



Republic of the Philippines
Department of Environment and Natural Resources

Visayas Avenue, Diliman, Quezon City. 1100
Tel. Nos. (632) 8929-6626 to 29; VOIP Trunkline (632) 8755-3300/8755-3330
Website: <http://www.denr.gov.ph>

**TASK FORCE MT. PRINCESS EMPRESS OIL SPILL INCIDENT
SITUATIONAL REPORT NO. 17**

20 March 2023

Sources: DENR BMB, DENR and EMB ROs CALABARZON, MIMAROPA and VI, PENROs and CENROs, PCG, OCD

I. SITUATIONAL OVERVIEW

On 28 February 2023, at approximately 04:16 AM, MT Princess Empress was reportedly half submerged in the vicinity waters of Balingawan Point, Naujan, Oriental Mindoro with 20 crews onboard and 800,000 liters of Industrial Fuel Oil. The vessel came from Bataan and was on its way to Iloilo when it encountered engine trouble due to overheating. At approximately 04:20 AM, all 20 crew members were rescued and brought to Subic Bay, Zambales.

On 01 March 2023, MT Princess Empress had completely submerged.

On 03 March 2023, a State of Calamity was declared in Pola, Oriental Mindoro.

On 04 March 2023, the Municipalities of Naujan, Pola, Bongabong, and Roxas in Oriental Mindoro as well as the Municipality of Caluya in Antique were affected.

On 06 March 2023, oil slicks were reported to have reached Agutaya, Palawan. Further, the location of MT Princess Empress has been determined by NAMRIA, as relayed by DENR Secretary to Oriental Mindoro Governor Bonz Dolor via phone call. Also, State of Calamity was declared in Caluya, Antique and the province of Oriental Mindoro.

On 10 March 2023, there were sightings of effects in Taytay, Palawan.

On 17 March 2023, there were reported oil tarballs along the shorelines of Brgy. Navotas, Calapan City.

On 20 March 2023, as confirmed by the PCG, oil sightings were reported within the three (3) Brgys. of Verde Island (San Agapito, San Agustin-Kanluran, San Antonio).

Presently, the following localities were reported to be affected.

REGION	PROVINCES	CITIES / MUNICIPALITIES	REMARKS
MIMAROPA	Oriental Mindoro	1. Bansud 2. Bongabong 3. Bulalacao 4. Calapan 5. Gloria 6. Mansalay 7. Naujan 8. Pinamalayan 9. Pola 10. Roxas	Whole province declared under State of Calamity
	Palawan	1. Agutaya 2. Taytay	
Region VI	Antique	1. Caluya	Caluya declared under State of Calamity
CALABARZON	Batangas	1. Verde Island	Sightings confirmed by PCG

Table 1: Localities affected by the Oil Spill

II. EFFECTS TO ENVIRONMENT

BIODIVERSITY RAPID ASSESSMENT

Based on Rapid Assessment from 06 to 10 March 2023, the following were observed:

REGION	BRGYS WITH OBSERVED OIL SPILL	TOTAL HABITAT AREA AFFECTED (in Ha)	REMARKS
MIMAROPA	8	Corals: 2,251.95 Seagrass: 1,040.66 Mangroves: 1,604.23	25 Barangays have recorded nesting incidence of marine turtles
Region VI	10	Seagrass: 245.592 Mangroves: 42.901 (35.457 ha Mangroves and 5.444 ha DENR Plantation Sites)	

Table 2: Results of Rapid Assessment by DENR-Biodiversity Management Bureau

As ways ahead, detailed follow-through assessment will be conducted to further validate the above observations.

WATER QUALITY MONITORING

Using the parameter of oil and grease under the Water Quality Guidelines (WQG) for Ambient Water Quality Testing, the following were observed:

MIMAROPA

(based on latest sampling conducted)

PROVINCE	CITY/ MUNICIPALITY	TOTAL SAMPLING STATIONS	
		WITHIN NORMAL WQG	EXCEEDED WQG
Oriental Mindoro	Bansud	-	-
	Bongabong	1	3
	Bulalacao	-	-
	Calapan	-	-
	Gloria	2	6
	Mansalay	-	-
	Naujan	-	17
	Pinamalayan	0	6
	Pola	1	7
	Roxas	1	3
Palawan	Agutaya	-	-
	Taytay	3	11
TOTAL		8	53

Table 3: Water Quality Monitoring in MIMAROPA

Region VI

(based on latest sampling conducted)

PROVINCE	CITY/ MUNICIPALITY	TOTAL SAMPLING STATIONS	
		WITHIN NORMAL WQG	EXCEEDED WQG
Antique	Caluya	2	8
TOTAL		2	8

Table 4: Water Quality Monitoring in Region VI

AIR QUALITY MONITORING

Using the parameters of H₂s (Hydrogen Sulfide) and VOCs (Volatile Organic Compounds) for air quality monitoring, the following were observed:

MIMAROPA

(based on latest sampling conducted)

PROVINCE	CITY/ MUNICIPALITY	TOTAL SAMPLING STATIONS			
		NORMAL H ₂ s	EXCEEDED H ₂ s	NORMAL VOCs	EXCEEDED VOCs
Oriental Mindoro	Bansud	-	-	-	-
	Bongabong	-	-	-	-
	Bulalacao	-	-	-	-
	Calapan	-	-	-	-
	Gloria	-	-	-	-
	Mansalay	-	-	-	-
	Naujan	-	-	-	-
	Pinamalayan	-	-	-	-
	Pola	Waiting for results in Brg, Misong, Pola			
	Roxas	-	-	-	-
Palawan	Agutaya	-	-	-	-
	Taytay	-	-	-	-
TOTAL		-	-	-	-

Table 5: Air Quality Monitoring in MIMAROPA

REGION VI

(based on latest sampling conducted)

PROVINCE	CITY/ MUNICIPALITY	TOTAL SAMPLING STATIONS			
		NORMAL H ₂ s	EXCEEDED H ₂ s	NORMAL VOCs	EXCEEDED VOCs
Antique	Caluya	4	0	4	0
TOTAL		4	0	4	0

Table 6: Air Quality Monitoring in Region VI

WASTE MANAGEMENT

Since the onset of the oil spill, oil waste and oil-contaminated materials are being collected, summarized as follows:

CALABARZON

PROVINCE	CITY/ MUNICIPALITY	OIL WASTE		OIL CONTAMINATED MATERIALS
		CUM. VOLUME (IN LITERS)	CUM. WEIGHT (IN KG)	
Batangas	Verde Island	160		2 sacks oil cont. debris
TOTAL		160		

Table 7: Waste Management in CALABARZON

MIMAROPA

PROVINCE	CITY/ MUNICIPALITY	OIL WASTE		OIL CONTAMINATED MATERIALS
		CUM. VOLUME (IN LITERS)	CUM. WEIGHT (IN KG)	
Oriental Mindoro	Bansud	-	-	-
	Bongabong	-	-	-
	Bulalacao	-	-	-
	Calapan	-	-	-

	Gloria	-	-	-
	Mansalay	-	-	-
	Naujan	-	-	-
	Pinamalayan	-	-	-
	Pola	31,750.50		
	Roxas	-	-	-
Palawan	Agutaya	-	-	-
	Taytay	-	-	-
TOTAL		31,750.50		

Table 8: Waste Management in MIMAROPA

REGION VI				
PROVINCE	CITY/ MUNICIPALITY	OIL WASTE		OIL CONTAMINATED MATERIALS
		CUM. VOLUME (IN LITERS)	CUM. WEIGHT (IN KG)	
Antique	Caluya	3,100	-	350 drums 134 pails 25 one (1) tonner bags oil cont. sand 108 sacks oil cont. sand 1,328 sacks oil cont. debris 46 one (1) tonner bags of oil cont. debris
TOTAL		3,100		

Table 9: Waste Management in Region VI

III. CASH FOR WORK AND EARLY RECOVERY

As part of early recovery, the DENR, in collaboration with DSWD and DOLE, jointly implements the cash for work program for cleanup drive. Updates are as follows:

MIMAROPA

PROVINCE	CITY/ MUNICIPALITY	NO. OF WORKERS	NO. OF BARANGAYS COVERED	START DATE	END DATE
Oriental Mindoro	Bansud	1,019	9	Mar 20	Apr 07
	Bongabong	1,382	16	Mar 06	Apr 07
	Bulalacao	2,334	8	Mar 06	Apr 04
	Calapan	-	-	-	-
	Gloria	1,338	12	Mar 20	Apr 03
	Mansalay	2,429	17	Mar 20	Apr 04
	Naujan	3,137	12	Mar 20	Apr 03
	Pinamalayan	2,660	17	Mar 13	Apr 04
	Pola	4,839	11	Mar 10	Apr 04
	Roxas	1,402	17	Mar 20	Apr 04
Palawan	Agutaya	-	-	-	-
	Taytay	-	-	-	-
TOTAL		20,540	119		

Table 10: Cash for Work for Cleanup in MIMAROPA

REGION VI

PROGRAM	PROVINCE	CITY/ MUNICIPALITY	NO. OF WORKERS	NO. OF BARANGAYS COVERED	START DATE	END DATE
DSWD CFW	Antique	Caluya	7,198	4	Mar 06	June 02
DOLE TUPAD	Antique	Caluya	569	-	Mar 15	Apr 15
		Barbaza	200	-	Mar 15	Apr 15
		Belison Bugasong Culasi				

		Laua an Pandan Patnongon Sebaste Tibiao				
		TOTAL	7,198	4		

Table 11: Cash for Work for Cleanup in Region VI

IV. ACTIONS TAKEN

01 March 2023

The DENR Secretary, together with Key Officials from the Central Office, Regional Office MIMAROPA, Provincial Environment and Natural Resources Officer (PENRO) and Community Environment and Natural Resources Officer (CENRO) met with Oriental Mindoro Governor Humerlito Dolor and Naujan Municipality Mayor Henry Joel Teves to discuss the protection of marine and biodiversity resources and prevent further impacts.

In the afternoon, the DENR joined the 1st Quarter Council Meeting of Oriental Mindoro PDRRMC and coordinated with Petron and Shell to deploy equipment including oil spill booms.

The DENR Task Force MT Princess Empress Oil Spill was created with Undersecretary Marilou Erni as the Task Force Commander.

02 March 2023

At approximately 03:00 PM, the DENR Task Force organized a meeting with PCG, the Department of Agriculture-Bureau of Fisheries and Aquatic Resources (DA-BFAR), the Provincial Disaster Risk Reduction Management Office (PDRRMO), and the Provincial Agriculture Office (PAO) for latest situation updates and to arrange the aerial assessment to be led by the DENR Secretary.

At approximately 04:00 PM, the DENR Secretary gave a video statement on the measures being taken by the Department based on the Strategic Action Plan of the Task Force.

The DENR Task Force has established linkage with the Incident Management Team to be jointly led by the Local Chief Executives, PCG and DENR using Unified Command approach.

The DENR Secretary authorized the mobilization of NAMRIA multibeam survey vessels to determine the exact location of the sunken vessel.

03 March 2023

At approximately 7:00 AM, the Task Force led by the DENR Secretary departed Manila to conduct an aerial inspection of affected coastlines, and dialogue with local officials and the PCG in Naujan, Oriental Mindoro. Present during the dialogue were Naujan Mayor Henry Joel Teves, Provincial Administrator, PDRRMO, BFAR, Municipal Agricultural Officer, DENR Undersecretary MGEN Augusto Dela Pena, DENR Undersecretary Carlos Primo David, DENR Assistant Secretary and concurrent Environmental management Bureau (EMB) Director Gilbert Gonzales, Dr. Fernando Siringan of the University of the Philippines Marine Science Institute (UP-MSI), PENRO, and MENROs.

At approximately 10:00 AM, the DENR Task Force, led by Undersecretary Erni, met with the Office of Civil Defense (OCD) to discuss arrangements as to how the National Disaster Risk Reduction and Management Council (NDRRMC) can augment the requirements for containment and cleanup.

The DENR Secretary departed Naujan, Oriental Mindoro at 10:15 AM and arrived at Villamor Airbase at approximately 11:00 AM. The DENR Secretary reported to the President at approximately 1:00 PM.

NAMRIA multibeam survey vessel, BRP Hydrographer Ventura, was mobilized to determine the exact location of the sunken vessel.

The DENR Secretary spoke with Department of Social Welfare and Development (DSWD) Secretary Rex Gatchalian at approximately 5:00 PM to coordinate a cash for work system for coastal cleanup.

The DENR Secretary reached out to Semirara at approximately 9:00 PM for coordination on cleanup in Caluya, Antique.

04 March 2023

At approximately 7:30 AM, NAMRIA vessel BRP Hydrographer Ventura departed for Oriental Mindoro.

The DENR Secretary reached out to Department of the Interior and Local Government (DILG) Secretary Benhur Abalos, Department of Tourism (DOT) Secretary Christina Garcia Frasco, Department of Health (DOH) OIC Undersecretary Maria Rosario Vergeire, Palawan Congressman Jose Alvarez, and Iloilo City Mayor Jerry Trenas for mobilization and health and safety of LGUs involved in coastal cleanup and anticipatory action in Northern Palawan and Guimaras Strait.

The DENR Secretary continued to coordinate with DSWD Secretary Rex Gatchalian and he relayed that the cash for work support is ready in Mindoro.

The DENR Secretary reached out to Department of Labor and Employment (DOLE) Secretary Bienvenido Laguesma on possible use of the Tulong Panghanapbuhay

para sa Ating Disadvantaged/Displaced Workers (TUPAD) Program funds as recommended by Undersecretary Leones. The DENR received a positive response.

At approximately 5:00 PM, the DENR Task Force led by Undersecretary Erni met with the NDRRMC Task Force led by OCD MIMAROPA Regional Director Eugene Cabrera to discuss updates and progress, as well as resolve collective issues and concerns. There will be a joint mechanism for situation reporting by the DENR, focusing on environmental matters, and the NDRRMC, for the overall report.

05 March 2023

NAMRIA vessel BRP Hydrographer Ventura arrived early morning in Oriental Mindoro and gathered data before it was forced to return to Batangas due to rough seas.

The DENR Task Force led by Undersecretary Erni, together with Undersecretary Leones and other Regional officials, visited the Municipality of Pola, Oriental Mindoro. The team met various agency officials on the ground, including DOH OIC Undersecretary Vergeire following the ceremonial turn over of oxygen concentrators, drugs and medicines and other health emergency supplies and equipment. A dialogue was conducted with members of the local community. Present were the DENR Task Force, Oriental Mindoro Governor Bonz Dolor, DOH OIC Undersecretary Vergeire, and representatives from national agencies.

The BMB team arrived in Calapan, Oriental Mindoro to conduct a rapid assessment of affected coastal and marine habitats. In collaboration with UP MSI and UP Visayas, the team is currently developing strategies for rehabilitation, restoration, and regeneration of the affected ecosystems.

At approximately 4:00 PM, the DENR Secretary met the DENR Task Force via video teleconferencing to discuss situation updates and reiterate priorities for the Department. The contents of the National Oil Spill Contingency Plan (NOSCOP) 2019 was also discussed by the Task Force, in which the leadership role of the PCG in the overall incident management for oil spill was recognized.

06 March 2023

Undersecretary Erni met with DENR MIMAROPA Regional Executive Director Lormelyn Claudio to finalize arrangements for the cash for work system and undertake preparations for the meeting with Governor Dolor.

At approximately 9:30 AM, Secretary Loyzaga and other members of the DENR Key Officials met with DSWD Secretary Gatchalian via video teleconferencing to discuss updates on the cash for work system as well as a system of managing donations to be received.

At approximately 12:30 PM, Secretary Loyzaga informed Governor Dolor that BRP Hydrographer Ventura has determined the location of the vessel and will require further verification.

The BMB Assessment Teams were deployed in the Municipality of Pola to assess the biodiversity and social impact of the oil spill as well as to conduct aerial surveys to measure its impact area.

07 March 2023

At approximately 08:30 AM, the DENR Secretary, along with other Key Officials, visited Oriental Mindoro via Presidential Bell 412 aircraft. The Secretary met with Governor Dolor at Pola to discuss next steps following the confirmation of the vessel's location. Among the priorities are the conduct of assessment to determine the appropriate filing of charges. Further, Governor Dolor manifested that the implementation of cash for work should be coursed through the Provincial Government to ensure accountability and avoid duplication of efforts.

At approximately 04:00 PM, the DENR Task Force convened for situation reporting. The meeting was presided over by Undersecretary Leones wherein it was agreed that teams are expected to provide timely updates on the results of water and air sampling and testing. Further, there should be careful and swift handling of disposal of oil wastes.

The BMB deployed three (3) teams to thirteen (13) barangays in the Municipality of Pinamlayan and Bansud, Oriental Mindoro.

08 March 2023

The DENR Secretary reported updates to the President in connection with the oil spill. The updates highlighted the tanker's location, the actions taken by the DENR, process flow for the cash for work program, summary of donations monitored, and ways forward.

Three (3) teams from the BMB targeted to visit the Municipalities of Bongabong and Roxas with seven (7) and six (6) barangays, respectively. Also, BFAR's toxicity tests on fish are ongoing.

In addition, the Oriental Mindoro Coastal Resources Monitoring Team composed of BMB, PENRO Oriental Mindoro, CENRO Roxas, CENRO Socorro, and the Provincial Agriculturist's Office, assessed the degree of oiling in affected areas.

09 March 2023

The Task Force led by Undersecretary Erni met to discuss updates. Among the meeting highlights were the determination of needs per Region as well as the

clarification on the cash for work program. The standardization of reporting of waste collection as part of cleanup operations was also highlighted. There was also a discussion on proper management and observance of protocols for mangrove cleanup.

The BMB Rapid Assessment Teams were deployed to visit the municipalities of Mansalay, Bulalacao, and Gloria, with eight (8), three (3), and four (4) barangays, respectively.

10 March 2023

The DENR Task Force was convened by the DENR Secretary to discuss latest situation updates, particularly on water and air quality assessment, the status of the cash for work program, current needs, and impact assessment. During the meeting, the Regions MIMAROPA and VI presented their respective accomplishments as well as the summary of cleanup operations to the Secretary.

The Secretary instructed the Task Force to arrange preparations for the briefing for foreign donors and organizations who assisted. The preparations will include the quantifying of specific needs as well as the composition of briefing teams.

Following the assessments, the BMB teams are set to conduct the exit conference at the Office of the PENRO in Calapan, Oriental Mindoro to consolidate observations and the ways forward.

11 March 2023

At approximately 8:00 AM, the DENR led by the Secretary, together with other key officials and UP MSI, joined the coordination meeting with the PCG, to discuss updates on strategic actions as well as determination of needs for briefing to partners and donors.

During the meeting, UP MSI highlighted the projections for the incident. Accordingly, NOAA images confirmed continuous seepage (15-20 days based on basic assumptions). Due to prevailing winds, oil will continue to be dispersed to East Palawan. Further, slicks are not seen on surface due to dispersion, emulsion because of strong winds and waves.

The DENR-EMB presented the consolidated updates on water testing, air testing, waste management and cash for work. The BMB also presented the summary of rapid assessment undertaken in around 58 barangays.

12 March 2023

The DENR Task Force continued to monitor the implementation of cleanup operations and cash for work programs as well as the monitoring of donations.

13 March 2023

The DENR Secretary convened the Task Force Key Officials composed of Undersecretaries and Assistant Secretaries to consolidate all updates and come up with a unified report.

14 March 2023

The Task Force led by the Secretary, together with NAMRIA and UP MSI (via Zoom) participated in the Senate Hearing for the Senate Committee on Environment, Natural Resources and Climate Change at approximately 9:00 AM to 2:00 PM. During the hearing, the DENR highlighted the context to situate the Department's role in the oil spill response, the updates from NAMRIA on the ship's location, operational updates from the EMB and BMB, the needs and ways ahead.

15 March 2023

At approximately 9:00 AM, Undersecretary Erni and key officials attended the NDRRMC Meeting in connection with the oil spill. During the meeting, Undersecretary Ariel Nepomuceno, Executive Director of NDRRMC and Administrator of OCD, assumed responsibility that the Council's mechanisms will be fully utilized to orchestrate the efforts of the different agencies.

At approximately 4:00 PM, the Task Force met with the UP MSI and PCG for a coordination meeting to discuss reporting process flows on the status of the oil spill and the projections. Further, the need to expedite implementation of cash for work was highlighted.

16 March 2023

At approximately 8:30 AM, Undersecretary Erni and Undersecretary Leones met with RED Claudio, RD Amil, together with DSWD MIMAROPA to discuss updates on the cash for work program. During the meeting, Undersecretary Erni highlighted that the work should be a collaboration of DENR, DSWD and DOLE, with DENR to lead the coordination. On the part of DENR MIMAROPA, Assistant Regional Director Mikko Landrito was assigned as the focal person for cash for work.

At approximately 2:00 PM, Undersecretary Erni, together with UPMSI, joined the Pre-Disaster Risk Assessment (PDRA) of RDRRMC CALABARZON. During the meeting, the following were emphasized by the DENR:

- RDRRMC should refer to NOS COP, highlighting the leadership roles of PCG and support roles of other agencies
- With reference to the NDRRMC Meeting on 15 March 2023, the Region should prepare in advance for the worst-case
 - The DENR subscribes to UP MSI's assessment that Batangas can proceed for early activities (low risk emergency preparedness)

Subsequently, the Task Force joined the meeting with Governor Dolor to discuss updates on the cash for work program.

At approximately 4:00 PM, the DENR Undersecretaries hosted another daily briefing for the Task Force. Joining the meeting are DOTr Undersecretary Elmer Sarmiento and Assistant Secretary Julius Yano; PCG Admiral Artemio Abu and Capt Rafael General Jr.; and UMPSI experts Dr. Cesar Villanoy, Dr. Fernando Siringan and Dr. Laura David. It was agreed that UP MSI will prepare an updated projection based on existing data. Regions were also instructed to specify detailed timelines for the deployment of individuals for the cash for work program.

17 March 2023

At approximately 8:30 AM, the Task Force led by Undersecretary Erni met with the MIMAROPA Team to further refine and finalize the arrangements for the cash for work program.

At approximately 2:00 PM, Undersecretary Erni joined the meeting organized by OCD to discuss next steps in connection with the deployment of the ROV from Japan that is expected to arrive on 20 March 2023. Joining in the meeting are key officials from PCG, NAMRIA, and technical consultants.

18 March 2023

At approximately 2:00 PM, the DENR Key Officials joined the briefing organized by the PCG about the Japan ROV. The ROV "Hakuyo" is currently en route to the Philippines from Japan onboard its mother vessel, workboat Shin Nichi Maru, and is expected to arrive on Monday, 20 March at approximately 0900H, to start operations. During the meeting, PCG Vice Admiral Rolando Punzalan directed his team and called for the support of other agencies to prepare for the ROV's arrival and meet with the Japan team.

20 March 2023

At approximately 10:00 AM, the DENR Key Officials, NAMRIA and UP MSI joined the briefing organized by the PCG for Japan Disaster Relief (JDR), US Coast Guard, and other key agencies. During the meeting, Dr. Laura David of UP MSI presented an update on the projections, highlighting that the northward shift of the winds would lead to affecting Verde Island. Undersecretary Dela Pena also highlighted the parallel workstreams of the DENR on (1) disaster forensics, (2) cleanup, mitigation, and remediation, and (3) habitats and ecosystems protection and regeneration. Finally, Undersecretary Erni relayed to PCG about the DENR team's planned deployment to Oriental Mindoro on 21 March 2023.

At approximately 3:15 PM, Undersecretaries Erni and Leones met with Ambassador Ilan Fluss, Embassy of Israel, to discuss any possible assistance. Among this is the use of herbal solution for coastal cleanup. The Key Officials recommended that the offer be formally manifested, with all relevant details such as specifications and costing for consideration by the Philippine government.

At approximately 4:00 PM, the DENR Task Force convened and joining the meeting was DENR CALABARZON RED Nilo Tamoria. During the meeting, Regional Executive Director Tamoria emphasized the early preparatory meetings undertaken by the RDRRMC in anticipation of the oil spill. The Undersecretaries reiterated that the Regional Office should already deploy spill booms in advance and ensure that the cleanup teams are wearing appropriate PPE.

Updates were also reported by the Regional Offices MIMAROPA and VI on the water and air quality assessment, cash for work and waste management.

DENR BMB reported about the next steps, in collaboration with USAID and US NOAA, particularly on short term remediation, impact valuation and programmatic approach on the restoration. The recommendations of BMB shall be presented during the NDRRMC Early Recovery Cluster Meeting, targeted for scheduling on Friday, 24 March 2023.

V. WAYS AHEAD

1. Monitor the results of the ROV assessment and plan accordingly for the next actions. Coordinate with agencies from the National Task Force and support in the ROV's operations as needed
2. Lead the Early Recovery Cluster of the NDRRMC in the development and implementation of an inter-agency national recovery plan for the oil spill
3. Sustain coastal water and air monitoring, oil spill recovery and cleanup
4. Introduce contingency measures to abate impacts on marine protected areas, mangroves and other ecosystems
5. Sustain proper collection, transport, and disposal of recovered wastes to TSD facilities
6. Implement arrangements for cash for work in collaboration with DSWD, DOLE and affected LGUs
7. Continue linkage with donors, private organizations, development partners, and other partners for possible support
8. Strengthen evidence basis for possible future action against accountable parties
