

Arrowhead

2007 Forest Health Report

Overview

The forests at Arrowhead subdivision have changed very little since the 2006 report. There are a few positive items and concerns that should be addressed.

Positive Observations

1. The Arrowhead Community Wildfire Protection Plan is now complete and available to residents. The plan is available through the HOA and should be up on the Arrowhead website in the future. The plan is a comprehensive look at wildfire safety within the subdivision and surrounding areas. It details where and when work will be completed on Arrowhead common ground and the federally owned land adjacent to the subdivision. There are helpful guides to implementing defensible space. Evacuation procedures during an emergency are detailed in the plan. The plan is an easy to use and helpful guide to wildfire safety in Arrowhead subdivision.
2. Thinning continues on the common ground in Arrowhead. This year's treatment was an extension of the Spruce Rd project from last year and totaled 30 acres. This area is dominated by thick, dog haired Douglas fir. The slope is very steep and exceeds 30% in some areas. This presents a challenge for contractors. The subdivision is using the same skilled crew from last year. This crew has proven to be very successful in both completing the job and completing it to CSFS and Arrowhead standards. These treatments not only reduce the wildfire threat but also reduce the Douglas fir beetle threat.
3. Landowners continue to implement defensible space thinning throughout the subdivision. This is apparent both from driving through the subdivision and the size of the stump dump. Arrowhead recently passed a regulation requiring defensible space thinning on all new construction. This is a positive step in the right direction of overall wildfire safety.
4. No new Douglas fir bark beetle infestations were found this year. Early identification of any insect is the key to lessening its damage. In the future, this insect will continue to pop up throughout the subdivision. It is attracted to densely-stocked, over mature stands of Douglas fir. Landowners should learn the identification signs of this insect and be observant. These are listed in the concerns section below.
5. Western Spruce bud worm levels continue to be very low. No formal WSBW survey was warranted this year. Continued diligence in identifying this insect is necessary for lessening its impact in the event of another outbreak. This insect also spreads very easily in dense closed canopy forest like the ones present in Arrowhead subdivision.

Concerns

1. Douglas fir bark beetle is still on the rise county wide. The insect is attracted to densely stocked stands of Douglas fir. The indicators of attack are red bark dust (frass) accumulating both in the furrows of the bark and at the base of the trunk. The tree will generally have masses of sap running down the stem, as well as little round masses of sap called pitch tubes attached to the trunk. The tree foliage will also show signs of fading to a greenish yellow and then brown. Infested trees should be cut down and disposed of either by cutting into firewood lengths or stripping whole logs of their bark.
2. The western balsam bark beetle is still present in the subdivision in small isolated pockets. This insect attacks Sub Alpine fir only. Just like most bark beetles it is attracted to stressed trees. A tree can become stressed due to competition in an over crowded stand and from construction disturbance. A small pocket of infestation continues on the eastern end of Ute Rd. Sporadic pockets can be found throughout the subdivision. This insect generally kills in groups of trees of the same age.
3. As in the past aspen canker damage is present in the subdivision. These types of fungi are found in most aspen forests. During wet periods aspen are more susceptible to these fungi, extra caution should be used during high moisture periods. The fungi are able to enter the aspen through wounds. If pruning is needed, it should be done in the fall or spring.

General Information

The forests at Arrowhead subdivision are compromised of 6 different species including: sub alpine fir, Engelmann spruce, aspen, Douglas fir and Ponderosa pine. Also found are Blue spruce and the occasional Rocky Mountain juniper.

The best way to keep a forest in good health is to manage it. In Arrowhead's case this requires cutting trees in order to lessen the competition between trees. The forests in Arrowhead are showing signs of declining health ie: insects and diseases, slow growth. This is due to the overcrowding in the forest. There are too many trees competing for the same limited amount of water and nutrients. If a tree does not receive ample amounts of water, nutrients, and sunlight, it becomes suppressed and weak. Weak and suppressed trees are more susceptible to insects, disease and fire.

A general stocking level for a healthy forest is 140-200 trees per acre. A good portion of the forests in Arrowhead are at a 600-900 trees per acre stocking level. At this level both the forest health and forest aesthetics are compromised. These stocking levels were no accident. They are the products of years of fire suppression and lack of management.

By continually managing the forests at Arrowhead, the subdivision can improve the forest. Currently, Arrowhead subdivision is very vulnerable to wildfire, insects, disease and habitat loss. The subdivision is rated as an extreme fire risk. This is due to the densely stocked conifer forests. Trees growing under other trees has caused the vegetation to provide a ladder effect for fire. A small ground fire can easily climb the low lying limbs up into the crowns of trees. A crown fire is fast moving and very destructive. The subdivision and CSFS have developed a community wildfire protection plan. The plan will assist both the HOA and landowners in dealing with this problem more efficiently and economically.

Managing a forest is taking a proactive approach to insect and disease problems. Most bark beetles are attracted to and breed in stressed or dying trees. This is not exclusive to bark beetles. Many other destructive insects are attracted to the same types of environments. Western spruce bud worm is certainly no exception to this rule and this insect poses the greatest threat to the subdivision and should not be forgotten.

Wildlife also requires forest management in order to survive. Many of the aspen forests in Arrowhead are getting encroached by conifer trees. If this continues, the conifer will eventually take over the stand and shade out the aspen. Several species of wildlife require stands of aspen in different stages of development for habitat. The loss of aspen stands could also affect the aesthetics of the subdivision. The brilliant yellow that accompanies the fall could be lessened.

Insect and Disease Concerns

Western Spruce Budworm (WSBW)

The Western Spruce budworm poses the greatest threat to the forests in Arrowhead. Four species of this particular insect's diet are found in Arrowhead. These species are Douglas and Subalpine fir, Blue and Engelmann spruce. WSBW eats the new buds of trees and can defoliate as well. A tree that is defoliated cannot produce an adequate amount of food and thus becomes stressed. The insect has the greatest potential for mass destruction in dense stands with interlocking crowns.

Arrowhead has done a WSBW survey from the mid 80's until 2005. The numbers of WSBW have been steadily dropping. The current counts are next to zero. This has been confirmed with onsite observations. In the past WSBW infestations have been treated with aerial spraying when WSBW survey counts are around 12%. Although spraying was an effective treatment in the past, it is only a temporary fix to the problem.

The WSBW can best be controlled through active management. Since the insect thrives in densely stocked forests. The proactive approach to the problem is to thin the forests of Arrowhead. Specifically the large amounts of Douglas fir undergrowth and inter-locking crowned and over matured Douglas fir. This particular species is the insect's preferred diet. Although WSBW counts are currently low. This insect is cyclical and will return

Western balsam fir bark beetle (WBFBB)

This insect continues to be a standard part of the forest of Arrowhead. It has not posed a dire threat yet. Currently it has been killing small pocket of scattered sub alpine fir throughout the subdivision. This insect like many others of its kind thrive in densely stocked forests. Trees in densely stocked forests are stressed and reliable pray for the WBFBB.

To keep this insect from posing a dire threat the forest needs to be managed. Again this involves thinning. Not necessarily the largest trees of the forest but the small and medium under story trees. Like many of the other species of trees in Arrowhead. Sub-alpine fir will benefit from forest management. Management improves the overall health of the forest and makes trees more vigorous and better able to fend off insect infestations.

Other Insects

Other insects that were not identified this year in arrowhead are spruce ips and spruce beetle. These insects are also attracted to stressed trees. Again thinning is the best defense against these insects.

Cankers

Aspen are prone to canker development through out their lives, but specifically if they are in excess of 60 years of age. Most aspen found in the Arrowhead above 10 inches diameter are probably in this age group. The term “canker” describes an area of dead cambium (living cells just beneath the bark), and bark. These cankers are caused by a fungus that enters through a bark injury. Three aspen cankers are currently found in Arrowhead: sooty bark, black, and cytospora. The only way to avoid these cankers is to avoid injuring the trees. The spores that cause the cankers are always in the air and most common in the summer.

Aspen Trunk Rot

This disease is fairly common in aspen in excess of 80 years. Many large trees (12-18 inches in diameter) and some smaller ones have this disease. It attacks the inner wood core of living trees. Fomes igniarius is the most common in the area. Fruiting bodies of the fungus are found on the outside of the tree’s bark and are hoofed shape. Trees with the hoof shaped growths are susceptible to breaking. Homeowners should examine trees near structures and have infected trees removed. Prevention includes avoiding damage during construction of structures and roads.

Conclusion

It is very important that owners and subdivision managers continue to have a proactive approach to the management of Arrowhead’s forests. The proactive approach to most forestry related issues in Arrowhead is thinning. The new Community Wildfire Protection Plan addresses many of these issues. Residents are encouraged to read the plan. Any question can be directed to the HOA or Colorado State Forest Service.