



CALIFORNIA NATIVE PLANT SOCIETY
San Diego Chapter Newsletter

CHAPTER MEETING

Tuesday, December 20; 7 p.m.
Room 104, Casa del Prado
Balboa Park



HOLIDAY GALA

It's time for our Holiday Gala Extravaganza on Tuesday, December 20! It's a regular chapter meeting day, so it's already on your calendar. And it's a potluck, so no need to RSVP. Just come and bring your choicest delicacies (or most down-home goodies) to share. The Chapter will supply the usual tasty hot water for coffee and tea, hot mulled cider, utensils, cups, napkins, and plates. You provide the stuff to put on the plates! There will be live music and who knows what-all!

Bring your pictures of native plants, native gardens, or whatever on a disk or thumb drive and CNPS will provide a computer and projector. See you at the Gala!



Heteromeles arbutifolia (Toyon) provides winter color. Toyon is a prominent component of the coastal sage scrub and is also often found in chaparral and mixed oak woodlands. It is also known by the common names Christmas berry and California holly. Some say Hollywood, California was named for this species.

BOARD OF DIRECTORS MEETING

Wednesday, December 7, 6:30 - 8:30 p.m., monthly CNPS San Diego Chapter board meeting to be held at 4010 Morena Blvd, Suite 100, San Diego (Thomas Guide 1248 C4). Exit I-5 to Balboa Dr. east and turn north on Morena Drive. Proceed 1/2 mile and make a u-turn at the Avati Street signal and turn into the driveway for 4010. Drive to the parking lot on the west side (away from Morena). Members are welcome to attend as observers. If you want to discuss an issue, please ask to get on the agenda by sending an email to president@cnpssd.org.



WINTER SOLSTICE
9:30 PM PST,
DECEMBER 21

In this issue of the newsletter, you'll see an article by Richard Halsey. Rick wrote to increase our understanding about California flora and fires, in response to a broad concept statement in Tom Oberbauer's August newsletter article about Big Trees.

This does not mean that our newsletter is becoming the print equivalent of a boxing ring. Scientific dispute is not about winning and losing, it is about discovering facts. Facts represent the slow, sometimes difficult progress from ignorance to knowledge about the nature of reality. This month's article points out that the broad concept of fire suppression and crown fires advanced in the earlier article does not explain fire history in the Cuyamacas, because its local history contradicts the assumptions on which the fire suppression concept was founded. Perhaps there are even more facts to be discovered before we have a comprehensive grasp of how human actions affect our regional forests' survival.

Scientific facts are learned by honestly employing a rational process (the scientific method) that starts with accurate understanding of the applicable prior knowledge, and its limitations, and then asks smart questions about it. Scientists then test, observe, and honestly analyze their observed results. If new facts are found, they all come with known limitations. Scientists have to learn to accept being humble, because a high degree of confidence is uncommon.

Civility when advancing knowledge is another humbling part of practicing science. Advancing knowledge means delivering criticism constructively, kindly, and honestly, and also means accepting criticism gracefully. Dispute cannot be taken as a personal issue. However, individuals must take personal responsibility for statements they make, and sometimes this means admitting errors. To err is human. To be civil is also to be human.

The chapter board developed a policy to allow this, and future, ongoing discussions on matters of science in our newsletter. This policy is consistent with CNPS' commitment to advocating for preservation and conservation of our native flora based on science, not on beliefs or emotions. While subject to the newsletter editor's practical needs and legal constraints, all scientific statements are the authors' own. The board hopes this gives every author a framework for honest expression.

I hope that this policy encourages CNPS members to freely, humbly, honestly share their knowledge, so we may all learn more facts about California's flora. As a result of sharing, someone may take polite and honest issue and write in response. If that happens, we all will have an opportunity to learn even more.

~ Kay Stewart



The Torrey Pine – Part I

California supports 24 species, subspecies and varieties of naturally occurring pines. San Diego County alone contains seven species including one of the rarest pines in the world, *Pinus torreyana* (Torrey pine). It was noted in 1850 by J.L. LeConte who asked C. C. Parry what type of pine it was. Parry, a noted botanist, observed that it was something new and sent specimens to John Torrey to be included in a report that the government was preparing for the area near the Mexican boundary. Parry also suggested that the name be *Pinus torreyana* to recognize John Torrey. Around this same time, Elie-Abel Carriere, a French botanist, was preparing a book on the pines of the world. It was published in 1855 and the Boundary report was published in 1858 (Torrey, 1858). As a bit of taxonomic trivia, while for many years it was known as *Pinus torreyana* Parry, it is now known as *Pinus torreyana* Carriere due to the earlier publication of the name.

Torrey pines grow in one patch of roughly 2,000 trees on 60-70 acres on Santa Rosa Island and a few thousand trees on the coastal mainland on both sides of the San Dieguito River. Numbers on the mainland were much lower, approaching only 100 trees a century ago. In 1986, the taxonomy was changed again when the pines on Santa Rosa Island were formally distinguished as being different from those in the San Diego region. The trees on the island were described as *Pinus torreyana* ssp. *insularis* (Haller, 1986) to reflect the differences.

The paleogeologic history of the Torrey pine is quite interesting. The genus *Pinus* split from *Picea* (Spruce) roughly 140 million years ago and the subgenus *Ponderosae* that includes Torrey pine, as well as Coulter (*Pinus coulteri*), and Gray or Foothill pine (*Pinus sabiniana*) appears likely to have split roughly 85 million years ago (Blackwell, 1983; Willyard et al. 2007). The obvious question is how the two populations of Torrey pine came to grow where they do separated by what would appear to be suitable habitat. One factor to consider is the tectonic movement of crustal plates. The Transverse Ranges composed of the San Gabriel, San Bernardino, and Santa Ynez Mountains stand upon a crustal plate that has rotated from a south-north direction to a west-east direction (Atwater, 1998). This occurred within the last 10-15 million years. Fossil pines from that time appear

(Continued on p. 7)

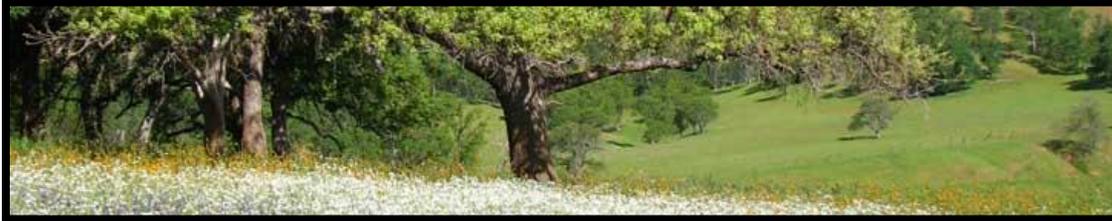


Torrey Pine (*Pinus Torreyana*)

CNPS 2012 Conservation Conference:
Conserving and Restoring the Roots of California's Richness
January 10-14 in San Diego



The next California Native Plant Society Conservation Conference is rapidly approaching. As a follow up to the enormously successful 2009 Conservation Conference in Sacramento, the 2012 Conference in San Diego promises to have deep impacts on conservation for years to come. We need people like you with a passion for conservation to join us for what promises to be an exciting conference.



Attend for one day or all 5 days for workshops, 22 sessions, social and art events, and a Public Day.

- Can you contribute to the silent auction? Contact Stephanie Shigematsu at: silentauction2012@cnps.org if you would like to donate books, art, vacation getaways, camping gear, professional services, or any other item of interest.
- Would you like to help a student attend the conference? Over 100 students have applied for registration and travel stipends. Over 60 of these students will be presenting talks or posters at the conference. This conference will provide opportunities for students to present research, meet mentors and future employers, and learn good conservation ethics. We have raised about half of the money we need for student funding so far. If you can contribute to help the next generation of conservation professionals, please contact Josie Crawford at jcrawford@cnps.org.
- Donors are also needed to help cover Public Day expenses. We have many expert presenters on five topics: Native American cultural uses of native plants, children and nature with naturalist artist/author John Muir Laws and others, native plant horticulture, educational native garden programs, and fire management. This will be a fantastic chapter effort to offer interesting programming for teachers, landscape professionals, and families. Any donation to help support this effort is appreciated. Contact Josie Crawford at jcrawford@cnps.org if you would like to support this event.
- Audio-visual volunteers are needed! We need volunteers that are comfortable and familiar with computers and LCD projectors to run the machines during the sessions. If this describes you, contact Michelle Cox at volunteers2012@cnps.org.
- We need additional volunteers to help with registration, special events, silent auction, and many other activities. Contact Michelle Cox at volunteers2012@cnps.org to learn more.
- **Volunteers who work 8 hrs or more during the conference will receive a \$75 rebate after the conference!**

Visit the conference website, www.cnps.org/2012, for up-to-date information on all the events.



TECOLOTE CANYON NATURAL PARK

December 4; 9 a.m. to noon. A relaxed opportunity

to learn plant lore of this coastal natural reserve, from a CNPS member. Meet at the Tecolote Nature Center. Wear sun protection and comfortable walking shoes, bring water. Directions: exit I-5 at Seaworld/Tecolote exit. Go east (away from Mission Bay) on Tecolote, past the ball fields, along the driveway to the very end. Free and open to the public, and parking is also free. The walk is repeated the first Sunday of each month.



CONSERVATION

Conservation as Peer Review

Imagine this: you love something wild, and because this is CNPS, let's say it is plants. You get good enough at identifying plants to get a job, where you go places, identify the plants you find, and write them up. As you write, you feel a cloud of despair, because you are sure that no one will ever read what you write, and even if they do, it won't matter.

Yes, this is what many consultants feel. I've even had a manager tell me that I shouldn't care what I wrote, because no one would ever read it. My response was that I read EIRs for CNPS, so I knew that some people were reading the documents. If you recognize yourself in that first paragraph, there's a decent chance I'm reading your work, or one of us is.

Here's the thing: conservation work, on the development level, is peer review. For those who aren't familiar with the concept, peer review is where qualified individuals in a profession review documents. Many fields use it.

Peer review improves quality. If you know that your work will be critiqued by people who can do something about it, you do a better job. Where there is peer review, there is a bigger market for higher quality work.

Environmental consulting doesn't often work this way. I've heard a variety of reasons for why consultants won't read the work of their peers, and most are issues that other fields routinely overcome. This lack of peer review and quality control can be very expensive for everyone involved: consequences range from expensive lawsuits to project redesigns. Most importantly, it results in native plants and animals being killed needlessly.

If you've been waiting for the appeal for more EIR readers, here it is, and this one is for the consultants in particular. The only way to get your work read is to read others' work, and to get more of your colleagues doing the same. CNPS has a good system for allowing you to comment anonymously, and the more we review, the more market

there will be for people to do good conservation work. Isn't that what you got into the field to do in the first place?

~ Frank Landis, Conservation Committee Chair

NEW JEPSON FLORA NOW ONLINE

In last month's newsletter I introduced some of the changes we will see in the new Jepson Manual by reviewing changes in the Asteraceae. Hard copies of the manual will be available in January but you can see the text of the flora right now. Some of you have seen that the link I posted for the Asteraceae article lasted about a week. Now you are directed to a new site:

<http://ucjeps.berkeley.edu/IJM.html>

This link leads us to the official "e-flora" modeled after the Flora North America e-flora site. It is the keys and text that will appear in the new Jepson Manual. No illustrations appear online but they do have maps linked to the Consortium of California Herbariums (Consortium).

The whole arrangement is quite different than the Jepson author site that has been available for review for years and for those of us that used that site a great deal, it will take some getting used to. The opening page is similar, a two-column list with families on the left and genera on the right. You can click on the family or one of the genera. Either one will give you the general family text.

In the review version, you could scroll down and see the entire contents of the family. The new one is more oriented toward individual species. Say you are interested in the genus *Lotus*. In the new version, you would find Fabaceae and click on *Lotus*. Up pops a general discussion of the family and the genus *Lotus*. In order to see the species, click on KEY TO THE LOTUS. This brings up a key and if you click on a species, the account appears. You can also get to the genus from the family page by clicking on the genus. Bring up *Lotus corniculatus* and you will now have the family and genus description in addition to the account for *L. corniculatus*. Text in blue appears only in the online treatment and will not be in the printed book. There is a link back to the Lotus key and there is a link to the next taxon (*L. tenuis*) and the previous taxon (*L. angustissimus*) as they will appear in the book.

Scroll down the page and there will be two maps. The one on the left includes all the regions the plant is found and the one on the right a map depicting specimen collections from the Consortium with a red overlay representing upper and lower elevation limits. Of course nothing is perfect, in this example, there seems to be quite a few dots outside the red area.

So wait, there are only four species of *Lotus* and only one even seems familiar. What happened to the others? Take a look at the genus description again. The last sentence in black print tells us "Other taxa in TJM (1993) moved to

Acmispon and *Hosackia*". Oh, by the way, *Lotus* was another group that seems to have had a hand grenade dropped into the middle of it.

Hosackia and *Acmispon* are resurrected genera. Abrams Illustrated Flora of the Pacific States, for example, treated members we have come to know as *Lotus* in *Hosackia* back then. *Acmispon* was originally proposed in 1832 by Rafinesque but only contained a single species. They are now recognized in part because broad morphological studies suggest *Lotus* must be expanded to include genera now currently recognized as distinct, or that *Lotus* in the broad sense has to be broken up. Our San Diego *Lotus* list now has these names:

- Lotus argophyllus* var. *argophyllus* = *Acmispon a.* var. *argophyllus*
- Lotus corniculatus*. Unchanged.
- Lotus crassifolius* var. *crassifolius* = *Hosackia crassifolia* var. *crassifolia*
- Lotus crassifolius* var. *otayensis* = *Hosackia crassifolia* var. *otayensis*
- Lotus grandiflorus* var. *grandiflorus* = *Acmispon g.* var. *grandiflorus*
- Lotus hamatus* = *Acmispon micranthus*
- Lotus haydonii* = *Acmispon haydonii*
- Lotus heermannii* var. *heermannii* = *Acmispon h.* var. *heermannii*
- Lotus humistratus* = *Acmispon brachycarpus*
- Lotus micranthus* = *Acmispon parviflorus*
- Lotus nevadensis* var. *nevadensis* = *Acmispon nevadensis*
- Lotus nuttallianus* = *Acmispon prostratus*
- Lotus oblongifolius* var. *oblongifolius* = *Hosackia oblongifolia* var. *oblongifolia*
- Lotus purshianus* = *Acmispon americanus* var. *americanus*
- Lotus rigidus* = *Acmispon rigida*
- Lotus salsuginosus* var. *brevivexillus* = *Acmispon maritimus* var. *brevivexillus*
- Lotus salsuginosus* var. *salsuginosus* = *Acmispon maritimus* var. *maritimus*
- Lotus scoparius* var. *brevialatus* = *Acmispon glaber* var. *brevialatus*
- Lotus scoparius* var. *scoparius* = *Acmispon glaber* var. *glaber*
- Lotus strigosus* = *Acmispon stigosus*
- Lotus wrangelianus* = *Acmispon wrangelianus*

You almost couldn't make a familiar group look as unfamiliar as it will in the new book. Not only have all but one species been moved to unfamiliar genera, 7 of 18 species have new specific epithets (species names), an unusually high number even for the Jepson Manual. It is going to take a while to get used to calling *Lotus scoparius* as *Acmispon glaber*. Somehow I think Rafinesque would be proud.

~ **Fred Roberts**, Rare Plant Botanist



Short-pod lotus (*Lotus humistratus* = *Acmispon brachycarpus*), an annual native with flowers about 1/8" across.

Gardening and Restoration Garden Work Parties

**Old Town Historic State Park Native Garden:
November 10 (Saturday), 1:00 to 3:00 p.m.**
Short days of December in San Diego, enjoy some sunshine!

The Native Plant Garden in Old Town State Historic Park illustrates the landscape that was by the San Diego River when Europeans arrived and established Old Town San Diego at the site of a Native American village called Kosoy. Bring your garden gloves and planting tools, and pruning snips or loppers if you have them. We will continue to trim off excess natural twigs to create little shelters for our new plants, to protect them from footsteps.

The Native Plant Garden is at the far west end of Old Town, at the corner of Taylor and Congress Streets (Thomas Guide 1248 F5), right across from the depot building at the train/trolley/bus station. Come by mass transit and cross at the corner and you are there; or if you drive, park in the free state park parking lot at Calhoun and Taylor, or across Taylor in the CalTrans Parking lot. Bring water if you would rather not use the drinking fountain. Restrooms on site.

Point Loma Native Plant Garden: December 3 and 17, 9:00 – noon. Rain cancels; bring water; no facilities; tools/supplies provided. Usually the first Saturday & third Sunday of each month. Contact Richard@sandiegoriver.org for more info.

Naturally Large Fires in Southern California

Large wildfires that consume tens of thousands of acres of native habitat have long been a natural part of the Southern California landscape. They are not the consequence of excluding fire in natural ecosystems due to past fire suppression efforts.^{1,2,3}

It is vital that members of the San Diego Chapter of CNPS understand this concept and the science behind it because San Diego County land management agencies have a record of misinterpreting fire science to justify actions that damage native plant communities. These actions include clearance projects that use large, soil-disturbing machinery to "masticate" native shrublands and numerous attempts to exempt vegetation "treatments" from state environmental laws.

The notion that fire exclusion has caused overly dense forests and unnaturally large fires originates from research on dry ponderosa pine forests in the Southwest. In these forests, frequent, lightning-caused fires occur at 4 to 36 year intervals.⁴ These fires are typically small "surface fires" that burn understory vegetation, not large trees. Such forests are "lightning saturated," with more than 400 lightning-caused fires per year in Arizona's Coconino

National Forest alone. This is not the landscape of San Diego County. Our county experiences fewer than several dozen lightning-caused fires per year in high elevation areas, fires that are typically constrained by rain or high humidity.^{5,6}

Unfortunately, the ponderosa pine/fire suppression idea has been misapplied to many ecosystems that have wildly different fire patterns. For example, the Yellowstone Fire in 1988, which burned hundreds of thousands of acres of lodgepole pines, has been falsely blamed on fire exclusion. In fact, huge stand replacing fires naturally occur in these forests every 200 to 300 years.⁷ The 2003 Cedar Fire that burned the forests of Cuyamaca and extensive chaparral shrublands was a smaller version of the 1889 Santiago Canyon Fire that burned more than 300,000 acres.² Both fires were within the region's expected natural fire regime.

The following newspaper article describes the large scale impact of the 1889 Fire:

"We were winding our way up a rough mountain trail last evening, and after considerable exertion we suddenly reached the summit, and lo! from north to south and from east to west we could see lights of the many fires which are now raging furiously during the east wind. These are not the lights of the household fires gleaming warm and bright, but they are directly the opposite – bringing destruction to our homes, to our beautiful forests... Desolation, waste and want follow in the paths of these fires. ... The scenes of last summer's fires are familiar to many, and above all we mourn the loss of our forest trees. When we look at the Cuyamaca peaks and see how the pine, cedar and oak trees have been mown down or destroyed by fire, we should have feelings of regret for the great loss we sustain..." (*The Julian Sentinel*, Julian, California October 4, 1889).

Fire exclusion has also been blamed for causing "unnatural" accumulations of chaparral, which have supposedly led to "unnaturally" large fires.⁸ Support in the scientific community for this hypothesis has been generally restricted to the original author and his students. Meanwhile, a significant number of scientists from government agencies and academia have raised serious questions. These scientists have reached their conclusions through their own investigations and offer substantial scientific evidence that this hypothesis should be rejected. More than 40 of their papers are listed in a detailed review on this webpage: www.californiachaparral.org/images/Resolving_the_Controversy_Updated.pdf

It is a common mistake to misapply the ponderosa pine/fire suppression idea because it is frequently promoted in the media as the cause of large fires, no matter where they occur. For example, in an article in the CNPS-SD newsletter (August 2011) entitled "Last of the Big Trees" by Tom Oberbauer, the "exclusion of fire or other treatments" was blamed exclusively for the increased density found in some San Diego County forests during the last century. One of the papers cited to support this opinion was Keeley et al. 2004. Dr. Keeley has written to the San Diego Chapter of CNPS indicating that his work was misrepresented.* Five other fire scientists wrote to the County of San Diego for the same reason after reviewing the County's vegetation management report prepared in 2008/09.

While fire suppression has played a role in the condition of San Diego County's forests, a number of other variables are also responsible. These include massive logging operations in the 1800s and overgrazing, both of which lead to radical changes in understory vegetation. Climate change (rise of global temperatures over the past century) is proving to be an important factor as well.⁹ The one common denominator in large fires is the occurrence of several prior years of drought.

Why is it important to consider all the variables when discussing fire and its impact on our region's native plant communities? Because if past fire suppression is incorrectly viewed as exclusively responsible for large wildfires, then the elimination of suspected "overgrown" habitats and non-charismatic species (such as *Ceanothus palmeri*) become acceptable land management practices. This has become policy in San Diego County. Unfortunately, the County's misrepresentation of science to promote such policies goes much deeper. In an attempt to gain funding for vegetation "treatments," the County has officially denied the scientific fact that chaparral plant communities can be type-converted to weeds due to increased fire frequency and has refused to accept the possibility that climate change may play a role in causing large fires.¹⁰

The discussion about native plants and fire is not about who is right or who is wrong, or what side of a debate someone might be on. It's about science and what the data show. And the data clearly indicate that the forests and shrublands of San Diego County are characterized by a diverse fire regime that includes large, infrequent, stand-replacing fires in both shrublands and forests. The problem we need to focus on today is how to stop the increase of human-caused ignitions which are having significant, negative impacts on the natural landscape.

~Richard Halsey

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4. Swetnam, T. W. and C. H. Baisan. 1996. Historical fire regime patterns in the Southwestern United States since AD 1700. In C. Allen, editor, *Fire effects in Southwestern Forests*, Proceedings of the Second La Mesa Fire Symposium, Los Alamos, New Mexico, March 29-31, 1994. USDA Forest Service General Technical Report RM-GTR-286:11-32.
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northern Baja California. Science 219:1287-1294.
 9. Westerling, A.L.; Hidalgo, H.G.; Cayan, D.R.; Swetnam, T.W. 2006. Warming and earlier spring increase Western U.S. forest wildfire activity. Science. 313: 940-943.
 10. County of San Diego, 2010. Letter to Board of Forestry and Fire Protection. Available at:
http://www.californiachaparral.org/images/County_State_Plan_Comments_4-2-10.pdf

* The citation was corrected in an erratum published in the October 2011 issue of the newsletter.

HAPPY HOLIDAYS



Vintage holiday postcard showing Toyon, California Poppies and the Hotel Del Coronado.

(Torrey Pine continued from p. 2)

very similar to those that are living today. Prior to the movement of the crustal plate, the geographic formation that was Santa Rosa Island would have been near San Diego. The Torrey Pines on Santa Rosa Island could have ridden the crustal plate during its travels. As an indicator of the plausibility of such an occurrence, there is *Salvia brandegeii*, which grows at Colonet in Baja California and also on Santa Rosa Island. Again, prior to the movement of the plate, the population on Santa Rosa Island would have been much closer to the population in Baja California. Of course, as described in the Flora of North America, fossil Torrey pines or their very close relatives were found as far north as Oregon during the Oligocene and Miocene, ranging to 5 million years ago.

On the other hand, it is now quite well understood that during the Pleistocene pluvial periods that coincide with the glacial periods to the north, the precipitation in this region would have been much greater, probably twice what it is now and during the interglacial periods, it may have even been lower than it is now. As the climate changed the Torrey pine theoretically could have moved to a variety of

locations, up or down the coast, and inland. Torrey pines are well adapted to dry conditions since they grow in an area that receives roughly 11-13 inches of rainfall each season, not what one would typically consider to be forest levels of rainfall. Even prior to the Pleistocene, forests were present in the San Diego region along the coast. In fact, in the Chula Vista area during the Pliocene (3 million years ago) Monterey pines (*Pinus radiata*), palms and a form of avocado (Axelrod and Demere, 1986) grew together with Jeffrey and Digger pines. This would have been around the time that the crustal plate really began to move.

In any case, there were many opportunities for Torrey pines to move around and they were likely much more widespread during the Pleistocene. Fossil pollen records from the Penasquitos Lagoon indicate that Torrey pines have been in their present location for at least 4,000 years (Cole and Wahl, 2000). Their restriction to the narrow locations where they currently grow probably has to do with the specific climatic conditions and soils on the bluffs and slopes, and the climatic conditions are likely enhanced by cool water upwelling off the shore.

Torrey pine behaves somewhat like Coulter pine when it comes to seed release and the effects of fire. They will release seed after the cones are mature, but they will also retain some seed for up to 13 years. If a fire burns through an area, the adult trees are likely to be killed because of high sensitivity to fire, then seeds are released, but again, some seeds may be retained for a number of years before dispersal (McMasters and Zedler, 1981). Management of Torrey pines is an interesting prospect. Some very large trees may be at least 100 years old but most are younger. It has been suggested that an occasional fire that burns an extensive portion of the stands might be beneficial to recycling the trees and prove beneficial to the trees (Zedler et al., 1987); however, a more prudent process might be to burn selected portions of the stands to maintain a mixed diversity of age classes. If whole scale burning occurred and a dry year ensued, it would be detrimental for the trees though their delayed seed dispersal would assist somewhat in alleviating that as a potential cause of extinction for the trees.

Torrey pines are known to grow fast and produce abundant wood relatively quickly. They have been tested around the world to augment construction wood production that is occurring in Monterey Pine plantations.

~ Tom Oberbauer

(Torrey Pine – Part 2 will be published in the January 2012 issue of the newsletter).

The CNPS-SD Newsletter is published 12 times a year. The newsletter is not peer reviewed and any opinions expressed are those of the author identified at the end of each notice or article. The newsletter editor may edit the submittal to improve accuracy, improve readability, shorten articles to fit the space, and reduce the potential for legal challenges against CNPS. The author has the final say on whether the article, as edited, is printed in the newsletter. Submissions are due by the 10th of the month preceding the newsletter; that is, December 10 for the January newsletter, etc. Please send submittals to newsletter@cnpsd.org.

CALENDAR FOR DECEMBER 2011

- 11/5: Point Loma Native Garden Work Party (p. 5)
- 11/6: Tecolote Canyon Public Walk (p.2)
- 11/2: Board Meeting (p. 1)**
- 11/10: Old Town Work Party (p. 7)
- 11/15: Chapter Meeting (p. 1)**
- 11/20: Point Loma Native Garden Work Party (p. 5)

MEMBERSHIP APPLICATION

___ Student or Limited Income \$25; ___ Individual \$45; ___ Family or Library \$75
___ Plant Lover \$100; ___ Patron \$300; ___ Benefactor \$600; ___ Mariposa Lily \$1,500

Name(s): _____
Address: _____
Phone: _____ e-mail: _____

Mail check payable to "CNPS" to: CNPS, 2707 K Street, Ste 1, Sacramento, CA 95816.

CALIFORNIA NATIVE PLANT SOCIETY

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December 2011 Newsletter

Dedicated to the preservation of California native flora

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