2018 California Invasive Species Summit

Sacramento, CA | January 11-12, 2018

Contents

Background

In 2009, California agencies created the Invasive Species Council of California (ISCC). The ISCC appointed 24 stakeholder representatives to the California Invasive Species Advisory Committee (CISAC), which recommends actions to strengthen the State's response to invasive species.

In 2010, the first draft of the Strategic Framework was released for a 45-day public comment period. CISAC held four public listening sessions throughout the state. Changes were made based upon feedback, and the second draft of the Strategic Framework was finalized in 2011. Due to the change in administration and new members of the ISCC, an additional comment period was opened and an additional listening session was conducted in Sacramento, which was also available via webinar to finalize the Strategic Framework.

In 2013, CISAC approved a report on the progress of the implementation of the Strategic Framework strategies and recommended actions. This report was presented to the ISCC which provided feedback. The report generated a dashboard so that progress on recommended actions could be tracked.

In 2016, CISAC reviewed and assessed the Invasive Species System in California, including implementation to date. The Committee identified lessons learned, areas requiring additional resources, and opportunities for coordination. The Committee further recommended ISCC convene an Invasive Species Summit bringing necessary actors together to identify and affirm activities to move the Invasive Species system in California into the 21 Century.

ISCC approved convening a summit of stakeholders to identify responsible parties, propose funding amounts and resources needed, and insure that the Strategic Framework's updated priorities were being implemented. The California Invasive Species Summit was hosted by the ISCC, CISAC, CDFA, Cal Fire, University of California, Agricultural and Natural Resources (UC ANR), and the Britton Fund. In preparation for the Summit, the CISAC in 2017 identified priority Strategic Framework actions to focus discussions on during the Summit. A planning team consisting of ISCC Secretary Representatives, County, State and Federal agencies were represented, CISAC members, legislative staff and Non-profit Non-Governmental Organizations (NGO) representatives planned and coordinated the proposed Summit.

On January 11th and 12th, 2018, ISCC convened the California Invasive Species Summit in the State Capitol, bringing together key stakeholders who examined the updated priorities and tasks needed to move California's Invasive Species System forward into the 21 Century. Stakeholders generated a prioritized list of actions and tasks needed to implement the Strategic Framework.

Summit Highlights

Over 100 Summit participants convened in Sacramento over two days to identify:

1. Actions in the ISCC's Strategic Framework (http://www.iscc.ca.gov/docs/CISAC-Strategic-Framework.pdf) that should be a priority for implementation;
2. Agencies, stakeholders, and resources that can be coordinated to implement these priority actions;
3. Challenges to the implementation of these priority actions, including funding resources, personnel, authority, etc., and potential solutions to overcoming the challenges.

The outcomes of the Summit included:

- A comprehensive list of recommended actions to be considered for implementation in the Strategic Framework; and
- A prioritized list of top ranking actions to be implemented in the short—medium-term (within a year to two years).

Welcome & Goals

Stephanie Lucero, Facilitator with California State University of Sacramento (CSUS) convened the meeting and introduced Dr. Glenda Humiston, University of California Agricultural and National

Resources (UC ANR). Dr. Humiston provided opening remarks and introductions emphasizing the following:

- As Summit co-host, UC ANR is proud to play a key role in the valuable research and public engagement efforts to address invasive species. UC ANR's involvement in the eradication of the European Grape Vine moth is one example of the value of science-based approaches to challenging and immediate problems.
- UC ANR supports entities across the state and works with a wide array of partners on research and delivery of programs, many of which intersect with invasive species issues. There are great opportunities to capitalize on the variety of UC ANR programs to address these issues, including youth involvement in 4-H, and the well-established and trusted Master Gardener program in cities across California.
- With new pests regularly entering California, prevention is the most critical issue and the best option.
- California is a leader in appropriate pest management practices and particularly integrated pest management.

Keynote

Secretary Karen Ross, CA Department of Food and Agriculture (CDFA), as the Chairperson for the ISCC, provided the keynote address on behalf of CDFA and California Natural Resources Agency (CNRA). Her keynote emphasized the following:

- Partnerships at multiple levels of government are critical to addressing invasive species challenges. CNRA has played an important co-chair role in the ISCC. Other key partners include federal agencies, such as the US Department of Food and Agriculture; local partners, such as the County Agricultural Commissioners, and the UC system and other academic partners.
- Through programs in the Plant Health Division, CDFA is engaged in the protection of key resources and response to invasive species, whether that response is control, suppression, or eradication of invasive species to protect our agriculture and natural resources.
- California is a beautiful place that is desirable to many, including invasive species. Invasive species create impacts in many different areas, including recreation, native species, key ecological and economic species like pollinators, and agriculture and economic prosperity. California is also often fighting the spread of pests across the country.
- Ecological conditions in California are changing, from seasonality variations to wildfire prevalence and water availability. The urban tree canopy is critical to keeping cities cool, but also create pest vulnerabilities. It is important to use a lens of climate change when thinking through actions within the Strategic Framework.
- The public is a key partner in working cooperatively to find new ways to fight invasive species in urban spaces. There is a need to address public perception of invasive species and invasive species programs, and to communicate the benefits, while acknowledging the sometimes intrusive nature of programs.

Secretary Ross, then introduced Dr. Russ Bulluck, National Science Director, Animal and Plant Health Inspection Service-US Department of Food and Agricultural (APHIS-USDA). Dr. Bullock gave a brief update on USDA efforts to address shot hole borers (SHB). SHB species are not typical agricultural or forest pests, but mainly exist at the urban-agricultural interface. In May 2017, CDFA Secretary Ross

approached USDA on the issue and urged action. SHB species are more than just a problem in California, and USDA has assembled a task force to address the issue nationwide. USDA is working with the Agricultural Research Service and the US Forest Service (USFS) to address research and management and will keep everyone informed on progress.

Strategic Framework Overview

David Pegos, CISAC Executive Director and Agency Liaison for ISCC, gave an overview of the CISAC and its effort to develop and convene the Summit through the support of the ISCC. The CISAC has 24 members representing a broad range of stakeholders with varying backgrounds and experience addressing invasive species. The CISAC work is conducted through team and workgroups, as well as through quarterly meetings. New members will be added and participation is encouraged. The CISAC reports to the ISCC.

The goal of the ISCC is to have a coordinated approach to invasive species and is the highest level of state leadership and authority with regard to invasive species. Duties include identifying actions involving invasive species, and using programs and authority to detect, respond, and communicate. Working with the CISAC, the ISCC maintains a list of invasive species that have reasonable likelihood of entering the state and issuing a Strategic Framework developed through a public stakeholder engagement process.

Doug Johnson, California Invasive Plant Council Executive Director and former CISAC chair reviewed the Strategic Framework, which lays out guiding principles and sets up the implementation plan to catalyze action. The Strategic Framework identifies resources and gaps, and presents solutions and recommendations. The framework includes over 40 recommendations ranging from securing more funding to conducting additional research. The next step is to develop the implementation plan. The CISAC identified the most current and immediate 26 actions for consideration at the Summit. However, Mr. Johnson and Mr. Pegos invited participants, during the Summit, to identify all actions or tasks needed to implement any portion of the Strategic Framework or to identify any relevant actions not addressed in the Strategic Framework that would help California deal with invasive species issues.

Questions

- What percentage of currently allocated resources for invasive species are focused on prevention versus response?
    - Response: Not sure of the exact percentage. More is spent on prevention than on eradication in general. This is partly because there are more stable sources of funding for prevention programs and transient funding for emergency response.
- Where does the funding come from for problems that do not necessarily fit into an existing category like forest health or agriculture, like in the case of the SHB?
    - Response: With regard to the SHB, multiple partners stepped up to address the pest, including industry, state agencies, county government, and now federal partners. This is a core question that we all need to address, especially when there is not already funding available for “in-between pests.”

Invasive Species Lessons Learned – Case Studies Panels

Shot Hole Borers (SHB)

Dr. John Kabashima, UC Environmental Horticulture Advisor, Emeritus, presented on the invasive SHB species. All presentations attached as Appendix B. Key points are outlined below.

- In the case of SHB, we underestimated the urban forest as a major pathway. SHB has primarily been attacking urban trees, avocados, and riparian trees.
- The Tijuana River Valley in San Diego has been severely impacted and experienced major tree losses. Orange County Parks has spent $2 million to address impacts. There is the potential for huge impacts with regard to tree loss, ecosystems services, and there are major costs for tree replacement. Estimates from UC ANR indicate that 170 million trees are at risk.
- The State has different options to address invasive species: the "do nothing" approach, eradication, regional containment, or protect high value areas. When a pest enters the state, it is given a rating and state funding is potentially applied. When a pest is downgraded (like the case of SHB), there is often not enough funding to fully address the problem when the pest is shown to be a greater threat than when it was originally ranked.
- Certain invasive species, demonstrate the "lag phenomena," where the pest problem does not manifest initially. The SHB appears to have gone through a period of adaptation to the local climate, and now the population is quite large. If pest populations are not monitored, there is the potential for population explosion that is then difficult to contain. Once a pest finds local host tree species, the host tree list will likely expand rapidly. These vector-pathogen complexes are becoming more common and difficult to deal with.
- With the different species of SHB found here in California, the morphology is very similar, but the assumption that similar morphology will result in similar impacts was mistaken. The failure to recognize the second invasion of a highly impactful SHB species in southern California was likely due to a lack of scientific understanding of the pest. Additional research on invasive species and SHB should be a high priority in the Strategic Framework.
- The SHB became an "orphan" pest in terms of response because it did not:
    - Fit the existing model and categories;
    - Have the applied researched and models;
    - Generate devastation at the outset;
    - Have a clear advocate for rapid initial response.
- Now that the impacts have been identified, there are many committees and entities that are partnering to move forward to address SHB. The Avocado Commission has been a large supporter, and others have provided small amounts of funding. Resources are still greatly needed.

Questions

- Was the SHB misidentified in 2003?
    - Response: In 2003, we did not realize that there were two species morphologically identical, and only distinguishable by DNA tests. The science had not caught up to the situation. When we began to see differences in the species and resulting devastation, it would have been helpful to reassess the categorization and ratings system. The State needs to update the rating system to be more responsive to orphan pests.

    - Comment: Lower ratings in the State classification system does not necessarily mean it is not an important pest—for example, there is a big control program on the glassy-winged sharpshooter. This pest was originally rated as Q, then downgraded to C, but then re-upgraded to B when it was found to be a vector for disease.
- How did the Kuroshio SHB get to Santa Barbara and what role might green waste transport play?
    - Response: Likely it was human mediated transport. It is amazing how much green waste is moved across the state, included infested wood. We need to figure out how to stop people from moving infested firewood.

Nutria

Valerie Cook Fletcher, California Department of Fish and Wildlife (CDFW) Invasive Species program, presented on the recent invasion of nutria in California. Key points are outlined below.

- Nutria are large semi-aquatic rodents native to South America that live in freshwater and brackish habitats. They form family groups and disperse up to 50 miles from the home den.
- They were introduced to North America by the fur trade. Earlier nutria populations in California were eradicated in the 1960s. Nutria is being regulated currently by CDFA and CDFW.
- The reintroduction holds many implications for the state's water infrastructure, including flood protection and water storage. Impacts mainly come from nutria feeding habits on aquatic vegetation, landscaping, and crops. They are destructive feeders focused on the basal portions of plants (roots and tubers). Additional impacts include severe erosion, plant damage, and damage from burrows; nutria also carry diseases transmissible to livestock, wildlife, and pets.
- Nutria have had persistent populations in Louisiana and Chesapeake Bay:
    - Louisiana began control efforts in 2002 with a large existing population and widespread impacts. Louisiana began an incentives program working with trappers, and since 2002, the state has paid out $24 million dollars and harvested 5 million animals—this represents a very low level of control. Large coastal areas are already damaged. Their approach was "too little too late."
    - Chesapeake Bay control efforts began in the 1950s, and was ongoing through the 80s and 90s. Maryland passed the Nutria Eradication and Control Act of 2003 and received federal funding, and partnered with the USDA-APHIS program. With control efforts, there have been no captures since early 2015, and the trajectory points to successful eradication by 2019.
- Nutria were discovered in March 2017 in Stanislaus, Merced, potentially Tulare County. Individuals were found on state, federal, and private lands. The State convened an interagency nutria response team that is involved in trapping, surveys, local outreach, interstate communication, and pursuit of funding.
- Challenges to implement a rapid response program include lack of resources and diminished regulatory programs. Long-term funding is critical as well, particularly for full eradication (surveying, trapping, and monitoring). In the time it takes to write a grant and potentially get funding, the population on average can increase by 5,000 individuals. Other challenges include overlapping/complementary regulatory authorities.
- There is a need for co-advocacy, across agencies and departments, and enhanced collaboration for pests versus pathways.

Questions

- Where did the species come from?
    - Response: It is speculative at this point, but it was likely reintroduction, though it could have been an isolated population.
- Has the State considered doing DNA analysis to help source the populations?
    - Response: We have discussed it, but there may be limitations. It is an idea worth further consideration.

Invasive Plants

Dr. Irina Irvine, National Park Service (NPS), presented on invasive plants in California. Key points are outlined below.

- California has some of the most diverse flora on the planet—both native and non-native—and the state is a hotspot for biodiversity. Roughly 10% of species that arrive in California can establish themselves, and a further 10% are likely to be problematic.
- Invasive species of all kinds impact wildlife, recreation, infrastructure, agriculture, water resources, and fire incidence. A rough estimate is that 25-35 million acres are infested by weeds. Weeds are problematic because they alter fire regimes, change nutrient cycling, and impact water availability. Invasive plant impacts generate high costs to the State—one estimate is $82 million a year.
- Problems need to be nipped in the bud.
    - Case study: Yellow star thistle came to California over 100 years ago and now infests more than 15 million acres. It forms impenetrable stands, destroys rangelands, and uses excessive water. Weed control has implications related to management of resources during drought.
- There is a new opportunity to confront desert knapweed, which was first encountered in Orange County in 2013. It took some time to identify what it was, and has now spread across Borrego. This weed has the potential to spread across the whole Southwest.
- There is a need for strategic planning to determine when, why, and which battles should be fought regarding invasive plants. Then make sure that programmatic authorities are in place, and engage partners in landscape and seascape-level thinking.
- Coordinated efforts among organizations is critical to outline who and where, and how organizations participate (e.g., weed mapping authorities).
- Adequate funding is greatly needed across many areas, but early detection and rapid response is most effective.

Comment

- It would be very helpful to have the State do a comprehensive fiscal analysis to assess what is spent on invasive species annually, and to date, on specific items, and programs.

Breakout Sessions

Taxa Discussions

Participants broke into small discussion groups based on six Taxa (Terrestrial Plants, Aquatic Plants and Algae, Vertebrates, Arthropods, Mollusks and other Invertebrates, and Diseases). Each group was

assigned a discussion leader to support the discussion and report back to the larger group. Participants brainstormed tasks (i.e. specific actions) to implement the Strategic Framework. For priority tasks within each breakout group, participants were asked to discuss who needs to be involved in implementation (i.e. the agencies, organizations, and other stakeholders to engage), what resources exist and what resources are needed to implement these actions; and what authority exists or is needed to accomplish the task. For each task, participants were asked to identify why implementation is important, i.e. demonstrate overall impacts for not implementing this task by considering economic, cultural, and/or social impacts. Participants were asked to also prioritize the items and develop a summary list of recommended actions.

Discussion Leaders summarized the smaller group discussions as follows. See Appendix B for breakout session flip chart notes.

Terrestrial Plants and Algae

Doug Johnson, California Invasive Plant Council (Cal IPC), shared that in addition to the blanket need for additional funding, the group prioritized seven recommended actions:

1. Fund Weed Management Area (WMA) programs.
    - Staff need additional training.
    - Both CDFA and CNRA need to coordinate on program implementation.
    - Other important implementation items include the need for a programmatic environmental impact report (EIR), best management practices (BMPs), a regional mapping strategy, and new biocontrol methods and research.
2. Increase funding for State land management agencies with invasive plant programs to increase and maintain staff, training, management, etc.
    - Need to conduct analysis of financial needs for each agency.
3. Develop/promote standardized list of invasive plants that should not be planted (i.e. “Do Not Plant list”).
    - Should be regionally-based and coordinated among relevant parties.
    - Develop a coordination process for identification of plants on the “do not plant” list.
        1. PlantRight is a key existing resource that needs a permanent home and funding to lead coordination of getting agreement from stakeholders of the list.
    - This List needs to be validated by science/academia.
    - This list should eventually become the basis for more prescriptive limitations on planting versus currently voluntary actions.
4. Increase/fund invasive species related trainings across public and private sectors (e.g. certification programs, conservation corps, public workshops).
    - Develop and share BMPs.
5. Formalize the ISCC and CISAC.
    - Conduct economic, political, and policy analyses that outline the social context related to climate change related to invasive species (i.e. what are the overarching costs for not addressing invasive species).
    - Develop consistent branding and messaging.
6. Address the need for weed-free infill material.

- There were previous activities to address this, future activities might include a memorandum of understanding (MOU), new regulation, and a certification process.

Aquatic Plants and Algae

Gina Darin, California Department of Water Resources (CDWR), shared discussions from this breakout group, in terms of high and medium priority actions:

- High priority issues
    1. Fund WMAs.
    2. Create an interagency emergency rapid response fund (a minimum of $50 million and three staff per year).
    3. Increase basic research on species to inform control methods.
    4. Re-fund the biological control (biocontrol) program for aquatic plants.
    5. Develop a programmatic EIR, including an emergency exemptions and area contingency plan.
    6. Implement Statewide surveys for aquatic plants and high risk areas; robust monitoring program for existing vegetation.
- Medium priority
    7. Institute marine harbor inspections.
    8. Incorporate education materials into commercial and recreational certification classes.
    9. Label invasive species as pollution under state water regulations (CWC 303d).
    10. Improve aquaculture regulations.

Vertebrates

Valerie Cook Fletcher, California Department of Fish and Wildlife (CDFW), shared the top five priority actions from the vertebrate's breakout group. Additional actions and considerations were outlined in flip charts.

1. Create a reserve fund for rapid response.
2. Develop and promote a public outreach campaign on prevention of vertebrate release.
3. Elevate and enhance understanding of issues by decision-makers (agency secretaries, legislators)—outreach and engagement.
4. Increase the number of field biologists working on invasive species issues (particular need for vertebrate response).
5. Develop Rapid Response Working Group and general guidance document(s) (i.e. BMPs).

Arthropods

Dr. John Kabashima, UC Environmental Horticulture Advisor, Emeritus , reviewed the key discussion points and recommended actions from the arthropods breakout group.

1. Revisit/update the State rating system.
    - Technical advisory system to assess and evaluate when the rating system works and when it does not work.
2. Use cutting edge technology—e.g. DNA analysis
    - Consider the potential for parallel testing if technology cannot be included in regulatory decisions.

3. Develop a standardized protocol to address different pests and account for the lag periods—address different pest life cycles.
4. Improve pest prevention programs.
    - Need more funding for robust surveying and detection programs.
    - Consider how to bring back County level entomologists and plant pathologists.
5. Improve detection on the interface/leading edge of infestations.
    - Regulatory detection, not just voluntary detection.
6. Find better ways to dispose of infested materials
    - E.g., ways that utilize the material for energy, maintain the use of the materials without spread of invasive species.
7. Build stronger coalitions across groups
    - Recognize non-profits and community groups as a link to policy makers—use existing public networks and advocacy groups.
    - Consider the role California Agricultural Commissioners and Sealers Association (CACASA) can play in lobbying/advocating.

Mollusks and Other Invertebrates

Dr. Ted Grosholz, UC Davis, shared the top five priority actions from the mollusks and other invertebrates group. Additional actions and considerations were outlined in flip charts.

1. Implement an annual statewide survey assessment/survey.
    - Include aquatic environments; promote data coordination.
2. Establish Rapid Response Fund (for eradication)
    - Consider successful models (e.g., Oil Spill Response Fund, CalFire emergency response.)
3. Coordinate programmatic EIR to permit rapid eradication efforts.
    - Potentially develop MOUs among agencies and relevant stakeholders
4. Develop economic analysis of aquatic invasive species management
    - Address costs of prevention, management, eradication.
5. Establish a community/citizen science-based early detection network and protocols to legitimize this avenue for detection.
    - Funding, training, data platform/database
    - Outreach and education tool

Diseases

Dr. Russ Bullock, National Science Director, Animal and Plant Health Inspection Service-US Department of Food and Agricultural (APHIS-USDA) and Michelle Dennis, CDFA, reviewed the key recommendations from the diseases breakout group.

1. Formalize ISCC & CISAC.
2. Fund academic and extension programs (UC ANR, UC system).
3. Put more funding into field tests and labs to run samples.
4. Under the Strategic Framework section DR-3, make sure roles and expectations are defined and standardized.
5. Address gaps in the Seed Health Certification program.
6. Increase networking, coordination, and representation between natural resources agencies.
7. Change/correct the language and messaging used to inform the public about diseases.

Comments

- CDFA should assume responsibility at the state level for WMA and coordinate with CNRA.
- CACASA plays an important role at the local level.
- With regard to the Rapid Response Fund, the proposed dollar amounts will need justification (look to other models in CAL FIRE and the Office of Oil Spill Prevention and Response).

8. Increase outreach to reduce unintentional transfer/movement of invasive species.

Pathway Discussions

Participants broke into small discussion groups based on potential pathways. The pathways were defined as follows:

- Recreation – Includes boating, fishing, fishing bait, hiking, off-highway vehicles, firewood.
- Pet trade – Aquarium trade as well as other animals. Discussions will include existing regulatory frameworks, exotic pet permitting, teacher permits, enforcement, and smuggling.
- Horticulture/Plant Industry –Invasive Species spread in nursery plants and horticulture "jump the fence" invasive species that become environmental weeds.
- Transportation – Weed spread along roads, organisms spread accidentally in shipping containers, as well as firefighting, construction vehicles, etc.
- Internet, International Trade & Tourism – includes discussions of cross-jurisdictional pathways through tourism, trade with other countries or jurisdictions. Tourism includes foreign visitors and U.S. Citizens returning from abroad.

Each group was assigned a discussion leader to support the discussion and report back to the larger group. Participants brainstormed tasks (i.e. specific actions) to implement the Strategic Framework. For priority tasks within each breakout group, participants were asked to discuss who needs to be involved in implementation (i.e. the agencies, organizations, and other stakeholders to engage), what resources exist and what resources are needed to implement these actions; and what authority exists or is needed to accomplish the task. For each task, participants were asked to identify why implementation is important, i.e. demonstrate overall impacts for not implementing this task by considering economic, cultural, and/or social impacts. Participants were asked to also prioritize the items and develop a summary list of recommended actions. Participants were also asked to consider how actions identified during this day may link or fill in details from tasks identified during day one of the Summit.

Discussion Leaders summarized the smaller group discussions as follows. See Appendix B for breakout session flip chart notes.

Recreation

Dr. Irina Irvine, NPS, and Eddie Hard, Boating and Waterways, shared the recreation group's recommended actions:

1. Conduct statewide analyses that are pursuant to recreational pathways—address aquatic species/environments and other vectors.
    - Subtasks could include partnerships and MOUs.
2. Establish 3rd party invasive-free certification program for recreational sites/activities.
    - Address intrastate movement; modeled after weed-free certified fodder.
3. Institute "Clean, Play, Go" messaging/protocol for recreational managers to implement.

    - Consistent messaging template can be created by a work group.
    - Develop BMPs.
    - Promote use/development of vector-based cleaning kit for public use.
4. Address/reconcile CDFA authority to confiscate infested materials (e.g. firewood).
5. Increase trailer boat inspections and decontamination stations in the Delta.
6. Increase marine harbor biofouling inspections of recreational vessels.
    - Connect with harbor masters.
7. Adopt a monitoring-tracking system.
    - See Western States models (Colorado); both free and proprietary tools exist.

Pet Trade

Martha Volkoff, CDFW, shared additional recommended actions.

1. Connect with the Pet Industry Joint Advisory Committee (PIJAC)
2. Conduct outreach to the public.
    - Ideas include pet drop off/amnesty days.
    - Promote native animals as educational organisms in schools, include education on release.
    - Adopt and promote the "Don't Let it Loose" Campaign—bring existing campaigns to California.
3. Increase funding and enforcement for pet trade issues—address possession and trade.
4. Increase border inspections stations—interstate and international.
    - Involved parties would include CDFW, CDFA, USDA, and Homeland Security.
5. Conduct risk assessment/identify high risk species in the pet trade.

Horticulture/Plant Industry

Chris Zanobini, California Association of Nurseries and Garden Centers, shared additional recommended actions.

1. Increase inspections for nurseries for cleanliness.
    - Address non-agricultural pests (that are not within nursery standards).
    - Additional enforcement and funding is needed for inspections.
2. Increase border inspections (funding estimate = $3 million).
    - Coordinate invasive species lists across agencies.
    - Provide funding for enforcement.
3. Establish a State program to monitor soil borne pathogens.
    - Develop BMPs for nurseries and seed industry on soil borne pathogens.
    - This would be very costly for the State to implement—need new labs to support the program.
4. Transform "Do Not Plant" list to regulatory plant list, $1 million attributed to the PlantRight program, and academic research program needed to be connected to the program.
5. Require nurseries to submit a plant list during licensing process.
6. Standardize plant naming system.
7. Increase funding for addressing high risk pathways.

Transportation

Ken Murray, CalTrans, shared additional recommended actions:

1. Conduct an economic analysis for funding needs. Including funding for:
    - Increased inspections, more staff, dog teams, and more inspection sites.
2. Conduct regulatory review (include gap analysis).
    - Push for new legislation.
    - Identify regulations to control high-risk vectors. (e.g. soil, green-waste, gravel, forage, straw, fire-wood)
3. Develop standard contract language (under the Department of General Services) that addresses invasive species (i.e. boiler-plate language to be included in all state contracts.)
    - Educate agencies about contract change.
4. Promote one standard message about invasive species.
    - Promote the use of biosecurity language across the state—start with CISAC.
    - Education on invasive species (General guidelines)
5. Utilize and improve technology.

Internet, International trade, & Tourism

Joe Scheele California Agriculture Liaison, U.S. Customs and Border Protection shared the following recommended actions.

- Increase coordination between state and federal agencies.
    - Agricultural commissioners are important partners.
- Increase use of existing outreach campaigns/materials "Don't Pack a Pest"
    - CDFA has an important role.
    - Need to update existing databases.
    - Engage with carriers—airlines, transportation platforms like Ebay.
- Increase state dog inspectors at border patrol and commerce inspection points.
    - Equalize with wildlife/animal inspections (lots of agricultural inspections already).
    - Hire and cross-train more inspectors.
- Increase usability of website for public education and coordination with inspectors.
- Change state laws that limit fees for supporting inspections.
- Review authorization to empower existing inspections for increasing wildlife monitoring.
- Coordinate on a cooperative agreement with the Food and Drug Administration on human consumption inspection exemptions.
- Develop greater oversight and enforcement mechanisms for high risk packing and shipping materials.
    - Identify and support alternatives
    - Coordinate with emergency services on movement of materials in emergency situations.
- Conduct overall assessment of existing funding sources and identify new funding options.

Priority Recommended Actions for Implementation

The facilitation team compiled the list of recommended actions from the day one and day two breakouts and sorted them into the six key areas from the Strategic Framework:

- Leadership and coordination (LC)
- Prevention and exclusion (PE)
- Detection and response (DR)

- Eradication management (EM)
- Outreach and public engagement (OPE)
- Fundamental and applied research (FAR)

Overlapping action items and recommendations were identified between groups, reflecting shared goals. Participants engaged in a dot-voting exercise to prioritize the list of actions and voted for their top short-term or immediate actions (red) and medium-term actions (green). During discussions prior to the voting session, participants identified and agreed on the following overarching priorities:

1. Increased funding across all programs to address Invasive Species.
2. Allocated funding for Rapid Response.

See Appendix C summarizes the results from ranking exercise, including the top 20 ranked actions (combining actions identified as both short and medium-term importance).

Closing Discussion and Next Steps

Stephanie Lucero, reviewed the top 20 identified tasks with the group and affirmed overall results from voting with Summit participants. She highlighted the key themes from both days of discussions including the need for additional funding, the need for strong state agency leadership, coordination among stakeholders and actors, research, and on-the-ground regional implementation of a statewide approach. Participants were invited to discuss next steps and provide additional input for consideration.

David Pegos explained the results of the workshop will be shared with partners, including UC ANR and others interested in discussions regarding legislative recommendations to implement the Strategic Framework moving forward. In response to clarifying questions Mr. Pegos explained that UC ANR's legislative report will likely include a full report of details laid out, additionally, creating a one-pager to share with legislative staff. In response to questions regarding legislative interest in the Summit, Mr. Pegos shared the involvement of various legislative staff throughout the Summit, and shared that there is demonstrated interest from several legislators across the state that are engaged and potentially interested in moving identified actions forward. Participants also discussed possible opportunities for funding, including new energy and climate change funding at the state level. Participants likewise recommended that any future funding be allocated through block grants as opposed to competitive grant programs. Participants also discussed the next steps including the role of CISAC to house and allocate the Rapid Response and serving as the managing entity for potential new funding.

Closing remarks emphasized that the overall list of 20 actions does not represent the priority solutions to specific taxa or pathways, but reflects a statewide and systems approach to develop the right infrastructure to implement and coordinate efforts.

David Pegos, CDFA, thanked participants for attending and providing input. Next steps include developing a printed version of next iteration of the Strategic Framework and implementation actions. He emphasized the importance of keeping the coalition of participants together and maintain momentum in continuing to education legislators and community leaders about the impact of invasive species and the importance of addressing them. The research component is critical as well. Partners and participants were invited to send letters of support.

Appendices

Appendix A – Participant/RSVP List

Name	Agency/Organization
Peter Ansel	Office of Assembly Member Anna Caballero
Cassy Aoyagi	US Green Building Council
Laurie Archambault	CA State Parks
Daniel Arismendi	CA Department of Food and Agriculture
Bob Atkins	Former San Diego County Ag Commissioner
Zachary Bagley	California Tomato Research Institute
David Bakke	United States Forest Service, Region 5
Adam Barsanti	CA Assoc. of Pest Control Advisors
Roseryn Bhudsabourg	Office of Assembly Member Ash Kalra
Cindy Blain	California ReLeaf
Stephen Brown	CA Department of Food and Agriculture
Elizabeth Brusati	CA Department of Fish and Wildlife
Karen Buhr	CA Assoc. of Resource Conservation Districts
Russ Bullock	United States Department of Agriculture
John Chitambar	CA Department of Food and Agriculture
Corin Choppin	Center for Collaborative Policy, Sac State
Maggie Christman	Delta Stewardship Council
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Louise Conrad	CA Department of Water Resources
Valerie Cook-Fletcher	CA Department of Fish and Wildlife
Catherine Courtier	Delta Stewardship Council
Gina Darin	CA Department of Water Resources
Michelle Dennis	CA Department of Food and Agriculture
Joseph Deviney	Santa Clara County Ag Commissioner
Holly Eddinger	United States Forest Service
Rose Epperson	WCISA
Reichel Everhart	Senate Committee on Agriculture
Bryan Eya	Office of Environmental Health Hazard Assessment
Stephanie Falzone	PlantRight
Jim Farrar	UC Statewide IPM Program
Todd Ferrara	Natural Resources Agency
Victor Francovich	Assembly Committee on Agriculture
Susan Frankel	United States Forest Service, Pacific Southwest Research Station
Dave Fujino	UC Center for Urban Horticulture
Doug Gibson	San Elijo Lagoon Conservancy
Daniel Gluesenkamp	California Native Plant Society
Jay Goldsmith	National Park Service
Chris Greer	University of California Agriculture and Natural Resources
Ted Grosholz	UC Cooperative Extension

Name	Agency/Organization
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Katie Harrell	UC Berkeley/ CA Forest Pest Council/ Firewood Task Force
John Heaton	CA Department of Food and Agriculture
Mark Hoddle	University of California, Riverside
William Hoyer	Cal-IPC (CA Invasive Plant Council)
Nancy Hughes	California Urban Forests Council
Glenda Humiston	University of California Agriculture and Natural Resources
Irina Irvine	National Park Service
Doug Johnson	Cal-IPC (CA Invasive Plant Council)
Alexandria Jungkeit	Center for Collaborative Policy, Sac State
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Mary Kaems	Office of Assembly Speaker Anthony Rendon
Dean Kelch	CA Department of Food and Agriculture
Drew Kerr	Invasive Spartina Project
Dave Kim	CA Department of Pesticide Regulation
Ed King	Placer County Ag Commissioner
David Kratville	CA Department of Food and Agriculture
Michael Kuehnert	Magic Lamp Media
Sheryl Landrum	Resource Conservation District - San Diego
Jeff Le	Governor's Office
Jason Leathers	CA Department of Food and Agriculture
Jenny Lester Moffitt	CA Department of Food and Agriculture
Lori Lim	Office of Environmental Health Hazard Assessment
Nathan Little	Office of Assembly Member Bill Quirk
Alyssa Louie	CA Department of Food and Agriculture
Stephanie Lucero	Center for Collaborative Policy, Sac State
John Madsen	USDA-ARS EIWRU (UC Davis)
Teresa Marks	CA Department of Pesticide Regulation
Juliana Matos	The Nature Conservancy
Karen McDowell	San Francisco Estuary
Sheila McFarland	Office of Senator Bill Dodd
Louanne McMartin	United States Fish and Wildlife Services
Anne Megaro	University of California Agriculture and Natural Resources
Kristina Moffitt	Governor’s Office of Emergency Services
Dana Morawitz	Cal-IPC (CA Invasive Plant Council)
Keith Morris	CA Department of Food and Agriculture
Ken Murray	CA Department of Transportation
Tasha Newman	Conservation Strategy Group
Rachel O'Brien	CA Department of Food and Agriculture
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Luke Reidenbach	Assembly Committee on Appropriations
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Tyler Rood	Ag Association Management Services, Inc. AAMSI
Joe Scheele	United States Customs and Border Protection
Heather Schneider	Santa Barbara Botanic Garden
Kim Schneider	Conservation Strategy Group
Steve Schoenig	CDFW/CDFA, Retired
Baldeo Singh	Sacramento Regional Conservation Corps
Sheri Smith	United States Forest Service, Region 5
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Tim Spann	California Avocado Commission
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Cheryl Wilen	University of California Agriculture and Natural Resources
Pam Wofford	CA Department of Pesticide Regulation
Helene Wright	Unites States Department of Agriculture
Chris Zanobini	CA Association of Nurseries and Garden Centers

Appendix B- Breakout Sessions Detailed Flip Charts

Taxa Based Breakouts

Terrestrial Plants and Algae

- RR for new invasion to California arrival or regional
- Weed mgmt. area funding
    - $2.5 annual
- Outreach and engagement to public on chemical control + why, + share Best Management Practices (BMPs)
- Resources for weed mgmt. Training (certification, BMPs)
    - Topics
    - Audiences (professionals, public, volunteers (e.g. conservation corps)
- CalIPC (California Invasive Plant Council) inventory or similar assessment annually => standardized list. Including risk assessment, proactive weed identification (subsidies) services – academic
- Long-term home for "Plant Right" – they are an important partner to coordinate stakeholders and partners
    - Coordination with ornamentals industry and funding through academia.
    - See "Do Not Plant List" for additional roles for "Plant Right"
- Inspection of fill material, certification of weed free material
    - This effort was previously worked on but never came to a closure, may require work to finalize previously proposed MOU, or develop incentives (financial or legal) to ensure requirements for weed free fill material.
    - May require regulation to use only weed free materials.
- Expand staff funding for weed program (noxious and other weed classifications)
    - CDFA should partner with CNRA for farther breadth of program missions.
    - Increase CDFA and partner agency roles to lead this program.
- Increase the number of Field staff, specifically Biologists
    - Need regional biologists 4 weed program
- Increase annual funding land management State agencies (managing state lands or with an invasive species program) to address weeds
    - $16 Million for State parks (based on internal assessment, this includes boats + waterways)
    - Other programs include: Caltrans, CA Department of Fish & Wildlife (CDFW), DWR, CalFire, and Universities
        - Amounts for these agencies may require an assessment of program needs.
- Coordinate enforcement and oversight of pesticide regulations (specifically harmonized regulations)
    - For example, coordinate with Department of Pesticide Regulation (DPR), water boards (state and regional), and County Agric. Commissioners to streamline and create efficiency in enforcement.
        - Group identified issues with ability to use approved pesticides that are stopped due to inconsistent policies and regulations with water boards.
- CEQA coverage for weed management through a Programmatic EIR.

    - Lead Agency, may be CDFA or a work group through CISAC and ISCC. Likewise, consider monitoring through Agriculture.
- Develop a "Do not Plant List", i.e. Building Code, nursery and landscaping industry direction on appropriate or inappropriate plants to use.
    - Should connect with MHWELO (Model water efficiency) regulations.
    - Will require negotiation among partners
    - List should be regionalized and be validated by academia
    - Should include training to building industry + landscapers on invasive plants and the importance using the list).
        - Certification of training
        - Resources to develop and implement the training.
    - Utilize the list for more aggressive prevention, more prescription to prevent invasive species introduction through internet + nurseries, versus currently voluntary activities.
- Resources for Biocontrol of weeds
    - WMA – as coordinating agency, with separate funding for biocontrol.
- Prioritizing Early Detection and Response including a Rapid Response Fund for major landowners (National Parks, State Parks, Forest Service, etc.)
- Develop statewide branding on invasive plants prevention.
    - Public education campaign for invasive plants
        - One major audience is master gardeners.
- ISCC + CISAC formalized + delegated for early detection and rapid response funds
- Research for plant biology, management techniques and invasive species impacts
    - UC Davis position/CSUS
    - Wild and weed research endowed chair
- Building + maintain for capacity regional strategic planning (utilizing WMA program)
    - Develop standards for Public data detection
    - GIS map
- State economic analysis of costs + impacts all Cal. For weed management programs and activities
    - Updating analysis every 5 years.
    - Use Washington study for methodology
    - Understand allocation of resources for prevention versus impacts.
        - Identify the link between carbon sequestration and invasive plants management and prevention for outreach and engagement, and funding. This is a fundamental and applied research (FAR) action.
        - E.g. Wildfires, climate change, water management
            - Evaluating impact and weeds climate resilience
- Develop and formalize Best Management Practices (BMPs) for land mgmt., specifically looking to weed prevention.

Terrestrial Plant Action Item: Implementation

1. Weed Management Area (WMA) Program
    a. Increase Staff
    b. Designate more funding

    c. WMA programs can be tasked to develop/ coordinate PEIR
    d. Supervise use of Biocontrol
    e. Coordinate regional Biologists and field staff
    f. Lead Agency can be CNRA or CDFA
    g. Develop standardized BMPs
    h. Create and implement a Regional Mapping Strategy for identifying high risk areas for weeds.
    i. Connects to leadership and coordination (LC), eradication management (EM), detection and response (DR), outreach and engagement (OPE)
2. Increased funding to State Land management agencies with Invasive Plan Management programs.
    a. Connects to leadership and coordination (LC)
3. Analysis needs for funding by agencies and develop a standardized "do not plant list"
    a. Connects to fundamental and applied approach (FAR), leadership and coordination (LC), eradication management (EM), and prevention and exclusion (PE)
4. Develop and implement training
    a. Certifications for staff and professionals (landscapers, state agency staff, volunteers, etc.) regarding weed management, BMPs and utilizing do not plant lists.
    b. Training and certification to weed management volunteers (e.g., Conservation corps (CCC/LCC)
    c. Training and outreach to the public, etc.
    d. Develop standardized Best Management Practices (BMPs)
    e. Training connects with to outreach and engagement (OPE), prevention and exclusion (PE), and eradication management (EM)
5. ISCC + CISAC formalized – leadership and coordination (LC). These agencies can take the lead on the following subtasks:
    a. Early detection (ED) and Rapid Response (RR) funding and workgroup management
    b. Economic analysis of invasive species management (i.e. cost of doing nothing)– fundamental and applied approach (FAR)
    c. Developing statewide branding – outreach and engagement (OPE)
    d. Overall impact analysis of invasive species (i.e. connection to wildfire, water management, climate change, etc.) – fundamental and applied approach (FAR)
6. Coordination of process for developing a tracking list (i.e. "do not plant list") for horticulture, landscapers, etc.
    a. Connects to eradication management (EM) and prevention and exclusion (PE)
7. Certification for Weed free infill/materials
    a. Connects to prevention and exclusion (PE)

Aquatic Plant and Algae

1. Increase Basic Research for Control Methods – high priority
    a. On biology
    b. Rapid response
    c. Leads: University, academics; USGS, USDA
    d. Resources: $1M

    e. Connects to fundamental and applied approach (FAR), and eradication management (EM)
2. Biocontrol for Aquatic – high priority
    a. Leads: USDA and CDFA
    b. Resource 3 staff + $5Million for operation expenses
    c. Connects to eradication management (EM)
3. Statewide Surveys and High Risk Areas – high priority
    a. Robust monitoring
    b. Lead agency: CDFA
    c. Resources: $1M per year, will need 4 teams for Statewide survey
        i. North, Central, Marine, and Coast.
    d. Connects to leadership and coordination (LC), detection and response (DR), and eradication management (EM)
4. Weed Management Areas (WMA) – high priority
    a. Lead agency: CDFA
    b. Resource: 3 per year staff, $2.5M per year
    c. Connects to eradication management (EM) and leadership and coordination (LC)
5. Programmatic Environmental Impact Report (PEIR) + Emergency Exemption + Area Contingencies – high priority
    a. Identify who are parties to talk too.
    b. Lead Agency: Office of Spill Prevention and Response (OSPR) under CDFW in charge
    c. Responsibility for spills: law and responsibility for clean ups.
    d. Leads: CDFA and USDA (lead coordinators)
        i. US Fish and Wildlife and all regulation agencies
    e. Will likely need new legislative
    f. Resource: hire consultants, $5 Million
    g. Connects to outreach and engagement (OPE), leadership and coordination (LC), and detection and response (DR).
6. Label Species CWA 303D Impairment to Water Body – medium priority
    a. Lead Agency: State Water Board; EPA, Cal EPA
    b. Resource: 1 staff person (add)
    c. Authority: Clean Water Act
    d. Connects to detection and response
7. Marine Harbor Inspection – Medium priority
    a. Leads: Harbor master, Potentially coast guards, Home land security
    b. Resource: $100 per inspection (adding marine)
    c. Connects to Prevention and exclusion
8. Improve Aquaculture Regulation – medium priority
    a. Lead Agency: CDFW
    b. Need to strengthen authority
    c. Resource: need 2 person per year annual
    d. Connects to prevention and exclusion
9. Interagency Re-Emergencies Response Fund and Responsible Party Must Pay (similar to oil spills) for initial introduction of species.

a. Lead Agency: CDFA, Army Corps of Engineers (ACOE), Department of Interior (DOI)
b. Has authority but needs tweak
c. Resources: $50M + 3 staff per year
d. Connects to leadership and coordination

10. Incorporate Educational Materials for Recreational Commercial – Medium priority
    a. Consistent messages cross agencies
    b. Lead Agency: CDFA, CNRA
    c. Has authority but needs revisions
    d. Resources: Need staff + $250,000 per year
    e. Connects to leadership and coordination, and outreach and engagement

Arthropods

1. Leadership and Coordination
    a. Initiate emergency response plan when there is No DNA for tracking invasive species
    b. Create a DNA sharing/database
        i. DNA – cheaper and easier detection of invasive species
    c. Standardization policy and protocol during the "lag period" I.e. the (critical period between detection until known impacts)
    d. Overhaul Invasive Species rating process
        i. Needs input from all orgs
    e. Cryptic species should be directed to specialists
    f. Engage with master gardeners more nonprofits – advocacy
    g. Make agencies accountable
        i. Develop an accountable agency database (ID who to contact regarding invasive species activities)
    h. Increase interagency cooperation
    i. Create amnesty for high-profile incidents
2. Fundamental and Applied approach
    a. Standardized BMPs
        i. Research Biocontrol methods
    b. Research Management strategies
        i. A way to dispose of green waste locally
        ii. Research for biology and management techniques to use against invasive species.
        iii. Research ways to manage the urban/forest pathway
        iv. Identify how waste to energy could improve addressing green waste and prevent spread of invasive species.
3. Eradication Management
    a. Better pest protection program including:
        i. Develop Best Management Practices for Lag Period
            1. Identify Key activities during early period
    b. Streamline funding/emergency funds for rapid response
    c. Create and maintain Field Surveys for invasive species
        i. Ensure entomologists per county
4. Outreach and engagement

a. Utilize Social media
b. Include OPE in rapid response funding

5. Prevention and exclusion
    a. Create a Standing rapid response fund
    b. Detection and response
    c. Review the Regulatory process to address species and adapt as new information is found.
    d. Research processes needed to move detection and response to include non-agricultural invasive species.
    e. Develop protocols to respond if an invasive species was not acted on early (e.g. shot hole borer)
6. Detection and Response
    a. Revamp the survey detection system,
        i. Increase the number of field surveys
        ii. Look at Shot hole borer-detection process for lessons learned.

Diseases

1. How do we deal with invisibility factors:
    a. Need for more field test kits
        i. Problems: who would run the tests and how would they be funded
    b. Does the state have enough labs to run the tests
        i. Problem:
            1. Limited funding
            2. Samples expire by the time they can be run at the lab
    c. Problem: no baseline to determine invasive vs. native
2. Training: educating those in field to ensure they are not a vector to spread invasive diseases.
3. Problem: how do we know this species isn't native to California?
4. Need for enhanced surveillance and to set a baseline of species to regulate
5. When looking at smuggling the conversation needs to include the "Lacy Act"
    a. Smuggling: intentional vs. unintentional
    b. For unintentional we need outreach
    c. For intentional we need rapid response and enforcement
6. Actions to be Implemented:
    a. More funding for research to develop baseline
    b. More funding for rapid response detection and enforcement
    c. More funding for outreach and education for unintentional smuggling.
    d. Formalize ISCC and CISAC
        i. CISAC to support a rapid response working group for urban and non-agriculture
        ii. Develop an MOU when on ground
        iii. Who is involved: CDFA, Forrest Service, Cal Fire, UC ANR
7. Authority, Mission, Policy Changes?
    a. Ag Commissioners
        i. Lots of authority
        ii. Great to partner-up with
        iii. In charge of natural resources and non-ag.

iv. Not enough funding to respond to needs
v. Add department
1. New department's jurisdiction to include urban forests
2. Complimentary to the Ag. Commissioner

b. Rapid response not coordinating with various departments→needs to be formalized
c. Greater networking and representation between natural resource agencies

8. Public has difficulty understanding language used by state agencies
    a. Public lacks understanding of invasive plant species
9. What group would handle rapid responses?
    a. Invasive species is discovered, who is to respond?
    b. Including non-agriculture
    c. Need more information in order to take action (more research on invasive species needed)
10. Detection and Response
    a. Putting more money into field tests
    b. DR3: making sure roles are defined and standardized across the state
        i. Reduces regulation burden
11. Need for foundation survey
12. To create sustained long-term assessment
    a. Our equation of success:
        i. =FAR1+FAR2+LC1+DR3
13. Gaping holes in seed health certification
14. Do the resources exist?
    a. Mill tax
    b. Gas tax
    c. Cannabis tax
    d. Fees on pathways (AQI Tax)
    e. Farm bill is used by CDFA
    f. Need: long term sustainable funding
15. How do activities connect with other higher profile policy initiatives?
    a. Climate change initiatives
    b. Need staffing
    c. Soil health initiative
    d. Eco-system
    e. Correcting the language used with public:
        i. Non-human diseases
        ii. Plant diseases
        iii. Soil borne disease

Implementation Action Items for Disease:

1. Formalize ISCC and CISAC
    a. These agencies to provide support to rapid response working groups for urban forests and non-agriculture
2. Funding academic extensions
    a. EX: UC ANR

3. Putting more funding towards improving field tests and labs to run these tests or samples
4. DR3=making sure roles and expectations are defined→standardization
5. Gaping holes in seed health certification
6. Need for soil health initiative
7. Correcting the language used to inform the public of diseases
    a. EX: non-human, plant, and soil-borne diseases
8. Need for outreach to decrease unintentional smuggling
9. Our formula for success:
    a. =FAR1+FAR2+LC1+DR3
10. CASA RR Program like CDC

Mollusks and Other Invertebrates

1. Leadership and Coordination
    a. Formalization of CAAIST
    b. Formalize CISAC
        i. Roles, comm. Pathway
    c. Resolve regulation conflict → for management or eradication (local, state, fed)
2. Outreach and Engagement
    a. Expand education on DM
    b. Develop education materials on economic impacts
        i. Messaging that connects to peoples interests "How does it hit home"
    c. OP – 4: community science programs
3. Fundamental and Applied Approach
    a. Develop economic analysis of AQ. Is management (damages)
        i. Prevention, MGMT vs damages long-term, eradication
    b. Aquatic environment often neglected
    c. Research habitats that are "non-spots" + hotspots
    d. Integrate comm. Science
4. Prevention
    a. Expand decontamination Stations
    b. Develop BEST MANAGEMENT PRACTICES (BMPs) for new vectors
    c. Provide clarity regarding what the vectors are.
    d. Develop BMPs for marine bio-fouling
5. Detection and response
    a. Rapid response Working Group
    b. Align resources to address detection and response
    c. Develop list of certification taxonomists to send samples to
    d. Develop + distribute tools for rapid identification
    e. Establish rapid response (eradication) fund
    f. Implement annual statewide Invasive Species assessments/surveys (surveillance)
        i. Aquatic environment
        ii. Data coordination
    g. Programmatic EIR for rapid response
    h. Incorporate community science early detection
6. Eradication Management

a. Establish regional coordination structure
b. When an event occurs, resources to respond + coordinate regionally
    i. Address conflicting mandates
    ii. Aquatic event
c. Programmatic EIR to permit rapid eradication
    i. MOU
d. Establish Comm. Science early detection network
    i. Fund, training, platform

Vertebrates

- Invasive species
    - Water snakes, kooky frogs
    - Pathways and authorities – lack of authority for nurseries
    - Inspections + lack of education
        - Lack of visibility
- Vertebrate
    - Fishes N. pike, Asian carp, Italian wall lizards -> tourism + pets
    - Birds (various kinds)
    - Differing authorities
        - Title 13 & border security
- Islands
    - Pathways
    - Fishing vessels
    - Need rapid response eradication
    - Decrease proactive permits
    - Prevention
- Funding
    - Lobbying + dollar amounts
    - Grant funding $1.2M
    - Need assessments
    - Nutria
- Climate Change
    - Preparations for rapid response
    - Pathways + education
        - “Don’t let it loose”

Vertebrate Strategic Framework

- Outreach and Engagement
    - Public outreach to prevent introductions
    - Need effective plans who applies for funding
    - More methods for communication between agencies
    - Need stable funding
- Detection and Response
    - Proactive planning with rapid response guide
        - Working group

    - Invasive species emergency reserve
    - Raise awareness/funds
- Eradication Management
    - Improve cooperation between agencies – authorities
    - Multi-department problems
    - Outreach + enforcement
        - * need clear messaging
    - Annual summit with legislators + connect with policy and public

Action Items: Implementation – Vertebrates: Q1

1. Reserve fund for rapid response
    a. Budget $5M reserve fund
2. Public outreach on prevention
    a. Leads: CDFW, CDFA, CAC, DWR, Parks, USFS
3. Elevate to and enhance understanding of issues by decision makers. (secretaries + legislators)
    a. Leads: State agencies and NGOs
4. Increase + field biologist working on invasive species
    a. Leads: CDFW, CDFA, CAC, for increased field biologist
5. Rapid response working group and guidance
    a. Leads: State/fed resource agencies, NGOs and UC co-op ext. spp.

Pathway Breakout

Horticulture Plant Industry

1. Prevention and Exclusion
    a. Inspections for nurseries for cleanliness (also non-agriculture pests, vert) License fees for nurseries
        i. Enforcement needed
        ii. Expand funding (local agriculture commissioned)
    b. Increase border inspections
        i. Coordinate lists across agencies
        ii. Address authority/jurisdiction conflict/overlap
        iii. Funding for enforcement
    c. Establish state program to monitor soil-borne pathogens (nematodes too) at the county level – PE4
        i. Develop BMPs for nurseries and seed industry (existing USDA resources)
    d. Very important – PE1
        i. Seed industry needs attention
        ii. Internet is pathway
    e. Require nurseries to submit a plant list for review in licensing process
        i. Resources for automated check
        ii. Standardize plant naming
    f. Increase funding for high-risk pathways – Prevention & Exclusion-3
        i. Airports-baggage
        ii. Infrastructure
2. Leadership and Coordination

a. Secure long term funding and administration of Plant Right (est. $1 Million)
b. Take "do not plant" list and transform into regulatory list (enforcement is key; address regional differences)
    i. Standardized protocol or process to:
        1. Identify plants needing screening (incorporating regional differences)
    ii. Connect to academic research

1. Address gaps on lists ($1 million)
2. State borders (high risk program) customs, plant inspection stations sites (smuggling)
3. Traceability ($3 million don't pack a pest program)
4. California Agricultural Commissioners and Sealers Association (CACASA) - $$$ - need new lab, first STE BMPs

Internet, International Trade, and Tourism

1. Increase international and domestic outreach. CDFA $ "Don't pack a pest"
    a. Engage carriers with O + E
    b. More dogs on Federal side → state options available?
    c. State dogs at border station
2. Tourism
    i. Report to customs for monitoring
    ii. More user friendly websites for restricted species
3. Internet
    a. Legal responsibility to platforms – interstate issue
        i. Platform for shippers coordination with internet providers
        ii.
    b. Partner for O + E on requirements
        i. Change law for existing fees and inspections *government code section.
        ii. $ increase for existing monitoring
        iii. Fee tied to internet commerce
    c. Web crawler (e.g. ACP (Asian citrus psyllid) or Great Lakes Commission are good examples
    d. Increase web crawler to find violators
        i. Connect to staff increase
    e.
4. International
    a. Increase state back-up on more animal inspections or plants (IV) all
    b. Empower inspectors
    c. Cross-train inspectors on wildlife and plants
    d. Fed maintain foreign ID
    e. Harmonic human consumption inspection exemptions
        i. Cooperative agreement with FDA
        ii. Cross-training
5. International Trade (Federal)
    a. Ban wood packing or pallets (California only)
    b. Treatment of wood pallets
    c. O + E of high risk material for packing

    d. Emergency materials movement
        i. Coordination with emergency agencies
    e. Enforcement regulation for mislabeling → Fed
6. International
    a. Fed enforcement and reporting California Invasive Species
        i. Coordination of deregulation of Fed action.

International, Internet and Tourism Strategic Framework Implementation

1. Prevention and Exclusion
    a. Increase coordination with federal agencies (reporting) - PE2
        i. Agriculture commissioners are partners
        ii. Increase notification to Feds and other enforcers
        iii.
    b. Increase state dog inspectors at border patrol and commerce inspections – PE3
    c. Review authorization to empower existing inspectors for increased wildlife monitoring – PE3
    d. Implement a web crawler to monitor and ID violators for internet trade in restricted species. – PE-3
    e.
    f. Coordinate cooperation between agriculture and FDA on human consumption inspection – PE2
    g. Greater O + E high risk on packing and shipping materials – PE1
        i. Identify and support alternatives
    h. Coordination with emergency services for movement of materials in emergency situations – PE2
        i. Assess existing funding sources and identify new sources
2. Outreach and Engagement
    a. "Don't pack a pest" + guidelines – OP1
        i. CDFA
        ii. Update existing database
        iii. Engagement with carriers, operators and managers
        iv. Development, implementation, include platforms like E bay and Air Carriers
    b. Increase usability of websites (updated lists of restricted species) – OPE5
3. Leadership and Coordination
    a. change state laws that limit fees for supporting inspections
        i. Increase funding for inspections
4. Eradication Management
    a. Cross-train inspectors – EM4

Pet Trade

1. Leadership and Coordination
    a. Funding for enforcement activities (Legislators for funding) CDFW & CDFA to be recipients of funds. $500,000 for staff – LC1, 2.A
    b. Connect with PIJAC and with US FWS. Don't let it loose campaign. Pet industry joint advisory committee. CDFW, FWS, who be connecting. – LC5, 1.A
2. Outreach and Engagement

a. Adopt and promote DLIL "Don't let it loose" and etc. Plus similar education campaigns – OPE1
b. Private party, lobbyist enthusiast, and social media – OPE1
    i. $300,000 specific for hire/staff implementation.
c. Pet drop off/ Amnesty Day promote a take in program incentivize turning in pets → connect with community and media campaign/local business coordinate outside of state.
    i. Travel, vets, advisor incentives up to $500,000.
d. Educating schools on responsible use of live animals and disposal – OPE3
    i. Possible lending library
    ii. Reviewing educational practices for mixed messaging
        1. Promote native species. California centric education component on not using Invasive Species.

3. Prevention and Exclusion
    a. Risk assessment and identify high risk species – 671 done by CDFW including indirect Invasive Species from pets.
    b. Border inspections (2.B) → CDFW, CDFA and Homeland Security

Recreation

1. Statewide Analysis of Vectors (*existing reports for aquatics but compile other vectors)
    a. Responsible agencies
    b. Priority vectors
    c. Control points
    d. Establish MOUs
    e. Lead: Resource agencies; CDFA
2. Invasive-free Certification
    a. 3rd party
    b. Lead: NGO – SUSCON
    c. May need Authority
    d. Resource: base on control point analysis (TBD)
    e. Connects to prevent and exclusion
3. Clean, Play, Go at all Recreation Areas
    a. Consistent messaging
    b. BMPs – Ex: stop aquatic hitch hikers, burn where buy it (fire wood), have consistent template base message
    c. Vector-based kit development
    d. Leads: Interagency; State Parks, USDA
    e. $.25 million for additional Staff
    f. Connects to prevention and exclusion, leadership and coordination, and outreach and engagement
4. CDFA Authority to Confiscate Infested Materials
    a. Training on appropriate enforcement
    b. Lead: CDFA
    c. Check Individual for Authority
    d. Needs additional training, $.25 million
    e. Connects to eradication management

    f. Prevention and exclusion
5. Increase Trailer Boat Inspection + Decontamination in Delta
    a. Lead: CDFW
    b. Need to clarify authority
    c. $2 million for resources
    d. Connects to leadership and coordination and prevention and exclusion.
6. Marine Harbor Biofouling Inspection + Decontamination
    a. Lead: State lands
    b. Needs authority (TBD)
    c. $200 million for resources
    d. Connects to outreach and engagement. Prevention and exclusion, and leadership and coordination
7. Adopt (Western States) Monitor Tracking Systems
    a. Lead: Ca fish and wildlife
    b. Needs authority but may need to be expanded
    c. $5 million for technology and $250K per year (seasonal inspector)
    d. Connects to Prevention and exclusion, and leadership and coordination

Transportation

1. Improved Inspection
    a. shipments in metal, plastic, natural fiber material (NON-WOOD) vs. wood in order to eliminate the vector
    b. current laws do not levee fees or taxes on inspections or individual shipments
    c. NEED for new legislation to enforce non-wood or treated wood pallets
2. Increased and reliable funding to border protection (Airport/state borders)
    a. CDFA and Ag. Commissioners
3. Fire-wood regulation
    a. None currently
    b. Need regulation and enforcement
    c. Fire Service can give permits and limit areas of fire-wood retrieval, but currently mainly used for camping purposes
4. Outreach and education needed on fire wood movement
5. Look to New York and Florida for firewood movement regulations
6. Soil movement regulations: NEED
7. Green-waste movement regulations: NEED
8. D.O.D. pushes back on invasive species regulations
    a. Important to include in contracts that transportation does not unintentionally act as vectors→wash vehicles
    b. Excludes emergencies
9. Look at Montana and Wyoming for invasive species regulations
10. Illegal green waste dumps
    a. How do you keep vendors lacking resources to adhere to regulations?
        i. Ensure there are more local green waste facilities
11. Need to begin tarping
    a. EX: hay

        i. As it is transported up and down the state, contaminated hay is spread down highways and freeways
    b. On-going coordination with Cal-Trans and local County Agriculture Commissioners (CalTrans is responsible for building and Agriculture inspections staffed by CDFA)
    c. Build more border stations
    d. Need money to keep stations open and staffed
12. With respect to restoration transportation, stricter contract oversight for plants selected to planted in different regions of the state
    a. Need for locally sourced plants
    b. Need for botanists to select these plants
        i. Ensures the safety of biodiversity
    c. Need for plant or seed database
    d. Native plants vs. seeds
        i. Seeds used for erosion control
13. Main Vectors: sourcing of gravel/fill material
    a. Need to be weed-free certification
    b. Weed-free certification:
        i. No state-coordinated certification or standard
14. Dog teams are highly successful at checkpoints; need more teams
15. Federal Level Issue:
    a. Moving containers are difficult to inspect
    b. National companies need to be held responsible and remain accountable
        i. Possibly through fines
    c. Facilities need better equipment and more staff

Transportation Main Take-Away:

1. Funding for Inspection
    a. More staff, dog teams, more inspection sites
    b. Economic analysis needed to calculate funding needs
        i. "The Rodgers Report"=a need assessment
        ii. Need for priority-shift
    c. Natural Resources Committee/Agency, CDFA, Economists, UC ANR, State Universities, and cooperative extensions
        i. Push for new legislations
2. Regulations to Control High-risk Vectors
    a. EX: soil, green-waste, gravel, forage, straw, fire-wood
    b. Need for tarping/non-wood pallet
    c. Need for regulation review
        i. What is enforced vs. what is not enforced
        ii. Land, sea, air, water
        iii. Gap analysis
3. Development of "BMP's" (best management practices) for high risk vectors
    a. Contract specifications
    b. Public education/campaign
    c. Improved and utilize new technology

    d. Education on invasive species (General guidelines)
    e. Bio-security plans across the state
4. Education and outreach for the Public
    a. All departments affected
    b. EX: CDFA, CISAC, Resource Conservation Districts
    c. One standard message about invasive species
        i. Both internal and external
5. Boiler-Plate Language to be included in all state contracts
    a. Consistent and standard language→final contract approved by DGS
    b. CISAC would create this language.
    c. Bio-security language used across the state
    d. Start w/CISAC for approval to include DGS for standard bio-security language
    e. Ensure public availability

Appendix C- Priority Voting Exercise

Top 20 Ranked Priority Actions

1	**Increase funding to invasive species programs and activities in California.**	LC
2	**Establish an emergency Rapid Response fund.**	DR
3	**Fund WMA program ($2.5 million/year)**	EM
4	**Conduct a comprehensive analysis/report on ecological, agricultural, & economic impacts of invasive species.** ○ Identify the link between carbon sequestration and invasive species; including WMA program. ○ Analyze economic Impacts of invasive species management (e.g., cost of "do nothing" approach; private/public impacts). ○ Analyze how funding is allocated to address invasive species. ○ Analyze how climate change impacts invasive species management ($1 million).	FAR
5	**Create a standing Rapid Response working group to guide response to new invasive species (supported by a Rapid Response emergency fund).**	DR
6	**Develop and maintain statewide surveys and mapping high risk areas.** ○ Coordinate existing and new survey and assessment data. ○ Coordinate among partners to develop survey strategies ($0.5 million). ○ GIS mapping for high risk surveys.	EM
7	**Formalize the ISCC and CISAC for long term stability.** ○ Delegate support to rapid response working group for urban forests and non-agriculture/orphan pest to ISCC and CISAC. ○ Delegate coordination of economic and other analysis reports to CISAC and ISCC. ○ Delegate statewide branding development to CISAC and ISCC. ○ Keeper or clearinghouse of all invasive species lists.	LC
8	**Fund invasive species biology research to support identification of basic control methods, support effective management.**	FAR
9	**Develop statewide branding on invasive species.**	OPE
10	**Increase border inspections (interstate and international).** ○ Increase training and funding (i.e. staff, dog teams, more inspection sites, etc.) ○ Coordinate among key partners (i.e., Caltrans, CDFW, CDFA, USDA, and Homeland Security).	PE
11	**Create peer-reviewed invasive species list (i.e. a "Do Not Plant" list)—include regional differences.** ○ Fund coordination of peer review and negotiation of list ($1 million/year); PlantRight is key implementation partner. ○ Validate list through academia.	PE
12	**Increase and establish greater oversight and outreach and education on high risk shipping and packing materials.**	PE

Rank		
	○ Identify and support use of alternative shipping materials.	
13	**Identify permanent funding and role/place for PlantRight**	LC
14	**Support Biocontrol for terrestrial and aquatic plants**	EM
15	**Develop and enforce regulation to control high risk vectors (e.g., soil, green waste, gravel, forage, straw, fire wood)** ○ Need for tarping and non-wood pallets.	EM
16	**Secure funding for academic extension (UC systems).**	LC
17	**Develop invasive-free certification.** ○ Certification of weed-free fill materials (through regulations. policy, or MOU).	PE
18	**Fund State land management programs.** ○ Fund State Parks ($16M). ○ Assess agency needs to address invasive species, and for program maintenance and for appropriate level of response and management. ○ Partners include Caltrans, DWR, CAL FIRE, and Academia (UC and CSU).	LC
19	**Establish/promote certification for staff and land managers (landscapers, conservation corps, etc.) on invasive weed management.**	EM
20	**Increase and maintain number of regional and field biologists.** ○ Plant (estimates $1.5 million/year for six biologists) ○ Vertebrates	EM

All Priority Actions Ranked by Strategic Framework

Leadership and Coordination

LC	• Formalize the ISCC and CISAC for long term stability. ○ Delegate support to rapid response working group for urban forests and non-agriculture/orphan pest to ISCC and CISAC ○ Delegate coordination of economic and other analysis reports to CISAC and ISCC. ○ Delegate state-wide branding development to CISAC and ISCC. ○ Keeper or clearinghouse of all invasive species lists.	19	11	8
LC	• Identify permanent funding and role/place for Plant Right	12	11	1
LC	• Secure funding for academic extension (UC systems).	9	6	3
LC	• Fund state land management programs ○ State Parks ($16M) ○ Assessment of agency needs for program maintenance, and for appropriate level of response and management	9 2	2 1	7 1

SF				
	○ Assessment of funding needed to address invasive species ○ Caltrans, DWR, Calfire and Academia (UC and CSU)			
LC	• Create a standardized policy on responding to new species during the lag period.	8	8	0
LC	• Funding for inspections. ○ Staff, dog teams, more inspection sites.	8	6	2
LC	• Change State laws that limit fees for supporting inspections	5	5	0
LC	• CDFA or other State Agency Lead and Implement Weed Management.	4	4	0
LC	• ID new funding sources.	4	4	1
LC	• Elevate Understanding of invasive species issues to decision makers (secretaries and legislators).	4	1	3
LC	• Develop "Boiler Plate" – consistent and standardized contract language for invasive species programs.	4	1	3
LC	• Create regulations for more prescriptive (less voluntary) no-plant list (i.e. make "Do Not Plant List" a regulatory list for enforcement.)	3	2	1
LC	• Build strong coalition of stakeholder groups ○ First plant, California Agriculture Commissioners (CASA)	2	1	1
LC	• Overhaul the invasive species rating process, including coordination among all potential groups. ○ Reassess process for addressing non-agricultural invasive species (ensure coordination w/ CNRA). ○ Cryptic species go to specialists.	1	0	1
LC	• Ensure coordination among State agencies (CDFW, CDFA, CANR, Cal Agriculture Commissioner, DWR, Parks and Rec.), Federal agencies (USFS, USDA), NGOs (plant first), Academia (UC CO-OP ext.), Master gardeners.		0	0
LC	• Create online clearinghouse database for responsible agencies, organizations to contact and address invasive species.	0	0	0
LC	• Coordination among CDFW, FWS to connect with PIJAC (pet trade) on outreach/ campaigns.	0	0	0
LC	• Increase funding for enforcement, boost staff ($500,000)	0	0	0
LC	• Assess existing funding sources for invasive species activities.	0	0	0
LC	• Incorporate greater networking and representation with CNRA	0	0	0
LC	• Establish an annual summit or meeting among legislator and policy implementers		0	0
LC	• Look at gas taxes, mill taxes, user fees, etc., for funding options outlined in implementation.		0	0

Fundamental and Applied Research

FAR	• Conduct comprehensive report on ecological, Agricultural, & economic impacts of invasive species. ○ Analyze how funding is allocated to address invasive species ○ Analyze how climate change impacts invasive species management ($1Million) ○ Identify the link between Co2 Sequestration invasive species, including: Weed Management Area (WMA) program, ○ Analyze econ. Impacts of invasive species management, cost of "do nothing", private/public impacts.	(32)8 24	(11)3 8	(21)5 16
FAR	• Increase funding for studying the: ○ biology of invasive species to support effective management, and ○ basic control methods	16 5 11	11 2 8	5 3 3
FAR	• Increase funding for studying the: ○ biology of invasive species to support effective management, and ○ basic control methods	16 5 11	11 2 8	5 3 3
FAR	• Allocate funding for field test and laboratories to do the field tests	2	0	2
FAR	• Increase funding for studying the: ○ biology of invasive species to support effective management, and ○ basic control methods	16 5 11	11 2 8	5 3 3

Prevention and Exclusions

PE	• Increase border inspections (interstate and INTN'L). ○ Training ○ Funding ○ Coordination among (Caltrans, CDFW, CDFA, USDA, Homeland Security)	15	9	6
PE	• Peer reviewed invasive species list (i.e. a "Do not plant list "), list will be include regional differences and have academic validation/review. ○ Coordinate peer review and neg. Of list ($1M/year), plant right ID as partner to implement. ○ Validate list through academia.	(14)5 9	(7)3 4	(7)2 5
PE	• Increase and establish greater outreach and education on high risk shipping and packing materials. ○ Identify and support use of alternative shipping materials.	12	6	6
PE	• Develop invasive-free certification.	9	5	4

SF				
	○ Certification of no weed fill materials (through regulations. policy, or MOU).			
PE	• Increase webcrawlers to monitor and identify violators. ○ Notify federal agencies for enforcement against violators.	7	2	5
PE	• Increase funding for high-risk pathways.	6	5	1
PE	• Increase the number of state dog inspections.	5	3	2
PE	• Marine Harbor Bio inspection and defaouling. • Increase marine harbor inspection ($100 per inspection).	5	2	3
PE	• Include MWELO (water efficient landscape ordinance) in Cal Green building standards code. ○ Coordinate invasive species no-plant list development.	4	3	1
PE	• Increase trailer boat inspections and decontamination stations in Delta. ○ Expand # of decontamination sites (aqua invasive).	3	2	1
PE	• Conduct nursery cleanliness inspections (address/include non-agriculture pest plus vertebrates).	2	0	2
PE	• Conduct state-wide analysis of vectors/carriers.	2	2	0
	•			
PE	• Address holes in seed health certification process.	2	1	1
PE	• Review authority to empower existing inspections of wildlife and other invasive species.	2	1	1
PE	• Engage carriers to implement and development outreach materials to prevent spread of invasive species.	2	0	2
PE	• Allocate $$$ for field test + labs (field tests).	2	0	2
PE	• Addressing lag period responses to invasive species.	1	0	1
PE	• Adopt western states monitor tracking program.	1	0	1
PE	• Coordinate with emergency services with movement of vectors.	1	0	1
PE	• Develop list of certified taxonomists to send samples.	1	0	1
PE	• CDFA authority to confiscate infested materials.	1	0	1
PE	• Require nurseries to submit plant list for review (CDFA) in licensing process.	0	0	0
PE	• Conduct risk assessment/identify high risk species – 671 in the pet trade.	0	0	0
PE	• Develop Best Management Practices (BMPs) for nurseries and seed industry on management/ monitoring of soil borne pathogens to prevent spread of invasive species. ○ Establish state monitoring program at the county level.	0	0	0
PE	• Coordinate cooperative agreement with FDA on human consumption Inspections	1	1	0
	○			
PE	• Increase coordination with federal agencies. ○ Partner County Agriculture Commissioners	1	0	1
PE	• Improve aqua culture regulations.	0	0	0
PE	• Expand # of decontamination sites (aqua invasive).	0	0	0

SF				
PE	• See high risk BEST MANAGEMENT PRACTICES (BMPS) for vectors in eradication and management.	0	0	0

Outreach and Public Engagement

OPE	• Develop statewide branding on Invasive species.	15	2	13
OPE	• Integrate community science in detection and response. ○ Community science network, platform, and database. ○ Training on community science ○ Develop standards for use of community science in detection	6	3	3
OPE	• "Don't pack a pest" guidelines.	4	1	3
OPE	• Training to public (e.g. volunteers) on prevention of becoming a vector/transfer/movement.	2	0	2
OPE	• Outreach – educate the public amnesty day for invasive species. Incentivize turning in invasive species that are pets. "Don't let it loose campaign".	2	1	1
OPE	• Correct/change language regarding disease (outbreaks) to increase understanding and response by the public.	1	1	0
OPE	• Increase outreach/messaging on unintentional smuggling.	1	1	0
OPE	• Support inclusion of invasive species in environment education curricula.	1	0	1
OPE	• Monitoring and education for private parties and hobbyist/enthusiast and social media for aiding implementation. ($300,000).	0	0	0
OPE	• "Clean, Play, Go" at all recreation areas and kits.	0	0	0
OPE	• Share analysis and studies on impacts of invasive species with public. ○ Create social media campaign on impacts and training (to prevent spread).	0	0	0
OPE	• Develop clear message on vertebrates ("Do not let loose").	0	0	0
OPE	• Develop fund for public outreach, awareness, education. ○ Recreational + commercial audiences.	0	0	0

Eradication and Management

EM	• Fund weed management area (WMA) program $2.5 million/year	35	25	10
EM	• Develop and maintain statewide surveys and mapping high risk areas ○ Coordination of survey and assessment data. ○ Coordination among partners to develop survey strategies. ($0.5 million)	21	10	11

SF				
	○ GIS Mapping for high risk surveys			
EM	• Biocontrol for terrestrial and aquatic plants	12	9	3
EM	• Regulation to control high-risk vectors (ex: soil, green-waste, gravel, forage, straw, fire wood), ○ Need for tarping and non-wood pallets.	11	5	6
EM	• Increase and maintain number of regional and field biologists for: ○ Plant for six $1.5 million/year ○ Vertebrate	9 3 0	1 3 0	8
EM	• Certification for staff and land managers (landscapers, conservation corps, etc.) on invasive weed management	9	5	4
EM	• WMA Subtasks ○ Delegate regional invasive species (plant) coordination activities to WMA including Regional Mapping, biocontrol, PEIR for plant management, employing regulation biology.	7	2	3
EM	• $5 million for Nutria Response	4	4	
EM	• Development of Best Management Practices (BMPs) for high risk vectors.	4	2	1
EM	• Crosstrain inspectors	1	0	1
EM	• Training on plant invasive species management and other plants.	1	0	1
EM	• Best Management Practices (BMPs) on invasive species management (I.e. a no plant list) to state agency, land mgrs., builders/landscapers)	1	0	1
EM	• Training and outreach to the public on management and detection of Invasive Species.	1	1	
EM	• Include Entomology studies or expertise in county surveys	0	0	0
EM	• Establish regular meeting for coordination group for regulation of Aquatic Environmental Invasive Species Management activities	0	0	0
EM	• Training and tool development for rapid response, identification of species, BMP (mollusks, invertebrates).	0	0	0
EM	• Develop a soil health initiative	0	0	0

Detection and Response

SF	Task	Total	Red	Green
DR	• Create a standing rapid response working group to guide response to new invasive species. – supported by a Rapid Response emergency fund	22	19	3
DR	• Develop Programmatic EIR (PEIR) for aquatic environments (including aquatic weeds). ○ At least $1.5Million + exempt; containing. (see above)	5	4	1
DR	• Align regulatory process to facilitate Rapid Response and emergency response and detection of newly discovered invasive species.	3	0	3

SF	Task	Total	Red	Green
DR	• Clearly define roles and expectations among regulatory processes; standardize fee processes (Potential Rapid Response Work group activity). Specific considerations include: o Enforcement regarding pesticide use in weed management. o Address labeling of species under CWC §303D (water impairment). o Management and Eradication of mollusks – invertebrates	3	1	2
DR	• Develop Programmatic EIR (PEIR) for terrestrial weed management. o At least $1.5Million, include exemption + contingencies	3	1	2
DR	• Develop RR guide. o Work with County Agriculture Commissions to develop a CDC – like system.	1	0	1
DR	• Share DNA information on invasive species in a coordinated database.	1	1	0

Appendix D- Summit Presentations

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