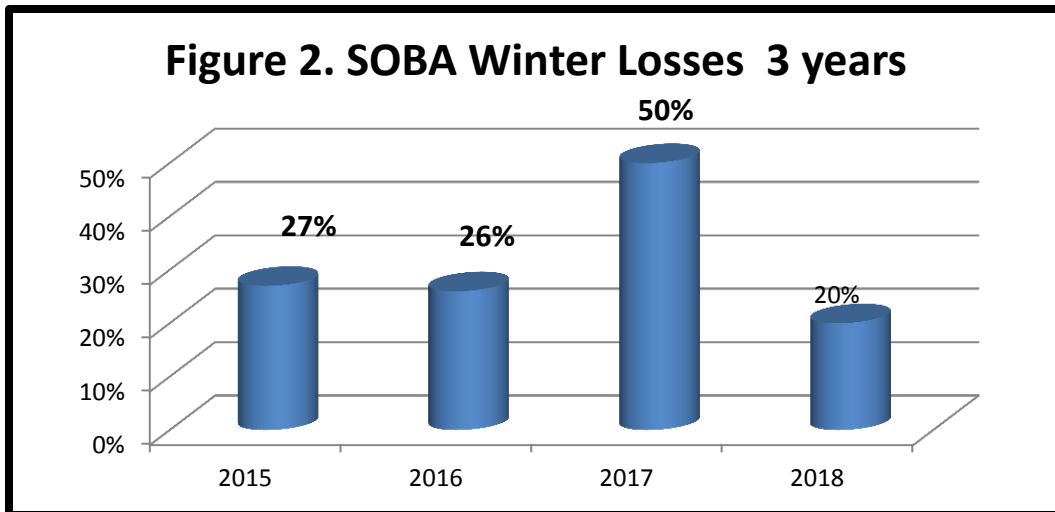


## 2017 Southern Oregon Winter Loss by Dewey M. Caron

SOBA and KBBA members were directed to a web-based survey document (posted at [www.pnwhoneybeesurvey.com](http://www.pnwhoneybeesurvey.com)) in a continuing effort to define overwintering loss rates and successes, now the 10<sup>th</sup> spring survey. I received 303 responses from OR backyarders, plus 104 others from Washington beekeepers, keeping anywhere from 1 to 50 colonies. Southern tier beekeepers of Klamath Basin (KBBA) contributed 6 survey responses (2 fewer than previous survey) and Southern Oregon (SOBA) members returned 20 surveys, 3 fewer than last year. The 6 KBBA members, included in Oregon others, had 68 fall colonies, lost 28.

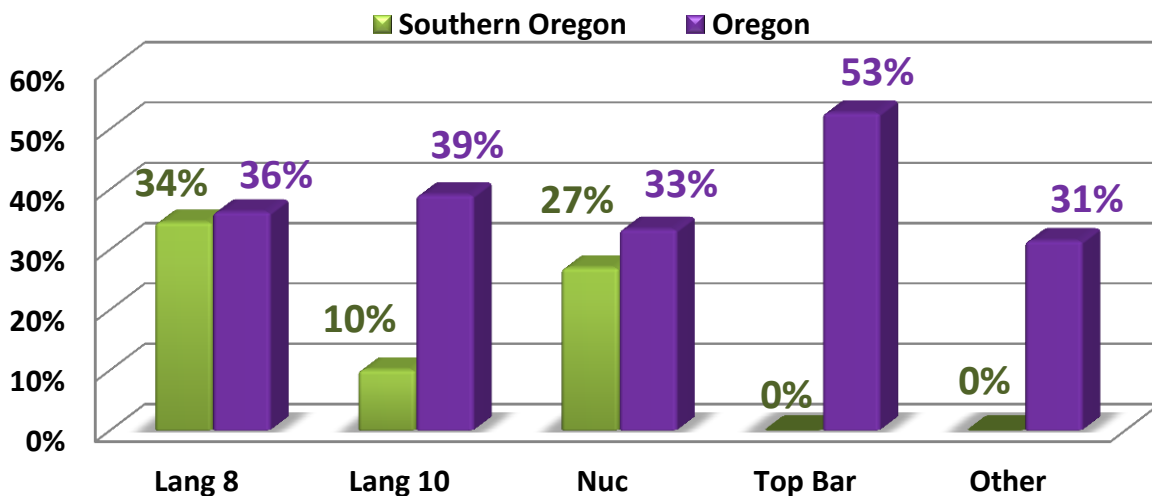


Overwintering losses of the 6 KBBA respondents was 41% . Losses of the 20 SOBA members (172 fall colonies total) was 20%, the lowest loss level of the OR associations. This loss was more in line with 2015 and 2016 spring results, both of which were below the statewide averages of their respective years (29% and 40% respectively). The terribly high 56% loss of 2017 was statistically the same as overall statewide losses in 2017 (48%), thus SOBA losses for 3 of 4 years were lower than the statewide average loss.



Percent loss was determined for Langstroth 8 and 10 frame hive types, 5 frame nucs, top bar hives and category "other." Data shown in Figure 3 compares the SOBA responses with statewide OR beekeepers. SOBA members started winter of 2017-18 with 58 8-frame Langstroth hives and 80 10-frame hives, of which only 8 died overwinter. Seven nucs of 26 fall units were lost. No Warré hives (there were only 2 reported) or other hives (6 total) were lost overwinter. The 6 other hives were long hives

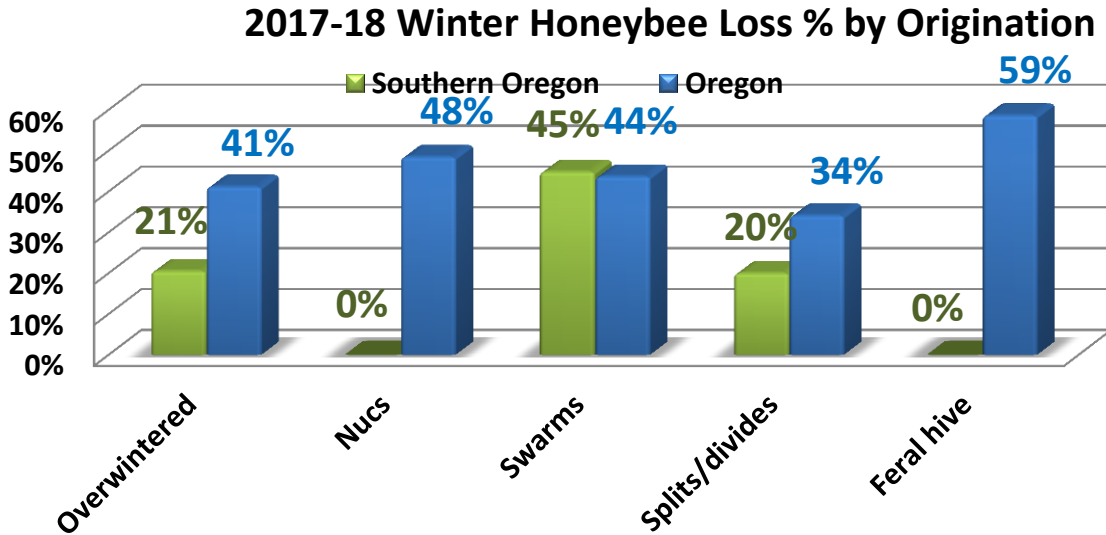
### 2017-18 Winter Honeybee Loss % by Hive Type



For the 6 KBBA members there were 53 fall 8 frame hives, 18 were lost (34%) and of 14 fall 10 frame Langstroth hives 10 died (71% loss). A single nuc survived.

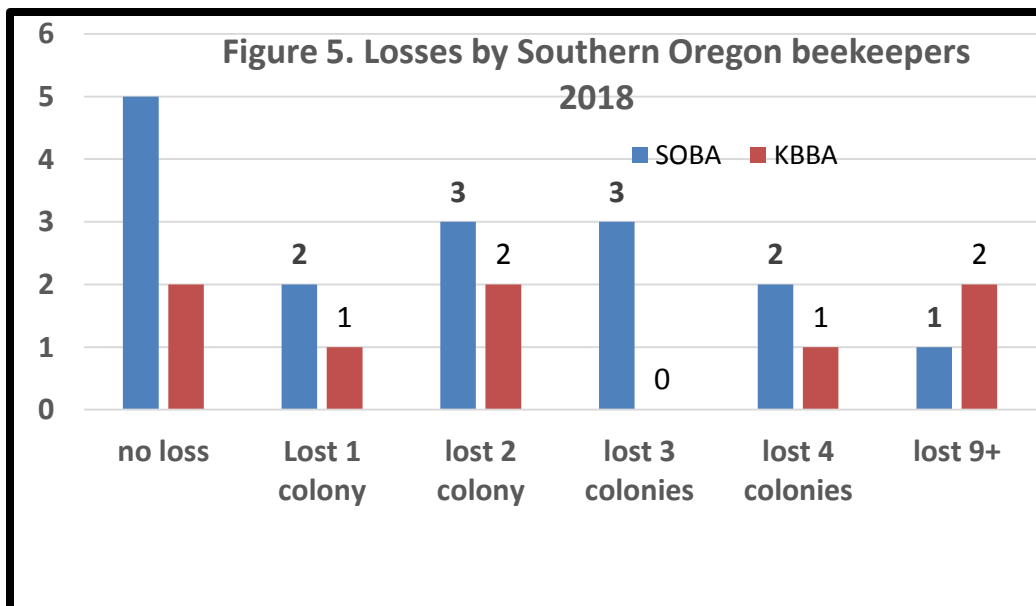
The survey also asked for hive loss by hive origination. Thirty one of 39 overwintered SOBA member colonies were alive in the spring (21% loss rate), nearly double the survival rate of statewide beekeepers. There were no packages reported, 5 of 5 nucs survived, slightly more

than ½ the swarms survived, 2 of 10 fall splits survived (20% loss) and the single feral colony transfer survived,. Figure 4 shows SOBA comparison with statewide. For KBBA individuals, 16 of 43 overwintered colonies were lost (43%), 1/3<sup>rd</sup> of 9 packages and 1 of 3 nucs were lost. Of 7 fall splits, 4 survived.



Fall Col # (loss) 39(8)                      5(0)                      29(13)                      10(2)                      1(0)

Not everyone had loss. Five SOBA individuals (33%) reported total winter survival and 2 KBBA members (33%) did likewise. Losses were 1, 2 3 or 4 colonies except there were heavy losses for individuals with higher colony numbers. In SOBA one individual lost 12 colonies (24% loss) and among the 6 KBBA members. one individual lost 9 colonies (100%) and another 18 (37.5%). Figure 5.



The vast majority of respondents to the survey were new beekeepers. Six SOBA respondents 30% had 1, 2 or 3 colonies, 8 had 4-6 colonies (40%). Three owned 8 or 9 colonies and 3 had 40+ colonies, highest was 50. Three KBBA beekeepers had 2 fall colonies and one had 4 (50%) while 2 had more than 10 colonies. Ten of 22 SOBA members had 1, 2 or 3 years' experience (45.5%) and only 2 had more than 8+ year's experience, with 25 years the highest. Three KBBA survey returners had 3 years of experience, 2 had four and three had 6+; greatest experience was 8 years.

Three SOBA individuals had more than one apiary location and one KBBA did as well. One SOBA individual moved hives, but only a short distance on same property, while the largest KBBA respondent moved bees to CA for almond pollination.

### Reasons for Losses

We asked individuals that had colony loss to estimate what the reason might have been (multiple responses were permitted). The 20 SOBA and 6 KBBA selections were led by poor wintering conditions (7 selections SOBA, 3 by KBBA). See additional selections (by number of individuals) in Table 1 for both groups.

	Poor wintering conditions	Weak in fall	starvation	Pesticides	Varroa mites	Queen failure	I don't know
SOBA	7	3	2	2	2	2	2
KBBA	3	2	2	2	1	2	0

Survey individuals are asked to indicate what might be an acceptable loss level. Among SOBA responses were zero (8 individuals), 10% (7 individuals), 25% (3 individuals) and 33% (5 individuals); KBBA survey takers said zero (2 individuals), 10% (3 individuals) 25% (1 individual) and one individual each of 50% and 100% loss elected as acceptable. Statewide, 47% felt 10% or less was acceptable and 10.5% stated 50% or higher was acceptable

**Why do colonies die?** There appears to be no single reason for loss and a good deal of variance in opinion as to what might be an acceptable loss level. Colonies in the same apiary may die for different reasons and loss levels vary from one season to the next. We are dealing with living animals which are constantly exposed to many different challenges, both in the natural environment and the beekeeper's apiary. The four MAJOR factors in colony loss are thought to be mites, pesticides, declining nutritional adequacy/forage and diseases, especially viruses and Nosema.

Management, especially learning proper bee care in the first years of beekeeping, remains a factor in losses. What effects our changing environment has such as global warming, contrails, electromagnetic forces, including human disruption of it, human alteration to the bee's natural environment and other factors play in colony losses are not at all clear.

**There is no simple explanation to the levels of current losses nor is it possible to demonstrate that they are necessarily excessive for all the issues facing honey bees in the current environment. Varroa mites and the viruses they transmit are considered a major factor, but by no means the only reason, colonies are not as healthy as they should be.**

## **Management selections and losses**

The survey inquired about feeding practices, wintering preparations, sanitation measures utilized, screen bottom board usage, queens, mite monitoring techniques and mite treatment controls (such as screen bottom board use, drone brood removal efforts, etc.) and chemical mite controls used. Individuals could check none or more than one response; most beekeepers often do not do just one thing/management to their colony (ies) to control mites. It takes effort to improve overwintering success.

Analysis is equated with losses. This data takes longer to analyze. It will be posted as soon as available.

**Thank You to all who participated.** If you find any of this information of value please consider adding your voice to the survey in a subsequent season. Dewey Caron May 2018