

Table 5
2017 – 2021 IMG Monitoring Prioritization and Frequency

Species	2017	2018	2019	2020	2021	IMG Monitoring Frequency 2014–2021	Prioritization and Monitoring Frequency Rationale
Aphanisma (<i>Aphanisma blitoides</i>)	IMG*		BS, IMG*		IMG	Monitor every 2 years after 2017	Conduct baseline surveys in 2019 because aphanisma has disappeared from much of its former range. Monitor it every 2 years after 2017 to minimize impacts from frequent monitoring, but often enough to determine trends in status and to identify management needs.
Blochman’s dudleya (<i>Dudleya blochmaniae</i>)	IMG	IMG	BS, IMG	IMG	IMG	Monitor annually	Conduct baseline surveys in 2019 because little information is known about Blochman’s dudleya in the County. Monitor it annually to increase our knowledge about Blochman’s dudleya status, threats, and management.
Chaparral nolina (<i>Nolina cismontana</i>)			BS, IMG			Monitor every 5 years after 2019	Conduct baseline surveys for chaparral nolina in 2019 and monitor all populations every five years after 2019. Currently, there are no known populations on conserved lands within the MSPA. Survey and map all known and historical populations for 1 to 3 years post-fire. Modify the monitoring protocol between 2017 and 2021 to account for chaparral nolina habit.
Coast wallflower (<i>Erysimum ammophilum</i>)	IMG		BS, IMG		IMG	Monitor every 2 years after 2017	Conduct baseline surveys in 2019. Monitor coast wallflower populations every 2 years after 2017 to minimize impacts from frequent monitoring.
Dehesa beargrass (<i>Nolina interrata</i>)	IMG					Monitor every 5 years after 2017	Monitor Dehesa beargrass every 5 years after 2017. It has a restricted distribution and should be monitored frequently enough to track threats and determine management needs. Survey and map all known and historical populations for 1 to 3 years post-fire. Modify the monitoring protocol between 2017 and 2021 to account for species habit and the mapping of large populations.

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Encinitas baccharis (<i>Baccharis vanessae</i>)	IMG		IMG		IMG	Monitor every 2 years after 2017	Monitor Encinitas baccharis every 2 years after 2017 to minimize impacts from frequent monitoring. The County of San Diego is monitoring populations every 2 years over a 5-year period (2015, 2017, and 2019), and we should monitor other populations at the same time. We recommend monitoring Encinitas baccharis every 3 years after 2019. Large populations may be less threatened than small populations, but monitoring needs to continue to make a definitive determination. Survey and map all known and historical populations for 1 to 3 years post-fire. Modify the monitoring protocol between 2017 and 2021 to account for Encinitas baccharis habit.
Gander's ragwort (<i>Packera ganderi</i>)		IMG			IMG	Monitor every 3 years after 2018	Monitor Gander's ragwort every 3 years after 2018. Survey and map the known and historical populations for 1 to 3 years post-fire. Modify the mapping portion of the monitoring protocol to account for large populations.
Heart-leaved pitcher sage (<i>Lepechinia cardiophylla</i>)			BS, IMG		IMG	Monitor every 2 years after 2019	Conduct baseline surveys in 2019 to determine whether any populations are on conserved lands. If so, implement monitoring in 2019 and then every 2 years after 2019. Modify the monitoring protocol between 2017 and 2021 to account for heart-leaved pitcher sage habit.
Jennifer's monardella (<i>Monardella stoneana</i>)			BS, IMG			Monitor every 3 years after 2016	Conduct baseline surveys in 2019 to locate new populations and to determine population boundaries for known populations because some populations are not fully mapped. Monitor Jennifer's monardella every 3 years after 2016. Survey and map all known and historical populations for 1 to 3 years post-fire. Modify the monitoring protocol between 2017 and 2021 to account for Jennifer's monardella habit and to determine if recruitment is occurring.
Mexican flannelbush (<i>Fremontodendron mexicanum</i>)	IMG		BS, IMG			Monitor every 3 years after 2019	Conduct baseline surveys in 2019. Monitor Mexican flannelbush every 3 years after 2019. Modify the monitoring protocol between 2017 and 2021 to account for Mexican flannelbush habit and the mapping of large populations. Translocated populations have low survivorship. Survey and map all known and historical populations for 1 to 3 years post-fire.
Nuttall's acmispon (<i>Acemispon prostratus</i>)	IMG	IMG	IMG	IMG	IMG	Monitor annually	Monitor Nuttall's acmispon annually because of population fluctuations, small population sizes, and high level of threats. Annual monitoring will help refine management recommendations. The City of San Diego monitors Nuttall's acmispon annually.
Orcutt's birds-beak	IMG	IMG	IMG	IMG	IMG	Monitor annually	Conduct baseline surveys in 2019 and monitor Orcutt's birds-beak annually to monitor threats and to observe and map population fluctuations. The City

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<i>(Dicranostegia orcuttiana)</i>							of San Diego monitors Orcutt’s birds-beak annually.
Orcutt’s brodiaea (<i>Brodiaea orcuttii</i>)	IMG	IMG	BS, IMG	IMG	IMG	Monitor annually	Conduct baseline surveys in 2019 and survey in a variety of habitat types (i.e., grasslands, along creeks, vernal pools, rocky stream bottoms [Otay Mountain]). Monitor Orcutt’s birds-beak annually because populations are mostly small, isolated, and have a high degree of threats. The City of San Diego monitors Orcutt’s birds-beak annually. Consider modifying the monitoring protocol to include data collection during both vegetative and flowering stages.
Orcutt’s hazardia (<i>Hazardia orcuttii</i>)		IMG		IMG		Monitor every 2 years after 2016	Monitor Orcutt’s hazardia every 2 years after 2016. The Center for Natural Lands Management (CNLM) monitors annually and has concerns about some occurrences. Consider modifying the protocol to include monitoring of individual shrubs.
Orcutt's spineflower (<i>Chorizanthe orcuttiana</i>)	IMG	IMG	IMG	IMG	IMG	Monitor annually	Monitor Orcutt’s spineflower annually because very few populations exist, existing populations are small, population sizes vary with weather, and threats are high. If annual monitoring does pose a threat to the plants and soils, reevaluate and reduce the monitoring frequency.
Otay tarplant (<i>Deinandra conjugens</i>)	IMG	IMG	IMG	IMG	IMG	Monitor annually	Monitor Otay tarplant annually to identify population fluctuations and management needs. There are a number of unmanaged populations in the County and many populations are highly threatened by nonnative grasses and thatch. The City of San Diego monitors Otay tarplant annually.
Parry's tetracoccus (<i>Tetracoccus dioicus</i>)			BS, IMG			Monitor in 2019	Conduct baseline surveys in 2019. Monitor Parry’s tetracoccus every 3 to 5 years, beginning in 2019. We have not monitored or mapped Parry’s tetracoccus extensively, but we believe that threats to this species are relatively low. Survey and map all known and historical populations for 1 to 3 years post-fire. Modify the monitoring protocol between 2017 and 2021 to account for Parry’s tetracoccus habit and the mapping of large populations.
Salt marsh bird’s-beak (<i>Chloropyron maritimum</i> ssp. <i>maritimum</i>)	IMG	IMG	IMG	IMG	IMG	Monitor annually	Monitor salt marsh bird’s-beak annually because of large fluctuations in population size and extent and because threats to the species are high based on 2016 monitoring and genetic sampling surveys. The City of San Diego monitors salt marsh bird’s-beak annually.
San Diego	IMG	IMG	IMG	IMG	IMG	Monitor	Monitor San Diego ambrosia annually to evaluate population fluctuations,

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ambrosia (<i>Ambrosia pumila</i>)						annually	identify threats, and determine management actions. Some populations may be highly threatened and may need management, but overall a lack of monitoring data exists for this species. The City of San Diego monitors San Diego ambrosia annually.
San Diego goldenstar (<i>Bloomeria clevelandii</i>)		IMG		IMG		Monitor every 2 years after 2016	Monitor San Diego goldenstar every 2 years after 2016. We monitored many populations in 2016, but some very large populations were not fully mapped. Because this species was monitored adequately in 2016, we deferred monitoring to every 2 years. Consider modifying the monitoring protocol to include data collection during both vegetative and flowering stages. The City of San Diego monitors San Diego goldenstar annually.
San Diego thornmint (<i>Acanthomintha ilicifolia</i>)	IMG	IMG	IMG	IMG	IMG	Monitor annually	Monitor San Diego thornmint annually between 2017 and 2021 because most populations are declining and we must track population changes and determine responses to changing weather and site conditions. We also need to monitor annually to document threats and identify appropriate management actions. SDMMMP may reduce the monitoring frequency after 2021, because annual monitoring may be impacting large populations (crushing plants). The City of San Diego and CNLM monitor San Diego thornmint annually. The County of San Diego monitors the species annually between 2016 and 2021.
San Miguel savory (<i>Clinopodium chandleri</i>)		IMG		IMG		Monitor every 2 years after 2016	Monitor San Miguel savory every 2 years after 2016. The species may be under-reported and vulnerable to drought. Survey and map all known and historical populations for 1 to 3 years post-fire. Modify the monitoring protocol between 2017 and 2021 to account for San Miguel savory habit. The County of San Diego monitors the species annually.
Santa Rosa basalt brodiaea (<i>Brodiaea santarosae</i>)		IMG				Monitor in 2018	Monitor Santa Rosa basalt brodiaea in 2018 because threats are likely low and the populations are remote. Consider modifying the protocol to include data collection during both vegetative and flowering stages.
Shaw's agave (<i>Agave shawii</i> var. <i>shawii</i>)					IMG	Monitor every 5 years after 2016	Monitor Shaw's agave every 5 years after 2016. Modify the monitoring protocol to include counting of individuals because it's a clonal species. Threats are low and populations are stable at this time.
Small-leaved rose (<i>Rosa minutifolia</i>)					IMG	Monitor every 5 years after 2016	Monitor small-leaved rose every 5 years after 2016. Modify the monitoring protocol to track individual shrubs over time. The threats are low and populations are stable at this time.

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Short-leaved dudleya (<i>Dudleya brevifolia</i>)	IMG	IMG	IMG	IMG	IMG	Monitor annually	Monitor short-leaved dudleya annually because few populations exist and several appear to be declining. The threats to this species are high at some sites. The City of San Diego monitors short-leaved dudleya annually.
Sticky dudleya (<i>Dudleya viscida</i>)					IMG	Monitor every 5 years after 2016	Monitor sticky dudleya every 5 years after 2016. Threats to this species are low in most locations. Modify the protocol so surveyors can obtain monitoring information in difficult to reach areas such as steep cliffs. Conduct surveys 1-3 years post-fire to map population boundaries.
Thread-leaf brodiaea (<i>Brodiaea filifolia</i>)	IMG		BS, IMG		IMG	Monitor every 2 years after 2017	Conduct baseline surveys in 2019. Monitor thread-leaf brodiaea every 2 years after 2017. Several large populations occur on privately conserved lands. SDMMP has been unable to obtain permission to monitor these populations. Consider modifying the monitoring protocol to include data collection during both vegetative and flowering stages. The City of San Diego monitors thread-leaf brodiaea annually.
Variiegated dudleya (<i>Dudleya variegata</i>)		IMG		IMG		Monitor every 2 years after 2016	Monitor variegated dudleya every 2 years after 2016. Consider baseline surveys in the future because many historic populations are not being monitored. The City of San Diego monitors variegated dudleya annually and the County of San Diego will monitor annually from 2016 through 2020. Consider modifying the monitoring protocol to include data collection during both vegetative and flowering stages.
Willow monardella (<i>Monardella viminea</i>)	IMG	BS, IMG	IMG	IMG	IMG	Monitor annually	Conduct baseline surveys in 2018 and include a hydrology study as part of the baseline surveys. Monitor willow monardella annually because threats are high and many populations (outside of military lands) are small and unmanaged. During monitoring, surveyors should note recruitment (if any). The City of San Diego monitors willow monardella annually and the County of San Diego is monitoring the species annually for 5 years.

IMG = conduct Inspect and Manage monitoring; BS = conduct baseline surveys