

PALAU NATIONAL INVASIVE SPECIES COMMITTEE
A COMMITTEE OF THE NATIONAL ENVIRONMENTAL PROTECTION COUNCIL



ANNUAL REPORT
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BACKGROUND AND INTRODUCTION

The Palau National Invasive Species Committee (NISC) was created by the National Environmental Protection Council (NEPC) through Resolution #2 at its regular meeting on January 21, 2004. This action was taken in response to Presidential Executive Order 219, which instructed the NEPC to create such a committee. The NISC role is one of advice, facilitation, and coordination. The member agencies and organizations of the NISC, in cooperation with local and regional partners, implement activities for prevention, management (including control), and eradication of invasive species. The benefits of the NISC are clear: setting of national priorities; review and endorsement of projects and proposals; review and comment on regulations and plans; advice to decision-makers; and cooperation with regional and international efforts to combat invasive species.

This report is the second annual NISC report, and summarizes the work and accomplishments of the NISC from February 1, 2006 through January 31, 2007.

COMMITTEE MEMBERSHIP There have been two changes in the membership and officers of the NISC since its last annual report was submitted in February 2006. In August 2006, Joel Miles assumed the position of National Invasive Species Coordinator. Since this position serves as the Secretary to the NISC, he could no longer be the Chair of the Committee, and the Committee elected Mr. Fred Sengebau, Director of the Bureau of Agriculture as its new chair. In January 2007, the committee was informed by the Executive Officer of the Palau Environmental Quality Protection Board (EQPB) that Mr. Groover Nakamoto had been replaced on the NISC by Mr. Donald Dengokl. The current membership of the NISC is shown in the table below.

Office of Environmental Response & Coordination	2 members	Mr. Joel Miles, Invasive Species Coordinator Mr. Andrew Bauman, Marine Unit Chief
Ministry of Resources and Development	2 members	Mr. Fred Sengebau, Director, Bureau of Agriculture Mr. Theo Isamu, Director, Bureau of Marine Resources
Palau Environmental Quality Protection Board	1 member	Mr. Donald Dengokl, Assistant Executive Officer
Ministry of Justice	2 members	Mr. Kammen Chin, Chief, Division of Fish and Wildlife Protection Mr. Mark Melnyk, Legal Counsel, EQPB-Attorney General's Office
Ministry of Health	1 member	Ms. Joanne Maireng Sengebau-Kingzio, Chief, Division of Environmental Health
Ministry of Finance	1 member	Mr. Williander Ngotel, Senior Custom Officer, Division of Customs
Palau Conservation Society	1 member	Mr. Yalap Yalap, Education Officer, Palau Conservation Society

ACTIONS AND ACCOMPLISHMENTS IN 2006

During calendar year 2006, its second year of operations under the National Invasive Species Strategy, significant progress was made by the National Invasive Species Committee under the duties and responsibilities assigned to it by the National Environmental Protection Council, and toward achieving the goals of the National Invasive Species Strategy. Much work remains to be done, however, and – since the threat of invasive species is not expected to go away – the work is in a sense never-ending.

The NISC coordinated, supported, and facilitated a number of activities in 2006. Among these were the following:

Initiation of “Operation Counter-Invasion”

On August 1, 2006, the member agencies and organizations of Palau’s National Invasive Species Committee began implementation of “**Operation Counter-Invasion**” as a one-year project to initiate implementation of the National Invasive Species Strategy. Operation Counter-Invasion was initiated by His Excellency, President Tommy E. Remengesau, Jr. to meet the urgent need to respond to the ongoing threat of invasive species to Palau’s economy and environment. Operation Counter-Invasion will continue through July 31, 2007.

Operation Counter-Invasion includes: creation and staffing of a National Invasive Species Coordinator position; strengthening Quarantine; funding a public awareness program focusing on two key invasive species; strengthening the invasive weed eradication program; partial funding for a baseline survey of marine invasive species; and funding 3 high priority invasive species projects. Operation Counter-Invasion received \$100,000 in funding from the government of Taiwan, Republic of China. Following is a brief update on progress on the several components of Operation Counter-Invasion, through December 31, 2006.

Invasive Species Coordinator The creation and staffing of this position was identified by the NISC as one of its highest priorities. The NISC recommended that the position be part of the Executive Branch, to be located in the Office of Environmental Response and Coordination. Dr. Joel Miles was selected to fill this position. He officially began on August 1, 2006.

Strengthening Quarantine The Plant Protection & Quarantine Service (PPQS) of the Bureau of Agriculture is in the process of negotiating with the Customs Office for a space at the cargo area of the Airai International Airport to be an inspection facility for PPQS. Equipment and materials needed to equip the proposed Inspection Room have been purchased and renovation will commence as soon as an agreement is reached.

In addition to the above, copier machines, authenticating stamps, and back up batteries were purchased for the Malakal sub-station and the main office. This equipment is being used for processing permits and other paperwork.

Public awareness program focusing on two key invasive species The NISC identified two priority species for increased public awareness activities: the invasive vine **kebeas**

(*Merremia peltata*) and macaque monkeys (*Macaca fascicularis*). Public awareness and community mobilization for kebeas is being conducted by the Bureau of Agriculture, with support of Palau Conservation Society. We have not yet found a lead agency/organization for monkey awareness; more attention will be given to this in 2007.

Community Mobilization to Combat Kebeas This was another high priority project, to mobilize communities in the 10 states on Babeldaob to combat kebeas (*Merremia peltata*) along the Compact Road and along other secondary roads. The public awareness project described above is an important component of the effort to mobilize the Babeldaob communities. As of the end of 2006, the following progress has been made:

- The Ngiwal kebeas clean-up demonstration project is ongoing, including cooperation with PALARIS to map the infested and cleared areas. This is a pilot project with funding support from the Urban and Community Forestry program, to document successful control methods for use by other states;
- Arrangements have been made with the Governor of Airai to begin kebeas clean-up in Airai State in February, 2007;
- Request letters have been sent to other state governors regarding nationwide kebeas clean up efforts;
- The Ngarchelong women's group, Bngal a Klikm, has begun a kebeas clean-up in Ngarchelong State.

Strengthening the Invasive Weed Eradication Program The Invasive Weed Eradication program has been strengthened by the purchase of a pickup truck and the hiring of an assistant to the Invasive Weed Eradication Coordinator.

Marine/Aquatic Baseline Survey The NISC is working with IUCN and other organizations to organize this survey. An internationally-recognized expert in tropical marine invasive species survey methodology has been identified and has tentatively agreed to come to Palau during the first half of 2007. We plan to conduct the survey in a "training trainers" format, to enable us to continue and expand survey work for marine invasive species. The Koror State Rock Islands Conservation Area has agreed to host the workshop in cooperation with the NISC and its member agencies.

Other Priority Projects Three high priority projects also received funding under Operation Counter-Invasion. They are:

- **Eradication of Feral Pigs from Ngerchur Island** The Division of Fish and Wildlife Protection (DFWP) has successfully removed all pigs from this island, thereby protecting an important turtle nesting beach. The Turtle Monitoring Project of the Bureau of Marine Resources will continue to monitor the beach at Ngerchur. This project was completed within its budget, and the NISC has approved reprogramming \$500 of the remaining funds for hunting of destructive feral pigs on the island of Babeldaob. Sufficient funds will be retained for travel to Ngerchur should pigs be detected there again.
- **Invasive Species Calendar** The \$1,500 committed by Palau to reimburse the Secretariat of the Pacific Community for printing this calendar has been paid.

- **Invasive Anemone in Ongeim 'l Tketau (Jellyfish Lake)** The Koror State Department of Conservation and Law Enforcement has initiated its public awareness activity for the invasive anemone. They have informed the NISC that they will be able to complete this project under budget and have requested that remaining funds be used for control of the very invasive Coral Bean Tree (*Adenantha pavonina*) on Ngeremdiu, Ngermalk, and Ulebsechel islands. The NISC approved this request at its regular meeting on January 23, 2007.

Development of a Three-Year Strategic Plan

The NISC held a 2-day strategic planning workshop on November 28-29, 2006 to develop a three-year strategic plan for the activities of the NISC. Several stakeholder agencies, organizations, and individuals joined the workshop. The draft plan was reviewed and adopted by the NISC at its regular meeting on January 23, 2007. It has been circulated among the workshop participants for comment. Once the comments from the stakeholders have been taken into account, the final draft plan will be submitted to the NEPC for approval. The completion of this strategic plan fulfills one of the two major recommendations in the committee's 2005 Annual Report.

Creation and Filling of an Invasive Species Coordinator Position

As noted above, an Invasive Species Coordinator was hired as part of Operation Counter-Invasion. The creation and staffing of this position was identified by the NISC as one of its highest priorities. The NISC recommended that the position be part of the Executive Branch, to be located in the Office of Environmental Response and Coordination. Dr. Joel Miles was selected to fill this position. He officially began work on August 1, 2006. The creation and filling of this position fulfills the second of the two major recommendations in the committee's 2005 Annual Report.

Adoption of a clear and transparent process for review of applications to import living organisms

The NISC assigned the Invasive Species Coordinator to work with the Plant Protection & Quarantine Service (PPQS) of the Bureau of Agriculture to put into writing the established procedures of PPQS in its review of applications to import living organisms into the Republic. The Coordinator consulted with numerous other stakeholders in this process, and the written procedures were approved by the NISC in November 2006. Once the process has been approved by the Minister of Resources and Development, it will be shared with all importers. This written process will make the process clear to all involved, including potential importers. In addition, the NISC created an advisory body, the Import Review Committee, to advise the Director of the Bureau of Agriculture in his evaluation of applications for permits for new introductions of living organisms into Palau. This committee held its first, organizational, meeting on January 9, 2007.

Regional and International Cooperation

Regional Invasive Species Council

This council was created by the Western Micronesia Chief Executives at their summit meeting in 2004. Joel Miles and Fred Sengebau were nominated by the NISC and appointed by the President to represent Palau on the RISC. Palau has been an active participant in the

RISC. At its regular meeting in Saipan in January 2007, Palau assumed the role of Chair of the RISC: Joel Miles is now the Chair of RISC and Fred Sengebau is the Vice-Chair.

Pacific Invasives Learning Network (PILN)

Palau was one of founding members of the partnership to create this Network, which was officially launched in November 2005. In May 2006, Palau hosted the first meeting of the PILN, where teams from six island countries and territories shared information and developed project plans. Teams from Palau, American Samoa, Guam, Niue, Pohnpei, and Samoa participated in the inaugural session. All local arrangements for this meeting were made by NISC member agencies.

At the first PILN meeting, the six founding teams and partners from the Pacific Islands region discussed ongoing projects, strategies for managing invasive problems, and common challenges in the Pacific. Other partners from the region joined the team in a week-long session that included a field trip to cut kebeas (*Merremia peltata*) vines from the edge of the forest along the compact road.

During the meeting, PILN highlighted a number of themes with funding, public awareness, political support, invasive weeds, and island restoration among the top of the list. All participants made commitments to use the skills and ideas from the first meeting to further programs to combat invasive species in their home islands. Participants also highlighted the lack of available information on marine invasive species, and agreed to commit more resources to this overlooked issue.

Funding support for the meeting was provided by The Nature Conservancy, the Critical Ecosystem Partnership Fund, and the National Fish and Wildlife Fund, while Mobil Oil Micronesia sponsored the closing dinner on May 26.

Convention on Biological Diversity (CBD)

Palau's delegations to CBD meetings played a key role in drafting Invasive Species provisions for the Programme of Work on Island Biodiversity, which was adopted by the Eighth Conference of the Parties to the CBD in March 2006. Our delegations have been active in other negotiations on invasive species as well. The NISC has coordinated development of national positions on important issues, and has facilitated the Republic's representation at these and other international meetings.

NISC participation in RISC and PILN illustrates the important role the NISC can play in coordinating and facilitating Palau's participation in regional and international invasive species organizations, while NISC participation in the CBD illustrates the important role the NISC can play in representing Palau in regional and international invasive species organizations.

Pacific Plan of the Cooperative Island Initiative for Invasive Species (PP-CII)

As noted in its 2005 Annual Report, the NISC solicited and reviewed proposals for projects to receive support from PP-CII, and endorsed four proposals as national priority projects. Of these four proposals, two received support, and were completed in 2006. These were feasibility

studies for the eradication of Singapore Ant from Hatohobei State, and for the eradication of rats from Kayangel State. Both feasibility studies were completed in 2006, and concluded that both projects are feasible. The two projects are currently in the peer review process, and we will work closely with PP-CII to obtain funding support for them in 2007.

This illustrates the important role NISC plays as a national priority-setting body for invasive species issues and activities.

Avian Influenza

There are 3 NISC member agencies on the task force created to prepare for a possible pandemic of avian influenza. They represent the NISC as well as their respective agencies on the task force, and report to the NISC on activities of the task force.

This illustrates the important advisory role NISC plays with regard to potential human disease-causing organisms.

Emergency Response Plan (ERP)

NISC member agencies participated in an SPC-sponsored workshop on development of emergency response plans for invasive species, and developed a general response plan (ERP) for Palau. The NISC reviewed the ERP and provided input for its improvement. In August 2005, the NISC endorsed the modified plan for adoption. The NISC will review the ERP in 2007 to see whether its recommendations have been implemented, and whether the plan needs to be updated.

This activity illustrates the NISC's advisory role, assisting decision-makers in addressing invasive species issues, as well as the NISC/s coordination role, bringing together the collective knowledge and wisdom of technical people with a wide range of expertise.

Tilapia Eradication

In December 2003, the President declared a state of quarantine emergency and assigned a team under the leadership of the Bureau of Agriculture to eradicate invasive fish, tilapia (*Oreochromis mossambicus*). As this project evolved, responsibility for leading the eradication effort was taken over by the Palau Environmental Quality Protection Board (EQPB), with support of several agencies, most of which eventually became members of the NISC. The actual eradication, through application of the naturally-occurring, plant-derived fish poison, rotenone, was carried out in 2004. EQPB staff monitored the treated ponds thereafter, checking for presence of tilapia, and monitoring water quality.

In December 2005, the NISC inquired among its members, and obtained a confirmation from the staff of the EQPB that all known infestations of tilapia had been eradicated. At its regular meeting in December 2005, the NISC concluded that the eradication had been successful, and directed the Chair to write to the President's Legal Counsel, David Shipper, advising him that a state of emergency no longer existed. Acting on this letter, the President lifted the State of Emergency in Presidential Declaration No. 06-01, on January 4, 2006, and the NISC announced that there were "no known infestations" of tilapia in the Republic. If no new infestations were found within two years of this announcement, Palau could be declared to be free of tilapia.

In September 2006, staff of the Palau Environmental Quality Protection Board (EQPB) inspected the pond at the Palau Transportation Company (PTC) quarry in Malakal in response to reports that the pond was once again infested with tilapia. Unfortunately, these reports were found to be true. The NISC member agencies responded quickly, and on September 21, 2006, staff of the Bureau of Agriculture, EQPB, the Division of Fish and Wildlife Protection, and the Division of Fire and Rescue acted to destroy these fish, using rotenone. This is the same fish poison which was used in the previous eradication efforts. Over 300 dead fish were recovered. The fish were mostly less than two inches in length, but a few were as large as 6 inches in length, fully large and mature enough to reproduce.

It is not clear whether this is a new infestation, or perhaps some fish survived the previous eradication attempt. The EQPB staff have inspected the other three ponds which were previously infested with tilapia, and they are still tilapia-free. The NISC will organize one more treatment of the Quarry pond in 2007, while continuing public awareness efforts to ensure that there are no other infestations, and that tilapia will not be re-introduced into the Republic.

This illustrates the important advisory role that the NISC has played, and will continue to play, for decision makers and natural resource managers.

FUTURE DIRECTIONS

While considerable progress has been made, major efforts are still needed in several areas, as indicated below.

Addressing Threats

Several serious invasive species threats remain unaddressed, or only partially addressed. These include monkeys, rats, feral pigs, marine invasives, and several species of invasive plants. Resources are not adequate to address all of these at once. The NISC is pleased that we have been able to facilitate the provision of assistance for eradication of the Singapore Ant in Hatohobei, and rats in Kayangel. Member agencies and organizations continue to seek support for other projects.

Public Awareness

Great progress has been made in raising public awareness of the threat of invasive species, and public support for efforts to prevent and combat invasive species. However, there is an ongoing need for greater public awareness, and in particular a project to work with overseas workers, especially from Philippines. The NISC will continue its efforts to raise public awareness through various means.

Marine Invasives

The NISC will co-host, with Koror State, a workshop on marine invasive species in 2007. This workshop will focus on planning for prevention of marine invasive species in marine protected areas, and will also train participants in survey methods which can be utilized throughout the Republic.

Prevention

The need for additional staff and resources within the Plant Protection & Quarantine Service (PPQS) of the Bureau of Agriculture cannot be overemphasized. Quarantine provides our first line of defense, and as the old saying goes: “an ounce of prevention is worth a pound of cure.” The NISC will continue work with PPQS in 2007 to clearly delineate their human and physical resource needs, and seek the necessary support from the national government to ensure that these needs are met.

Regional and International Cooperation

The NISC and its members will continue to participate actively in regional organizations such as RISC and PILN, as well as international efforts to combat invasive species.

CONCLUSIONS

As noted above, the NISC role is one of advice, facilitation, and coordination. The member agencies and organizations of the NISC implement activities for prevention, education, control, and eradication of invasive species. The benefits of the NISC are clear: setting of national priorities; review and endorsement of projects and proposals; review and comment on regulations and plans; advice to decision-makers; and cooperation with regional and international efforts to combat invasive species. In 2006, the NISC continued to play a key role in facilitation of communication and information sharing among agencies; this helped prevent duplication of efforts, and also ensured that priority issues were not overlooked – nothing “falls through the cracks.” The NISC looks forward to continuing to facilitate and coordinate invasive species efforts in the Republic.

While the NISC has played an important coordinating role, both within Palau, and between Palau and its neighbors and the international community, the NISC noted in its 2005 Annual Report that that Palau faces several challenges with regard to invasive species prevention and control. Specifically, we noted that Palau needed:

- An Implementation Plan for the NISS;
- Improved coordination of activities and policies;
- To strengthen Quarantine, through increased staffing, staff training, and improved equipment and facilities;
- To prevent inter-island spread of invasive species; and
- To mobilize communities to prevent and combat invasive species.

We are pleased to report to the NEPC that implementation of Operation Counter-Invasion has enabled us to begin to address these challenges. The hiring of a National Coordinator has enabled us to improve coordination and communication, to develop a strategic implementation plan, and to make progress on several specific projects. The challenges listed above still exist, and much remains to be accomplished. However, we are confident that the adoption and implementation of our strategic plan will go far to enable us to meet these challenges.