Big T Wash Line

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ABOUT THE BIG TUJUNGA WASH MITIGATION AREA

"Big T" is a parcel of land located in the City of Los Angeles's Sunland area (see Page 4).

The Big Tujunga Wash Mitigation Area (Big T) covers an area of approximately 210 acres of sensitive habitat, encompassing the Big Tujunga Wash and Haines Canyon Creek. The site was purchased by Los Angeles County Public Works (Public Works) in 1998 as compensation for habitat loss for other Public Works projects.

Public Works's implementation of the Master Mitigation Plan for Big T has been underway since April 2000. Big T protects one of the most rapidly diminishing habitat types found in Southern California: willow riparian woodland. Big T is home to several protected species of fish, including the Santa Ana sucker, Santa Ana speckled dace, and arroyo chub, and contains habitat for sensitive bird species such as the least Bell's vireo and southwestern willow flycatcher.

The purpose of this newsletter is to provide updates to ongoing programs and to explain upcoming enhancement measures that will be implemented on the site. Newsletters are published on a semi-annual basis in the spring and fall.

More information can be found at:
dpw.lacounty.gov/wrd/projects/BTWMA

The Rebuilding of an Ecosystem

Have you ever heard of the term "trophic cascade"?

A trophic cascade is a tiered ecological process that starts at the top of the food chain with carnivores (secondary consumers) and works its way down through the herbivores (primary consumers), and reaches the bottom with the plants, or primary producers. The effects of the trophic cascade can be seen when a species population within one of the trophic levels is either increased or decreased. One of the most famous examples of a trophic cascade involves the gray wolves of Yellowstone National Park, and the key role they play in the habitat in which they live.

In 1926 the last gray wolves were killed in Yellowstone. With the removal of the wolves from the area, the white-tailed deer population spiked as the herbivores no longer had a top carnivore to keep their populations in check. The white-tailed deer devoured an excessive amount of the area's vegetation. This increase in the deer's grazing and consumption strongly impacted Yellowstone's ecosystem. Streams were adversely affected by the increase in the foot traffic and grazing of deer along the stream banks, making the stream banks weak. The weakened stream banks led to erosion and sedimentation which altered fish populations. The loss of vegetation led to the loss of small mammals and in turn caused a decrease in the raptor (birds of prey) population.

In 1995, in order to restore balance to Yellowstone's ecosystem, U.S. and Canadian wildlife officials reintroduced wolves into the park. The wolves not only helped the ecosystem by hunting some of the deer, but they also changed the deer's behavior. The deer learned to avoid certain areas in the park because they knew where the wolves were located. As a result, areas of the park that were now devoid of deer had a rapid ecological explosion and the recovery of plant life in those areas was impressive. The increase in trees and vegetation welcomed several raptor and songbird species back to the park such as hawks, bald eagles, ospreys, Wilson's warblers, willow flycatchers, and many more.

As plants began to reestablish along the stream banks, erosion ceased, creating more pools and more channels to support fish. With the return of trees, beavers returned and the dams they created provided habitat for reptiles, amphibians, otters, muskrats, fish and ducks. The wolves killed coyotes which led to an increase in the number of small mammals such as rabbits and mice. With populations of small mammals on the rise, hawks, foxes, badgers, and eagles began to thrive. The loss and rebirth of wolves back into Yellowstone is a prime example of how changing a single aspect of an ecosystem can cause multiple effects that can either unbalance or rebalance the trophic levels and ultimately the health of an ecosystem.

How does this relate to Big T? The trophic cascade just described was an example of a "top down" trophic cascade. Big T is similarly experiencing the effects of shifting trophic levels but from the bottom up. After the Creek Fire burned through the area in 2017, Big T appeared nothing more than a wasteland. The lack of vegetation took a toll on the animals who had once called Big T home. In this case, the lowest level of the trophic cascade, primary producers, was greatly reduced, shifting the balance of herbivores and carnivores and reducing the amount of wildlife Big T could support. Removing the plants sent a shock wave though the area. Without plants, food for herbivores, cover for wildlife, and suitable habitat for nesting birds were limited. Without herbivores, carnivores had all but vanished from Big T.

By the spring of 2018 a small number of plants had begun to resprout and reestablish, but very few animals had returned to the area. Fast forward to 2019, it is evident that the plant life at Big T is making a healthy comeback. Just within a year, many bird species have returned to the area. If you were walking through Big T a year ago, you might have seen an occasional hawk flying overhead, but birds were otherwise scarce. This spring, twenty-six bird species have already been observed at Big T, and active nests are already being identified by biologists. As native vegetation continues to reestablish, Big T will be able to support the abundance of herbivores that it once hosted, and carnivores will be soon to follow.

Although Yellowstone National Park and Big T are extraordinarily different, they are both good examples of how changes within a trophic level can have substantial effects on the overall health of an ecosystem. Here at Big T the plants are leading the way and bringing balance back to the habitat. As devastating as the Creek fire was, we are fortunate that we get to witness Big T coming back to life.

The Big Dead Trees at Big T

"Why not cut them all down?"

It's a fair question, and one worth discussing. In order to do so it's important to understand what these dead trees are, what they provide, and how they will help sustain the health of Big T for years to come.

The woodland areas along Haines Canyon Creek and surrounding the Tujunga Ponds at Big T are called snag forests. Snag forests, sometimes referred to as complex early seral forests, can be caused by disease, insect infestation, and fire, as we've seen. Snag forests are temporary habitats. They can be thought of as transitional ecosystems, and should not be considered devoid of life. Numerous studies have shown that snag forests can potentially support greater biodiversity than their counterparts with living, closed canopies.

So, what do snags forests do? Let's start from the top, and consider the activity we can already see taking place as these snags fulfill the last stages of a tree's ecological cycle.

The remaining crowns, or the area where the leaf canopies once existed, provide material and space for nesting birds. Tree crowns also provides perches for flocking and predatory birds. Hawks and other birds of prey take advantage of the unobstructed views provided by these snags while hunting and also use them for nesting. The open leafless crowns also provide the opportunity for light to reach the forest floor. This allows for new varieties of plant species to grow in areas where they would otherwise be unable to do so under shaded canopies. Many native, migratory birds and insects require specific plants to feed upon, seeking out flower nectar, seeds, or foliage for larval development. Simply said, an increase in plant biodiversity within an ecosystem stimulates and provides for a greater biodiversity of insects and other animals that can be supported within that ecosystem.

The trunks are pillars for communities of beetles, ant colonies, bee hives, and other insect larvae. These insects aid in the decomposition process, feed insectivorous birds and mammals, and act as the pollinators. Woodpeckers are a great example of a species that benefits from these insect colonies. They not only burrow into the snags for food, but also create shelters that can later be inherited by other species. Often, when larger limbs fall from these snags, hollows in the trunks occur. These hollows offer opportunities for larger mammals such as squirrels, opossums and raccoons, and birds such as owls, to take up residence.

The decaying roots, limbs, and other fallen debris encourage fungal and bacterial growth in the soil. These decomposers unlock and replenish the availability of nitrogen and other minerals essential for plant growth. Mycorrhizae (microscopic fungi) for instance, form symbiotic relationships with plants helping both to thrive. These processes work as the foundation for new life, while helping to support existing bird, mammal, fish, and other aquatic species.

In terms of fresh water ecology, branches and trunks are referred to as course woody debris. Course woody debris creates sanctuaries for aquatic species providing shelter and nurseries to spawn. On land, downed trees and branches provide structural foundations for ground dwelling animals to burrow, find refuge, and store what they have foraged. Course woody debris also helps rejuvenate plants by slowing the flow of water through a habitat. This allows for an increase in water retention, percolation into the soil, and causes deviations in creek and swale channels resulting in a broader distribution of water throughout.

It is important to consider the variety of trees that inhabited Big T, their composition, and how they will vary in their decomposition. Trees with softer wood, such as cottonwoods and alders, will decompose more rapidly, while willows (medium composition), oaks, and black walnut (hard woods) will break down more slowly as they experience these final processes. The rate of decomposition defines the persistence of a snag forest. The persistence of the snag forest at Big T reminds us of the benefits and opportunities associated with any snag forest, and how they only exist as part of a larger and longer ecological process. Time is the most important factor.

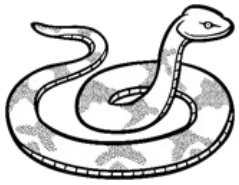
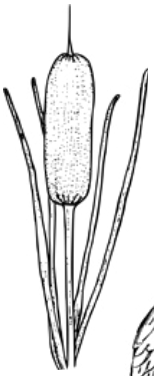
Future efforts at Big T will continue to focus on habitat preservation, but actions will be taken foremost in the interest of public safety; any snags located along authorized trails that are determined to be a risk to public safety, will be removed. Due to the sensitive nature of the site, the absolute removal of all burned trees from the site is not appropriate. Trees that do not pose an immediate safety issue will be left standing, while the cut material from any trees that are cut down will be left on site to aid in the decomposition process and used to delineate authorized trails throughout Big T. Both the trees left standing and the material from the trees that will be cut down have already been severely burned, significantly reducing the potential for them to contribute to additional fire risk. In order to reduce the fuel load at Big T while still protecting wildlife and habitats in the area, a scaled-down version of fuel reduction will be conducted, and will consist of vegetation trimming and the removal of dead vegetation in fuel modification zones, in accordance with the Los Angeles County Department of Agricultural Commissioner/Weights and Measures fuel modification and vegetation management guidelines.

While the Creek Fire may be seen as a devastating, singular occurrence, it is important to understand that the numerous ecological processes that have already begun will provide opportunities and aid in the preservation of the habitat at Big T for years to come. The fire and resulting snag forest have made way for a breath of new life at Big T, and we would not want suffocate any of these natural processes with over-reactive measures. Although many of the snag trees will be removed, we must understand that to remove all the dead trees at Big T, we would actually be removing substantial opportunities for life. With this appreciation in mind, we can see the remaining snag forest not as headstones for the past, but rather as building blocks for the future.

KID'S CORNER






Producers, Consumers and Decomposers

- **Producers** are organisms that make their own food using energy from the sun. Color the producers GREEN.
- **Consumers** are animals that eat plants and/or other animals and cannot make their own food. Color the consumers BLUE.
- **Decomposers** break down dead plants and animals and release nutrients into the soil. Color the decomposers YELLOW.

EMERGENCIES? INCIDENTS? QUESTIONS?

CALL 911 TO REPORT ANY EMERGENCY SUCH AS FIRE OR ACCIDENT

• To report minor incidents or regulation infractions contact the Sheriff's Department at 1-800-834-0064. (Please DO NOT use 911.)

• Do not attempt to enforce regulations yourself; please allow law enforcement to handle the situation or incident.

• For emergency follow up or to report minor incidents, obtain information, or get questions answered during weekday work hours (8:00 a.m. to 5:00 p.m., Monday through Thursday), please contact:

Crystal Franco, Stormwater Engineering Division
Los Angeles County Public Works
900 S. Fremont Avenue
Alhambra, CA 91803
Email: BTWMA@dpw.lacounty.gov
Phone: (626) 458-6158

Where is the Big Tujunga Wash Mitigation Area?

Downstream of Big Tujunga Canyon, right in Lake View Terrace and south of the 210 freeway, you'll find a native riparian (water loving plant) natural area filled with cottonwoods, willows, and pools of water that support many native aquatic species.

Check out the Big T website for more information at:

- *dpw.lacounty.gov/wrd/projects/BTWMA*