



Tiburon mariposa lily (*Calochortus tiburonensis*) is listed by both the state and federal government as Threatened. It is known from only one occurrence in serpentine grasslands on Ring Mountain, Marin County, where it can be quite abundant. This lily was the first state-listed plant to be downgraded from Endangered to Threatened, after The Nature Conservancy established a preserve and banned off-road vehicles from its habitat. Photograph by R. York.

MANAGEMENT OF RARE PLANTS UNDER STATE AND FEDERAL ENDANGERED SPECIES LAW: A CNPS PERSPECTIVE

by *Emily Brin Roberson*

California's rare plants are managed under a tangled web of laws, regulations, policies, and agencies. On lands under federal management or for projects under federal control, these laws include the Federal Clean Water Act, National Forest Management Act, the National Environmental Policy Act, and the Federal Endangered Species Act (FESA). In other circumstances, rare plants are managed under the California Environmental Quality Act (CEQA), the California Forest Practices Act, the Natural Communities Conservation

Planning Act, and the California Endangered Species Act (CESA).

This article focuses on two laws that regulate management of some of our rarest plants: the California and Federal Endangered Species Acts. These laws are complex, sometimes unclear, and many portions are the subjects of heated ongoing policy debates. Though these laws are both flawed, they can provide important protections for listed plants when properly implemented. This article will present CNPS analysis of these laws and their proper implementation.

LISTING

Plants may be listed as "threatened" or "endangered" under CESA, FESA, or both. Endangered plants are generally perceived to be more imperiled than threatened plants, but both groups receive essentially the same treatment under both CESA and FESA. Under an older California law, the Native Plant Protection Act (NPPA), some plants are also listed as "rare" (see below for discussion of NPPA). Plants may be recommended for listing under either CESA or FESA

by the responsible wildlife agencies or by members of the public.

CNPS has led the effort to list rare plants in California. Many chapters and individuals have prepared successful state and federal listing petitions. When the petition process has failed, CNPS has used litigation to protect imperiled plants. Altogether CNPS has helped list more than 150 plants under FESA and many under CESA as well.

Despite CNPS efforts, appallingly few of California's rare plants are listed under the federal or state acts. The CNPS *Inventory of Rare and Endangered Plants of California* (CNPS 2001) places 1,467 plants on CNPS Lists 1A, 1B, and 2, the "at-



ACRONYMS

CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
FESA	Federal Endangered Species Act
FWS	United States Fish and Wildlife Service
HCP	Habitat Conservation Plan
NPPA	Native Plant Protection Act

CNPS LIST DEFINITIONS (CNPS 2001)

- List 1A** Plants presumed extinct in California
- List 1B** Plants rare, threatened, or endangered in California and elsewhere
- List 2** Plants rare, threatened, or endangered in California, but more common elsewhere
- List 3** Plants about which we need more information—a "review" list
- List 4** Plants of limited distribution—a "watch" list

risk" categories for the state. Of these, only 217 are listed under state law and only 184 California plants are federally listed. The unfortunate consequence is that most of our rarest plants must rely on other laws, primarily CEQA, for protection. (See "How to Comment on a CEQA Document" on page 27 of this issue for a discussion of plant conservation under that law.)

Under state and federal law it is generally illegal to destroy or "take" a species once it is listed. However, both laws include numerous exceptions and loopholes that allow listed species and their habitats to be le-

gally destroyed in a wide variety of circumstances. Note that because both state and federal law use the term "taking" to mean killing a listed species, this article will also use the term "take" to mean to kill a listed species.

THE FEDERAL ENDANGERED SPECIES ACT

Federally-listed plants are under the jurisdiction of the US Fish and Wildlife Service (FWS) under several sections of the FESA, most

Baker's larkspur (*Delphinium bakeri*), top, is known from fewer than 100 plants along Salmon Creek, Marin County. A 1999 lawsuit by CNPS and the Center for Biological Diversity compelled the FWS to list the plant as Endangered. The Marin Department of Public Works accidentally cut the plants back to the ground (prior to seed-set) during roadside maintenance in 2002. Photograph by D. Smith. • Sodaville milk-vetch (*Astragalus lentiginosus* var. *sesquimetralsis*), bottom, is known in California only from Big Sand Springs, Inyo County, and from two occurrences on private lands in Nevada. This plant is state-listed as Endangered and listed by Nevada as Critically Endangered, but was inexplicably withdrawn from the federal listing process after FWS determined it was not sufficiently threatened. Photograph by M. Williams.

importantly Sections 4, 7, and 10. Section 7 addresses consultation between the FWS and other agencies regarding federal projects that may jeopardize the continued existence of listed plant species, or adversely affect critical habitat designated for listed species. Section 4 deals with recovery planning and critical habitat designation, and Section 10 allows issuance of “incidental take permits” to destroy or harm listed animals and their habitat via habitat conservation planning.

Jeopardy Consultation Section

7(a)(2) of FESA requires that all actions “authorized, funded, or carried out” by a federal agency be reviewed by the FWS to ensure that the actions are not likely to 1) jeopardize the survival and recovery of any listed plant species, or 2) destroy or adversely modify any critical habitat that has been designated for the species (see section on Critical Habitat below). For example, suppose a National Forest wishes to log an area that is habitat to a listed species. Before proceeding, it must consult with FWS to deter-

mine if logging would put the existence of the species at risk or would destroy or adversely affect any designated critical habitat. If FWS finds this likely, it must propose “reasonable and prudent alternatives” to the proposed project which would eliminate the risk to the species. But even if a project is determined to be unlikely to jeopardize the species as a whole, the FWS must still propose “reasonable and prudent measures” which would mitigate, avoid, or minimize adverse impacts of any taking of the species.

Santa Cruz wallflower (*Erysimum teretifolium*) is state- and federally-listed as Endangered, and known only from Santa Cruz County. A recovery plan was prepared in 1999 by FWS, but the plant remains threatened by sand mining and development. Photograph by R. York.



RECOVERY PLANNING

Section 4 of FESA directs the FWS to develop recovery plans for all listed species. Recovery plans often provide excellent investigations of the biology and ecology of listed species and useful insights into their conservation needs. A major drawback, however, is that there is no legal requirement that the plans be implemented. Indeed, there is rarely funding or staffing to implement them. This is particularly true for plants, which tend to fall to the bottom of conservation priority lists.

Section 7 of FESA also includes an important recovery mandate, though it is little known and rarely used. FESA Section 7(a)(1) obligates every federal agency to “carry out programs for the conservation” of listed species. FESA defines “conservation” as recovery of a species so that it no longer warrants federal listing. This means that all federal agencies (the Forest Service, Park Service, Bureau of Land Management, Army, Navy, Air Force, Bureau of Reclamation, Environmental Protection Agency, Army Corps of Engineers, and all others) have a mandatory duty to take active measures to promote the recovery—and not merely the survival—of listed species affected by their actions. Regrettably, political and budgetary constraints tend to prevent full compliance with this far-reaching mandate and opportunity to promote recovery. Instead, agencies are generally only provided with minimal resources to prevent the extinction of species, so recovery plans often gather dust.

HABITAT CONSERVATION PLANNING

In general, under Section 9 of FESA, it is illegal to kill federally-listed animals or destroy their habi-

tat. However, in 1982, FESA was amended to allow FWS to issue “incidental take permits” for projects that destroy listed animals or their habitat, such as housing developments, mines, dams, golf courses, and so on. These permits contain terms and conditions that are meant to mitigate any damage done by a project, and promote overall conservation of affected species and their habitats. The mitigation measures are set forth in so-called “habitat conservation plans” (HCPs) that are reviewed and approved by FWS and are part of the incidental take permit process.

HCPs have been the subject of furious controversy since they came into wide use under the Clinton Administration. Several studies (Harding et al. 2001, Noss et al. 1997, American Institute of Biological Sciences 1999) have found that although the HCP program has great potential as a conservation tool, the scientific information used to develop HCPs has often been inadequate, resulting in flaws in the HCPs. (See “The Future of Regional Conservation Planning” on p. 19 of this issue for more information on HCPs.)

PLANTS AS SECOND-CLASS CITIZENS

Astonishingly, although killing listed *animals* is prohibited everywhere, FESA does not prohibit destruction of federally-listed *plants* on lands outside federal management. So HCPs do not directly affect listed plants unless they happen to be located in the same area as a listed animal for which an incidental take permit is being issued, or unless the permit applicant voluntarily includes listed plants in the HCP.

Furthermore, Section 7 consultation occurs only when the federal government is carrying out, permitting, authorizing, or funding a

project which will impact a listed species or its critical habitat. Thus many federally-listed plants are not protected by either the Section 10 HCP or Section 7 consultation programs, and so essentially are not protected by FESA at all.

These problems are due to an enormous flaw in Section 9(a)(2)(B) of FESA, which only prohibits the destruction of federally-listed plant species in “areas under federal jurisdiction.” Consequently, the law *allows destruction of most listed plants outside of federal lands*, where more than 70% of federally-listed plants live (and more than 80% in California). Thus, in areas not under federal control, or for projects not funded, authorized, or permitted by a federal agency, federally-listed plants can be knowingly extirpated without penalty.

Another stipulation of the law is that state-listed plants cannot be killed in *knowing* violation of state law or regulation, including CESA. Thus, federally-listed plants that do not occur on federal land, and are not also state listed, are forced to rely on state laws such as CEQA for protection. Because these laws are relatively weak, a great many of

Despite its listing status as Endangered under FESA, Braunton's milk-vetch (*Astragalus brauntonii*) has been subjected to deliberate bulldozing, herbicide application, and other methods of removal from a development site on private land near Los Angeles. Photograph by J. Dice.





Peirson's milk-vetch (*Astragalus magdalenae* var. *peirsonii*) is a state-listed Endangered and federally-listed Threatened plant. It occurs in the Algodones Dunes in Imperial County, and is seriously threatened by off-road vehicle recreation. This milk-vetch is the subject of a federal delisting petition submitted by off-road enthusiasts, and a lawsuit by the Center for Biological Diversity and CNPS regarding critical habitat determination. A management plan for the area is under development by the Bureau of Land Management. Photographs by J. Dice.

California's rarest plants are destroyed each year, despite being federally listed.

Because this aspect of the law is obviously inconsistent with effective biological diversity conservation, CNPS has launched the Equal Protection For Plants Campaign. Our goal is to change federal law so that plants and animals receive equal protection under FESA. We are also seeking equal funding and staffing for plant and animal management

within resource management agencies such as the FWS and the Forest Service. Our open letter calling for equal treatment of plants under Section 9 of FESA has already been signed by over 35 local, regional, and national groups, including the Botanical Society of America, the Society for Conservation Biology, the California Botanical Society, the Sierra Club, the Center for Biological Diversity, and the Natural Resources Defense Council. See the CNPS website (www.cnps.org) for more on the Equal Protection for Plants Campaign.

CRITICAL HABITAT

Critical habitat is one of the most biologically important sections of FESA, but it is also one of the most underused. Most people instinctively understand that wild plants and animals depend for their survival on specific habitats for shelter, nutrition, water, and reproduction. This principle is captured in Sections 4 and 7 of FESA, which requires FWS to designate and protect critical habitat for listed species.

Unfortunately, as noted above, FESA only requires federal agencies to protect critical habitat from actions that they themselves fund,

permit, or implement. Therefore, critical habitat designation only benefits taxa if they live on federal land or on land which is impacted by projects that are funded or permitted by the federal government, such as highway construction, wetlands management, or incidental take permit issuance.

Even with these limitations, critical habitat can be a useful conservation tool. For example, critical habitat designation requires thorough scientific investigation of the habitat requirements of the species, and provides valuable information for recovery efforts. Another benefit is that critical habitat designation is intended to promote recovery of listed species, not merely to prevent their extinction. So suitable habitat outside of areas currently occupied by the species may be designated as critical and protected to allow future range expansion and promote recovery. Critical habitat may also be designated to protect the integrity of geologic or hydrologic processes that species require for survival, such as periodic flooding of vernal pools or washes.

Regrettably, only approximately 4% of California's more than 180 federally-listed plants have designated critical habitat. There is tremendous political pressure on FWS and on Congress to weaken or remove FESA's critical habitat requirements. Several bills to change or eliminate these rules have been proposed in Congress in recent years, and policies for critical habitat implementation change frequently.

So far the scientific and environmental communities have been successful in preventing Congress from eliminating this important feature of FESA. Furthermore, recent successful litigation by CNPS and affiliated groups may lead to critical habitat designation for as many as 25 plants in the San Bernardino Mountains, in the vernal pools of

CESA STANDARDS FOR INCIDENTAL TAKE PERMIT ISSUANCE

Applicants must meet the following standards before CDFG can issue an incidental take permit:

1. Impacts from taking listed species must be “minimized and fully mitigated.”

Full mitigation means that no net impacts to listed species may occur under CESA. This standard (CESA § 2081(b)) is significantly stronger than the species conservation standards for unlisted species under the California Environmental Quality Act (CEQA). CEQA merely requires agencies to “avoid or minimize environmental damage *where feasible*” (CEQA Guidelines § 15021 (a), emphasis added). CESA defines “impacts” that must be minimized and fully mitigated as “all impacts on the species that result from any act that would cause the proposed taking” (CESA § 2081(b)(2)). This broad definition can be read to include indirect and cumulative impacts, as well as impacts to habitat. However, some state policies imply that impacts to listed habitat of species are not covered under CESA and that only “direct” destruction of listed species requires a permit. It is the desire of CNPS that this significant issue be clarified in the near future by the Legislature or CDFG.

2. No exceptions are permitted to the full mitigation requirement. Overriding considerations are not allowed.

CESA does not allow CDFG or any other public agency to permit “unavoidable” or unmitigated impacts to listed species. This is a critical benefit conferred by state listing. For unlisted rare species covered only by CEQA, any lead agency may allow significant impacts to the species if it finds that socioeconomic and other “benefits” of a project outweigh its adverse environmental impacts (CEQA Guidelines § 15093).

3. The applicant must fund both the implementation and monitoring of mitigation.

CESA § 2081(b)(4) requires that the project sponsor fund both the implementation of required mitigation measures *and* compliance and effectiveness monitoring for the mitigation. The effectiveness monitoring requirement allows CDFG—and the public—to ensure that mitigation is functioning properly and that CESA’s full mitigation requirement is met.

4. The jeopardy standard must be based on science and cumulative impacts.

Section 2081(c) requires CDFG to find that permitted projects will not jeopardize the *continued existence* of listed species. This finding must be based on “best

scientific and other information that is reasonably available” regarding “1) known population trends; 2) known threats to the species; and 3) reasonably foreseeable impacts on the species from other related projects and activities.” This section sets a high standard for the scientific analysis that must underlie a finding of “no jeopardy” and forces CDFG to consider cumulative impacts when issuing permits.

5. A California Environmental Quality Act (CEQA) review is required.

All incidental take permits must undergo a public review process under CEQA prior to approval. This usually occurs as part of a larger CEQA review process undertaken on the project as a whole by a lead agency other than CDFG. Occasionally it takes place through a process “functionally equivalent” to the CEQA process, if the incidental take permit is the only permit at issue and CDFG is acting as the lead agency. Either way, interested parties can use the CEQA process to ensure that applicants, lead agencies, and CDFG meet the new CESA standards, including full mitigation, scientifically-based jeopardy findings, adequate monitoring, and funding.

the northern Central Valley, and elsewhere. Political opposition continues, however. CNPS and other conservation organizations must maintain vigilance to prevent this and other key features of FESA from being eliminated.

THE CALIFORNIA ENDANGERED SPECIES ACT

The California Endangered Species Act (CESA) provides greater protection for plants than FESA

does. Unlike FESA, take of listed plants is prohibited under CESA. Additionally, in 1997, CESA was substantially amended to provide stronger conservation standards and greater scientific and public input into listed species management.

Many people are still not aware of the strict protections CESA now requires for California-listed species.

CESA prohibits the take of California-listed animals and plants in most circumstances. Like the FWS, the California Department of Fish and Game (CDFG) may issue “incidental take permits,” similar to federal HCPs, which allow destruction of listed species under limited conditions and which require full mitigation for impacts to species and their habitat. (See sidebar on p. 10.)

THE NATIVE PLANT PROTECTION ACT

Unfortunately, powerful political forces and misinterpretation of the law are threatening to keep the conservation benefits of CESA from many state-listed plants. The so-called “regulated community” (developers, timber companies, and others who destroy listed species during commercial activities) claims that California’s state-listed plants can be destroyed without a permit, without mitigation, and without limit. This claim is based on an outdated and little-known law called the Native Plant Protection Act.

The Native Plant Protection Act (NPPA) of 1977 was one of the first plant conservation laws in the United States. Although historic, it was quite weak. It provided only



Baker’s meadowfoam (*Limnanthes bakeri*) in a field north of Willits, Mendocino County. It is state-listed Rare under NPPA, and threatened by development, grazing, and road construction. Photograph by J. Guggolz.

limited protection for plants, primarily requiring that landowners who have been notified of state-listed plants on their property—and who wish to destroy those plants and their habitats—must provide CDFG ten days notice to salvage (remove for transplant) the plants before the destruction occurs.

In June 1998, then-Attorney General Dan Lungren issued an opinion asserting that take of listed plants is governed primarily by NPPA instead of CESA. The opinion reached the illogical conclusion that state law protects listed animals—but not listed plants—from destruction during a wide range of land use and land clearing activities. Though not binding on a court, the Lungren opinion’s interpretation of the law could virtually eliminate protection for state-listed

plants from destruction during development, mining, and logging. The publication of the Lungren opinion stimulated the regulated community to step up efforts to use NPPA to exempt projects affecting listed plants from CESA. A widely circulated 1999 article in the *California Land Use Law and Policy Reporter* (Thornton et al. 1999) added fuel to the fire, essentially repeating and amplifying the Lungren opinion. A CNPS rebuttal was published several months later (Roberson and Mueller 1999), and the policy debate continues at the state and local level.

The Lungren opinion has not yet been tested in court. If it is formally adopted by the courts or by CDFG, destruction of California’s listed plants and their habitats could increase dramatically. Fortunately,

Cushenbury buckwheat (*Eriogonum ovalifolium* var. *vineum*) is listed by FWS as Endangered, and is threatened by mining activities. CNPS is currently in litigation against FWS regarding critical habitat designation for this plant and four other carbonate endemics in the San Bernardino Mountains. Photograph by J. Dice.

both law and science are on our side. The California Legislature has repeatedly made it clear that state-listed threatened and endangered plants are to be managed and protected under CESA just as animals are. This only makes sense. The broad allowances for killing endangered and threatened plants with impunity under the Lungren interpretation would be contrary to many laws and policies of the state of California, as well as popular opinion, which provide a strong and consistent mandate for conservation of rare species. CNPS is working hard with CDFG, the courts, and the State Legislature to make sure that the Lungren opinion does not become California law.

WHAT YOU CAN DO

Both FESA and CESA can be powerful tools for conservation of rare species and their habitats. But these laws, and the agencies that implement them, are constantly under attack and cannot remain effective without active support from the scientific community and the public. There are many ways to become involved in implementation of endangered species laws in your area or at the state or federal level.

The public can submit petitions for listing and protecting imperiled species under the state and federal acts. The CNPS Rare Plant Science Program provides assistance with preparation of state and federal listing petitions. Information on how to list species can also be found on the CNPS web site. The Rare Plant Science Program also maintains information on rarity and distribution of listed species, published periodically as the *CNPS Inventory of Rare and Endangered Plants of California* (CNPS 2001).

If a project impacts listed species in your area, call your local CDFG or FWS office and ask them how they plan to implement the

mitigation, consultation, jeopardy, recovery planning, public input, and other requirements of CESA and FESA. Then review the project plans and environmental documents for consistency with endangered species law and provide comments to the agencies. You can contact the CNPS State Office for legal analyses, scientific information, white papers, brochures, and other technical assistance. The CNPS Conservation Program has information packets on federal critical habitat policies, habitat conservation planning, and key conservation provisions of CESA, NPPA, and other aspects of endangered species law. Many of these are posted on the CNPS website (www.cnps.org) as well.

We also need help with our programs to increase public understanding of the values of and threats to rare plants and biological diversity in general. We are working to educate the public, policymakers, and the media about these issues through projects such as the Equal Protection for Plants Campaign. We have prepared informational brochures and other materials on plant conservation and the values of native plants that are available for use with local Planning Departments, City Councils, Boards of Supervisors, land use planning agencies, and others. Contact CNPS for copies of informational materials and to find out how to get involved.

Because inadequate staffing and funding are among the primary factors preventing full implementation of endangered species laws, CNPS devotes considerable effort to increasing funding and staffing for FWS and CDFG through our legislation and conservation programs. Contact CNPS to become involved in these efforts.

Finally, keep up-to-date and get involved by subscribing to the CNPS Action Alerts electronic listserver (sign up at www.cnps.org/alerts/alerts.htm). The alerts provide

subscribers with conservation news and up-to-the-minute information on opportunities for public input into plant conservation law, budgeting, policy, and planning.

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