



## TASK FORCE MT. PRINCESS EMPRESS OIL SPILL INCIDENT

### SITUATIONAL REPORT NO. 37

05 May 2023

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Sources: DENR BMB, DENR and EMB ROs CALABARZON, MIMAROPA and VI, PENROs and CENROs, PCG, OCD  
Note: All data are operational in nature and subject to further validation.

#### 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, oil sightings were reported in Verde Island, Batangas City.

On 23 March 2023, the Philippine Coast Guard (PCG) officially elevated the response operations to Tier 3.

Presently, the following localities are under continuous monitoring:

REGION	PROVINCES	CITIES/ MUNICIPALITIES	REMARKS
IVA	BATANGAS	4 OUT OF 34 CITIES/ MUNICIPALITIES 1. BATANGAS CITY (ISLA VERDE) 2. TINGLOY (MARICABAN ISLAND) 3. LOBO 4. MABINI (BRGY. ANILAO)	
IVB	OCCIDENTAL MINDORO	2 OUT OF 11 MUNICIPALITIES 1. MAGSAYSAY 2. SAN JOSE	
	ORIENTAL MINDORO	12 OUT OF 14 CITIES/ MUNICIPALITIES 1. BACO 2. BONGABONG 3. BULALACAO	Sangguniang Panlalawigan Resolution No. 6290-2023 dated 06 March 2023 declared 78 coastal barangays of nine (9) municipalities of

		4. CALAPAN CITY 5. GLORIA 6. MANSALAY 7. NAUJAN 8. POLA 9. PINAMALAYAN 10. PUERTO GALERA 11. ROXAS 12. SAN TEODORO	Oriental Mindoro affected by the oil spill under the state of calamity.
	PALAWAN	2 OUT OF 13 MUNICIPALITIES 1. AGUTAYA 2. TAYTAY	
VI	ANTIQUE	1 OUT OF 18 MUNICIPALITIES 1. CALUYA	Caluya declared under State of Calamity

Table 1: Localities under continuous monitoring due to the Oil Spill

## II. EFFECTS TO ENVIRONMENT

### 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:

REGION	PROVINCE	AREAS COVERED	NO. OF SAMPLING STATIONS			DATE OF LAST SAMPLING CONDUCTED
			TOTAL STATIONS	WITHIN NORMAL WQG	EXCEEDED WQG	
IVA	BATANGAS	BATANGAS CITY (ISLA VERDE)	6	6	0	22 March 2023
	BATANGAS	TINGLOY (MARICABAN ISLAND)	4	4	0	29 March 2023
	BATANGAS	LOBO	3	3	0	28 March 2023
	BATANGAS	MABINI (BRGY. ANILAO)	1	1	0	29 March 2023
		<b>TOTAL</b>	<b>14</b>	<b>14</b>	<b>0</b>	
IVB	OCCIDENTAL MINDORO	MAGSAYSAY	3	1	2	29 March 2023
	OCCIDENTAL MINDORO	SAN JOSE	2	1	1	29 March 2023
	ORIENTAL MINDORO	BACO	1	0	1	31 March 2023
	ORIENTAL MINDORO	BONGABONG	4	2	2	17 April 2023
	ORIENTAL MINDORO	BULALACAO	3	0	3	17 April 2023
	ORIENTAL MINDORO	CALAPAN CITY	8	2	6	20-25 March 2023
	ORIENTAL MINDORO	GLORIA	8	0	8	16 April 2023
	ORIENTAL MINDORO	MANSALAY	2	0	2	17 April 2023
	ORIENTAL MINDORO	NAUJAN	9	0	9	27 March 2023
	ORIENTAL MINDORO	POLA	9	1	8	27-28 March 2023
	ORIENTAL MINDORO	PINAMALAYAN	5	0	5	16 April 2023
	ORIENTAL MINDORO	PUERTO GALERA	35	25	10	25 April 2023
	ORIENTAL MINDORO	ROXAS	4	0	4	17 April 2023
	ORIENTAL MINDORO	SAN TEODORO	2	0	2	31 March 2023
		PALAWAN	TAYTAY	19	8	11
	<b>TOTAL</b>	<b>114</b>	<b>38</b>	<b>76</b>		
VI	ANTIQUE	CALUYA (Surface Water) Regular Stations	10	9	1	April 11-13, 2023
	ANTIQUE	CALUYA (Surface Water) Clean-up Sectors	4	1	3	April 11-13, 2023
	ANTIQUE	CALUYA (Groundwater)	5	1	4	April 11-13, 2023
		<b>TOTAL</b>	<b>19</b>	<b>11</b>	<b>8</b>	
<b>GRAND TOTAL</b>			<b>152</b>	<b>51</b>	<b>101</b>	

\*Note: Water quality testing requires further validation as the presence of oil and grease can be attributed to many other factors, aside from the oil spill

Table 2: Water Quality Monitoring in Regions IVA, IVB and VI

## AIR QUALITY MONITORING

Using the parameters of H<sub>2</sub>s (Hydrogen Sulfide) and TVOC / VOC (Total VOC /Volatile Organic Compounds) for air quality monitoring, the following were observed:

REGION	PROVINCE	AREAS COVERED	NO. OF SAMPLING STATIONS								DATE OF LAST SAMPLING CONDUCTED	
			TOTAL STATIONS (H <sub>2</sub> S)	H <sub>2</sub> S		Total Station s VOC	VOCs (Laboratory)		Total Station TVOC	TVOC (In-Situ)		
				NOT DETECTED	DETECTED		NOT DETECTED	DETECTED		NOT DETECTED		DETECTED
IVA	BATANGAS	BATANGAS CITY (ISLA VERDE)	2	2	0	2	2	0	0	-	-	Mar 22
		<b>TOTAL</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>-</b>	<b>-</b>	
IVB	ORIENTAL MINDORO	CALAPAN CITY	1	0	1	0	0	0	1	0	1	H <sub>2</sub> S and TVOC: 25 March 2023
	ORIENTAL MINDORO	NAUJAN	1	0	1	0	0	0	1	0	1	H <sub>2</sub> S and TVOC: 25 March 2023
	ORIENTAL MINDORO	POLA	4	0	4	4	4	0	7	0	7	H <sub>2</sub> S: 17 and 24 March 2023, TVOC: 20 April 2023,; VOC: 9-10 March 2023
	ORIENTAL MINDORO	PINAMALAYAN	3	0	3	0	0	0	3	0	3	H <sub>2</sub> S and TVOC: 23 March 2023
	<b>TOTAL</b>	<b>9</b>	<b>0</b>	<b>9</b>	<b>4</b>	<b>4</b>	<b>0</b>	<b>12</b>	<b>0</b>	<b>12</b>		
VI	ANTIQUE	CALUYA	5	5	0	5	5	0	-	-	-	April 25-27, 2023
	<b>TOTAL</b>	<b>5</b>	<b>5</b>	<b>0</b>	<b>5</b>	<b>5</b>	<b>0</b>	<b>-</b>	<b>-</b>	<b>-</b>		
<b>GRAND TOTAL</b>			<b>16</b>	<b>7</b>	<b>9</b>	<b>11</b>	<b>11</b>	<b>0</b>	<b>12</b>	<b>0</b>	<b>12</b>	

Table 3: Air Quality Monitoring in Regions IVA, IVB and VI

## WASTE MANAGEMENT

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

REGION	PROVINCE	AREAS	OIL WASTES		OIL CONTAMINATED WASTES		PERCENTAGE COLLECTION BY DENR REGISTERED TRANSPORTER / REMARKS	AGENCIES/ ORGANIZATIONS INVOLVED IN THE COLLECTION
			CUMULATIVE VOLUME (LITERS)	CUMULATIVE WEIGHT (KILOGRAMS)	CUMULATIVE VOLUME (LITERS)	CUMULATIVE WEIGHT (KILOGRAMS)		
IVA	BATANGAS	BATANGAS CITY (ISLA VERDE)	OILY MIXTURES: 278.5 OIL TARBALLS: 37.5			Oil contaminated debris (1121kg) & 10 Absorbent Pad	Staged in the following barangays: San Agapito, San Andres, San Agustin Kanluran, Liponpon, San Antonio	PCG, US COAST GUARD, CGSS BATANGAS CITY, CDRRMO, DENR CENRO
IVB	ORIENTAL MINDORO	CALAPAN CITY			30,504.90	27,454.41	54.26%	PCG, HARBOUR INSURANCE, LOCAL COMMUNITIES UNDER DSWD CASH FOR WORK PROGRAM (DSWD)
	ORIENTAL MINDORO	NAUJAN			4,477.20	4,029.48	37.20%	
	ORIENTAL MINDORO	POLA			270,305.70	243,275.13	55.23%	
	PALAWAN	TAYTAY			1,249.205	1,124.28	0	
	<b>TOTAL</b>				<b>306,537.00</b>	<b>275,883.30</b>		
VI	ANTIQUE	SITIO SIGAYAN				10,283	ongoing preparation of the staging area	PCG, SEMIRARA MINING AND POWER CORPORATION, LOCAL COMMUNITIES UNDER DSWD CASH FOR WORK PROGRAM, DOLE TUPAD PROGRAM, HARBOUR STAR SHIPPING, DENR CENRO
	ANTIQUE	SITIO TOONG				2,489		
	ANTIQUE	SITIO SABANG	5,885	5296.5		399,813.4		
	ANTIQUE	SITIO LIWAGAO	600	540		63,713		
<b>TOTAL</b>			<b>6,485</b>	<b>5,836.5</b>		<b>476,298.4</b>		
<b>GRAND TOTAL</b>			<b>6,801</b>	<b>5,836.5</b>	<b>306,537.0</b>	<b>753,302.7</b>		

Table 4: Waste Management in Regions IVA, IVB and VI

### III. CASH FOR WORK

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:

REGION	AREAS COVERED BY CASH FOR WORK PROGRAM	TARGET WORKERS	TOTAL AMOUNT (PHP)	AMOUNT ALREADY RELEASED/ PAYOUT (PHP)	NO. OF BENEFICIARIES WHO ALREADY RECEIVED PAYOUTS
IVB	BANSUD, BONGABONG, BULALACAO, GLORIA, NAUJAN, PINAMALAYAN, POLA, ROXAS, AGUTAYA, TAYTAY	24,274	258,518,100.00	58,901,600.00	15,987
VI	ANTIQUÉ (CALUYA)	7,195	52,413,750.00	8,653,500.00	1,287
<b>TOTAL</b>		<b>31,469</b>	<b>310,931,850.00</b>	<b>67,555,100.00</b>	<b>17,274</b>

Table 5: DSWD's Cash for Work for Cleanup in Regions IVB and VI

REGION	AREAS COVERED BY TUPAD PROGRAM	TARGET WORKERS	TOTAL AMOUNT (PHP)	AMOUNT ALREADY RELEASED/ PAYOUT (PHP)	NO. OF BENEFICIARIES WHO ALREADY RECEIVED PAYOUTS
IVB	BANSUD, BONGABONG, BULALACAO, CALAPAN, GLORIA, POLA, MANSALAY, NAUJAN, PINAMALAYAN, ROXAS	18,421	102,983,130.00	Note: to commence after DSWD CFW	Note: to commence after DSWD CFW
VI	ANTIQUÉ (CALUYA)	2,281	18,946,336.00	11,072,666.00	1,497
<b>TOTAL</b>		<b>20,702</b>	<b>121,929,466.00</b>	<b>11,072,666.00</b>	<b>1,497</b>

Table 6: DOLE's TUPAD Program in Regions IVB and 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 1<sup>st</sup> Quarter Council Meeting of Oriental Mindoro PDRPMC 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 Pinamalayan 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 were 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 NOSCOP, 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.

### **21 March 2023**

The DENR Task Force led by Undersecretary Erni, together with Undersecretary Leones and other officials visited Pola, Oriental Mindoro and joined the press briefing led by the Department of Justice (DOJ) Secretary Jesus Crispin Remulla. Secretary

Remulla highlighted the ongoing case build up efforts to be used for filing appropriate charges, and encouraged communities and authorities to ensure proper documentation of the incident operations.

At approximately 2:00 PM, the Task Force joined Governor Dolor in another press briefing. Governor Dolor presented the initial photo and video footage of the sunken MT Princess Empress, as provided by the Japan ROV. He conveyed to the public how the NAMRIA's initial information on the vessel's location significantly helped the ROV in its search operations. Undersecretary Leones further emphasized during the press briefing the importance of scientific assessment to study and determine the components of the oil contamination. He acknowledged as well the regular projections by the UP MSI on the direction of the oil spill.

Immediately after the press briefing is the turnover of donations of around 10,000 various PPE by the DENR for the province of Oriental Mindoro. The donations were turned over by Undersecretary Erni to Governor Dolor.

At approximately 5:30 PM, Undersecretary Erni and Undersecretary Leones gathered the Task Force personnel onsite for post-daily briefing. The officials appreciated the gains of the Task Force for the oil spill response and stressed the need to allocate resources in other areas anticipated to be hit by the oil spill such as Batangas.

The Task Force also supervised and monitored the efforts of the Regions, which include the following:

- Creation of the DENR IV-A Oil Spill Response Team (OSRT) led by the Regional Executive Director Nilo Tamoria
- Full participation and support of Regional personnel from DENR, EMB, PENRO and CENRO in MIMAROPA to the onsite activities of the Task Force Key Officials
- Sustained water and air quality sampling and assessment by Region VI

## **22 March 2023**

The Task Force led by Undersecretary Erni met with PCG Commodore Tuvilla to endorse the oil absorbent pads donated by Ecotrans International, tapped by Oceanus.

Immediately after the meeting, Undersecretary Erni joined Governor Dolor, PCG Vice Admiral Punzalan and Commodore Tuvilla, together with PNP and PPA officials, as well as the US Contingents, for another press briefing. During the briefing, Governor Dolor presented more details about the findings of the ROV, stating that additional equipment shall be sourced out to be included in the ROV's capabilities for oil patching and bagging. He reiterated the speedy operations of the ROV through the support of data provided by NAMRIA. Governor Dolor further expressed full

appreciation to the DENR for its full support to the province since Day 1 of the incident.

### **23 March 2023**

At approximately 9:00 AM, Undersecretary Rodriguez joined the DOJ meeting presided by Secretary Remulla. The purpose of the meeting was to discuss the pertinent requirements for case build up and impose the necessary sanctions to the accountable parties.

At approximately 2:00 PM, Undersecretary Erni, Undersecretary Dela Peña and Assistant Secretary Amaro joined in the NDRRMC 1st Quarter Full Council Meeting. During the meeting, the DENR presented to the Council the parallel workstreams as well as the accomplishments in terms of impact assessment to water, air and biodiversity.

At approximately 4:00 PM, simultaneous with the NDRRMC Full Council Meeting, Undersecretary Leones convened the Task Force to discuss situation updates. The Regions were reminded to sustain cash-for-work efforts and document cleanup operations. Further, DENR CALABARZON reported initial activities to prevent oil from reaching the shorelines of Verde Island.

### **24 March 2023**

At approximately 9:00 AM, the first meeting of the NDRRMC Early Recovery Cluster was convened. With Undersecretary Erni as the Chair, the Cluster was organized to facilitate the restoration of the normal environmental and living conditions of communities affected through mobilization of resources and implementation of developmental interventions. Joining the DENR are other government agencies: OCD, DSWD, DOLE, DILG, DA-BFAR, DTI, DOT, TESDA, DBM and UP MSI. During the meeting, the agencies presented their existing early recovery initiatives, all of which shall form part of the intended Recovery Plan to support the early recovery to full recovery requirements of the LGUs affected.

Undersecretary Erni also announced that the Cluster will participate in the workshop on developing the Recovery Roadmap for Oriental Mindoro in the first week of April, as relayed by Governor Dolor.

### **25 March 2023**

The DENR and EMB Regional Offices, together with the PENROs and CENROs in CALABARZON, MIMAROPA and Region VI sustained the efforts for cleanup, water and air quality monitoring as well as coordination with concerned agencies to ensure harmonization of efforts.

For specific activities, DENR 4B assisted Oceanus in the conduct of ocular/site inspection at Calima, Pola, Oriental Mindoro for the possible use of the eco-friendly dispersant.

Likewise, through the supervision of Undersecretary Erni, coordination has been made with materials science expert Dr. Gobet Advincula, former President of the Philippine American Academy of Science and Engineering (PAASE), as to the fabrication of oil spill booms by communities using coconut husks. Families from Brgy. Maidlang, Calapan City were the first beneficiary of this effort, wherein the mothers and fathers worked on the fabrication by themselves. To facilitate the fabrication of spill booms, shredding machines and fabricators were brought from Bacolod City by Mr. Ramon Uy from the RU Foundry and Machine Shop Corporation and Ecological and Agriculture Development Foundation, Bacolod City.

In Region 4A, DENR-EMB CALABARZON conducted water sampling in Verde Island Passage, in which results are yet to be released. The Regional Office also conducted site inspection on the proposed temporary storage for all collected wastes from the affected Barangays in Verde Island, together with the local government of Batangas.

### **26 March 2023**

DENR MIMAROPA visited the coastal barangays of Puerto Galera, Oriental Mindoro where spill booms are being fabricated. While there were no oil slicks observed in Brgys. Dulangan and Poblacion, the communities remain prepared since their areas are near Verde Island and Tingloy, Batangas.

Meantime, in Brgy. Maidlang, Calapan City, the oil slick was observed. Oil spill booms have been prepared for installation.

In Region VI, PCG Officers and personnel conducted area surveys and ocular assessment at all sections from area A – H (Clean-up Areas) at Sitio Sabang, Brgy. Tinogboc, Semirara, Caluya, Antique. Further, DENR is working closely with DSWD and DOLE to consolidate the list of beneficiaries for the cash for work and TUPAD Program and ensure there is no duplication.

### **27 March 2023**

At approximately 4:00 PM, the Task Force was convened by Undersecretary Erni. For Region IVB, EMB Regional Director Amil reported about the issuance of Notice of Violation against the vessel owner/management. In addition to the report of EMB, Undersecretary Erni directed the Regional Office to prepare for the turnover of donations from Oceanus.

In Region VI, the PCG continued with ocular inspection along the shoreline of Sitio Sabang, Brgy. Tinogboc, Caluya, Antique as well as the coordination with DSWD and DOLE for the cash for work.

Aside from the meeting discussions, Undersecretary Dela Peña instructed the Regional Offices about proper cleaning of mangroves to avoid further environmental damage during the cleanup process. Further, the Regions were directed by Undersecretary Erni about the need to harmonize reporting templates.

## **28 March 2023**

At approximately 8:30 PM, Undersecretary Dela Peña joined the briefing of the PCG with the South Korean Coast Guard via video teleconferencing. During the briefing, Undersecretary Dela Peña updates on the parallel workstreams and the actions taken by the DENR in collaboration with the PCG as well as other agencies.

At approximately 11:30 AM, the DENR Key Officials were convened by Secretary Loyzaga to discuss updates in terms of environmental monitoring, biodiversity impact assessment, cash for work and early recovery. The Secretary conveyed the need to specify timelines and next steps for biodiversity impact assessment. As for the Early Recovery efforts, Secretary Loyzaga highlighted that the DENR should adhere to its mandate and let the authorized agencies take the respective leadership roles, particularly for the National Economic and Development Authority (NEDA) to lead the Disaster Rehabilitation and Recovery.

For the specific regional activities, in Region IVA, the EMB conducted water quality sampling in Lobo and Tingloy, Batangas. In Region IVB, the DENR personnel joined the DSWD, Philippine Army, Harbor Star Shipping Services and local volunteers as augmentation for the PCG's shoreline response. Their activities included recovery of oil waste, containment using spill booms, oil spill assessment, protection booming and application of dispersant. In Region VI, the EMB Monitoring Team arrived in Semirara Island for the 4th weekly water sampling and air quality monitoring to include Nagubat Island. The Regional personnel also participated in the Regional Task Force Meeting.

## **29 March 2023**

At approximately 10:00 AM, Undersecretary Dela Peña attended the NDRRMC Meeting in connection with the oil spill. He highlighted the efforts of the Early Recovery Cluster led by the DENR, particularly on the implementation of cash for work program, the mobilization of government resources, and participation in the development of the oil spill recovery roadmap as part of Disaster Rehabilitation and Recovery (under the leadership of NEDA). During the meeting, Undersecretary Nepomuceno, Executive Director of NDRRMC, raised the need to clarify with the DOJ regarding the entity authorized to receive claims from all the environmental damages. Also, given the increasing concern on the affected livelihoods as well as the health risks associated with the oil spill, the DENR's role in impact assessment was emphasized. With this, Undersecretary Dela Peña clarified that the DENR through the BMB is in charge of the impact assessment while the EMB is in charge of regular water and air quality monitoring.

At approximately 4:00 PM, the Task Force Meeting was presided by Undersecretary Dela Peña. BMB Assistant Director Armida Andres presented updates on the rapid assessment, specifying the initial observations and the next steps, particularly on the

impact assessment, valuation and the programmatic approach to restoration and Regeneration. NOAA experts Jordan Stout and Ruth Yender discussed findings of their team based on their deployment, with the recommendations for continued remote support, capacity building for future incidents, and other considerations for the cleanup requirements.

Afterwards, Dr. Laura David presented the latest oil spill projections, highlighting that if the seepage is continuing, potential impact areas are the northeast coast of Oriental Mindoro (Pola, Naujan up to Calapan City).

Ms. Agatha Bedi next presented the updates on the development of protocols for mangrove cleaning. She provided a quick look at the protocols, to include some case references. Target implementation will be in the third week of April 2023, though Undersecretary Dela Peña commented that the work should be expedited.

The DENR and EMB Regional Offices also presented their ongoing efforts in terms of water and air quality monitoring, waste management, cash for work as well as their linkages with the PCG, LGUs and other agencies.

### **30 March 2023**

At approximately 4:00 PM, the DENR organized a high-level meeting presided by Secretary Loyzaga. It was attended by Secretary Rex Gatchalian of DSWD, Secretary Benhur Abalos of DILG, Admiral Artemio Abu of PCG, as well as key officials from DOH, DOTr, DND and OCD. Joining via video teleconferencing were Governor Dolor, NOAA experts Jordan Stout and Ruth Yender, and Dr. Laura David from UP MSI. During the meeting, all the Secretaries expressed commitment to interface with other Departments and key officials on the response and recovery priorities. These priorities include the expedited regular sea water testing by DA-BFAR, and the monitoring and imposition of price freeze for basic commodities in areas with declaration of State of Calamity by DTI. Further, OCD has been directed to mobilize its water filtration system from the Hungarian government to support the province. Admiral Abu also manifested that efforts are in place to fast track the oil retrieval and containment.

### **31 March - 02 April 2023**

The Task Force through the DENR and EMB Regional Offices, PENROs and CENROs sustained efforts for continuous air and water monitoring and sampling of stations, provision of technical assistance in waste management, fabrication of spill booms, provision of support in cleanup process as well as monitoring of cash for work activities.

### **03 April 2023**



At approximately 10:00 AM, the DENR Officials discussed the oil spill response updates during the Executive Committee (EXECOM) Meeting presided by Secretary Loyzaga. During the meeting, Secretary Loyzaga directed the Task Force to come up with analysis of water sampling results pre and during the oil spill incident to assess whether the contamination in the waters can generally be attributed to the incident. As ways ahead, the Task Force will participate in the Recovery Planning Workshop, in which details are to be provided by the Oriental Mindoro Provincial Government. Further, the Cabinet Secretaries shall visit Oriental Mindoro, to be targeted after the Holy Week Break. Also, the regular national-level meeting on oil spill is proposed to be integrated in the regular weekly NDRRMC meeting to be hosted by the OCD. The Task Force shall sustain its regular meetings and submission of situational reports.

#### **04 April 2023**

At approximately 9:30 AM, Undersecretary Rodriguez together with other key DENR officials and personnel participated in the inter-agency case building conference headed by the DOJ. During the conference, Undersecretary Rodriguez reported on the localities affected by the oil spill (5 provinces, 2 cities and 14 municipalities with reported effects) and discussed the next steps for the valuation of environmental impacts.

At approximately 3:30 PM, the Task Force was convened by Undersecretary Erni for the regular meeting and updating. EMB IVB Regional Director Joe Amil Salino presented about the ongoing efforts and manifested the limitations for staging the collected wastes (i.e. need for roofing for the staging facility). Likewise, EMB VI Regional Director Ramar Pascua discussed the highlights of accomplishments, notably on the establishment of observation sites for in-depth assessment of impacts as well as the convening of the Regional Interagency Task Force led by DENR RED Levi Duran. Undersecretary Erni gave additional instructions for the Regions for sustained monitoring for eventualities even in the Holy Week break. Also, Undersecretary Dela Peña reminded about the need for assessments to be supported by science-based evidence.

#### **11 April 2023**

The Task Force led by Undersecretary Erni checked on the progress of operations following the Holy Week Break. Specifically in Region IVB, Undersecretary Erni visited Oriental Mindoro again and met with Commodore Tuvilla to be apprised on the current situation. As regards the oil absorbent pads to be donated by Oceanus, following the recommendation from Dr. Hernando Bacosa of the DOST National Research Council of the Philippines (NRCP), Undersecretary Erni manifested that the DENR shall consider development of protocols for the use of the said absorbent pads possibly on the Phase 3 or the final shoreline clean-up operation.

At approximately 2:00 PM, Undersecretary Erni met with Dr. Hubbert Christopher Dolor, Provincial Administrator of Oriental Mindoro, to relay the updates on the

absorbent pads by Oceanus. Further, Undersecretary Erni expressed interest to support the province in the development of the oil spill recovery roadmap. Accordingly, the Provincial Government has already prepared an initial draft and will proceed to explore funding support for the identified recovery priorities.

### **12 April 2023**

At approximately 10:00 AM, Undersecretary Rodriguez, together with officials and personnel from BMB, joined another Case Conference presided by DOJ Secretary Remulla. During the conference, the DENR presented the updates on the extent of damage and cost of environmental rehabilitation.

Meantime, the Regional Offices sustained its efforts for regular water and air testing, cleanup, waste management and support in cash for work implementation.

### **15 April 2023**

Secretary Loyzaga joined President Bongbong Marcos and other Cabinet members in the visit to Oriental Mindoro to assess the ongoing oil spill response. The DENR presented

Secretary Loyzaga also led the briefing for the President to present updates on the response efforts of all concerned agencies. Also, she highlighted DENR's efforts in terms of water and air quality testing, waste management and linkage with other agencies and partners. The Secretary assured that the DENR is continuously developing its response and recovery activities based on science and evidence, and is closely coordinating with all agencies to ensure a coherent and localized response in protecting the country's marine resources and ecosystems.

### **18 April 2023**

The DENR and DOH issued a Joint Statement on the water sampling in certain areas in Puerto Galera. It was emphasized that as of 14 April 2023, only 9 out of 36 water sampling stations in the Municipality of Puerto Galera and its Barangays have met the criteria for water quality guidelines set by the DENR. With this, the DOH advised the public to exercise caution and refrain from consuming water from affected areas and when conducting water-related occupational and recreational activities.

At approximately 3:00 PM, the DENR organized a press briefing related to the Joint Statement. Secretary Loyzaga and Undersecretary Leones emphasized the mandate of the DENR when it comes to water quality testing, underscoring that the corresponding issuance of advisories and restriction of related activities will be made by agencies concerned.

### **19 April 2023**

At approximately 9:00 AM, Secretary Loyzaga led the conduct of Oil Spill Recovery Planning Harmonization Activity at the Social Hall of the DENR Main Building. It was attended by the DOT Secretary Christina Frasco, NDRRMC Executive Director Undersecretary Nepomuceno and other senior officials from DOST, DSWD, NEDA, DepEd, DOJ, DOLE, DOT, DTI, DOE, DOTr, DOTr-PCG, DOH, DA, DA-BFAR, DBM, and TESDA. The Harmonization Activity served as a venue for stocktaking and integration of existing early recovery programs to assist in the recovery and rehabilitation of the LGUs affected. The Resilience Framework was presented, which underscores Local Economy, Human Security, Human Development and Environment as categories for the menu of early recovery programs. It was further agreed that the sectoral assessment activities of all government agencies concerned must be harmonized and unified for integration in the NDRRMC's Post-Disaster Needs Assessment (PDNA).

### **20 April 2023**

At approximately 11 AM, the DENR through the BMB, Legal Affairs Service and EMB ROs 4B and 6 participated in the Technical Sub-Group Meeting organized by the International Tanker Owners Pollution Federation Limited (ITOPF). The meeting focused on the proposed comprehensive environmental assessment that is intended to be harmonized along with existing government assessment efforts for the environmental impacts of the oil spill. The DENR participants relayed that the assessment will need to be integrated in the planned efforts of the NDRRMC for multi-sectoral PDNA.

At approximately 1:30 PM, Undersecretary Erni attended the NDRRMC National Task Force Meeting, which was presided by Executive Director, Undersecretary Nepomuceno. During the meeting, Undersecretary Erni presented the efforts of the Early Recovery Cluster and summarized the results of the Recovery Planning Harmonization Activity. Further, Undersecretary Erni committed that the DENR will support the NDRRMC in the conduct of scientific conference to gather all oil spill recovery experts as well as the implementation of the PDNA. Also, the DENR signified its participation in the proposed Strategic Communications Team of the National Task Force.

### **25 April 2023**

In Region 6, PCG, PHO and Harbor Star personnel continued manual collection of oil and segregation on SECTOR C, SECTOR D, SECTOR E, SECTOR F, and UNONG A-B and transferred the contaminated sand and debris to the designated temporary storage areas. They also conducted flushing and flooding of mangrove areas using the Low-pressure pump on sector C, D, E, and F. A shoreline monitoring and assessment was done by PCG at the affected area at Unong A, B and Sitio Sabang Brgy. Tinogboc, Semirara Island, Caluya Antique together with assisting organizations (ITOPF and LE FLOCH).

In Region 4B, EMB MIMAROPA monitored the collection of drums and tonner bags with oil-contaminated materials from Naujan, Oriental Mindoro. Far East Fuel Corp., transporter, collected three (3) drums and three (3) tonner bags, and transferred them to the temporary storage area located in Pola, Oriental Mindoro.

### **28 April 2023**

Continuous coordination with the Harbor Star for the transport of the hazardous waste. The EMB monitors the implementation of the Clean-up Plan submitted by Harbor Star specifically on the hauling, storage, and disposal of hazardous waste.

The team from EMS Romblon together with the PCG of Corcuera conducted water quality sampling in Corcuera, Romblon in relation to the recent report of oil spill sighting in Corcuera, Romblon.

### **01 May 2023**

In Region 4B, the Marine Science Technician Team, consisting of representatives from EMB MIMAROPA, CDRRMO, Fisheries Management Office (FMO), International Tankers Owners Pollution Federation Inc. (ITOPF) and Barangays concerned, submitted its report on the Joint Initial Shoreline Cleanup Assessment Technique (SCAT) on the affected areas of the City of Calapan. The assessment covered the barangays of Navotas, Maidlang, Silonay, Parang, Suqui, Lazareto, San Antonio, and Harko Piloto. Said report will be incorporated in the overall assessment of impacts brought about by the oil spill.

### **02 May 2023**

The DENR Field Teams from the Regional and Provincial Offices sustained the conduct of water and air quality sampling as well as waste management efforts. As regards the sinking of M/Y Dream Keeper in Tubbataha, Palawan, as reported by the PCG on 30 April 2023, a total of 28 survivors were already rescued while 4 persons are missing. Based on the May 2 report from the Provincial Environment Management Office (PEMO) in Palawan in connection with possible oil spill, the PCG is still directly coordinating with the rangers in Tubbataha, Palawan. While there were observed spots of oil sheen, they were found to disappear immediately due to waves.

### **05 May 2023**

The conduct of air and water sampling as well as hazardous waste monitoring and management were continued in all the affected localities. Specifically in Region 4B, the DENR through EMB 4B provided the results of the water quality assessment in the coastal waters of Oriental Mindoro. Based on the two-month assessment, it was observed that all areas located in the north of ground zero have lower recorded oil

and grease as compared to those areas located in the south. Nevertheless, all monitored shorelines generally improved during the course of the monitoring. Further, all monitored areas in the Municipality of Pola are all within the water quality guidelines (WQG) for oil and grease (OG) based on the last sampling result available.

Results for the water quality assessment will be forwarded to DOH for health impact assessment, BFAR for assessment of suitability for fishing activities, and PCG for shoreline assessment.

## **V. WAYS AHEAD**

1. Lead the Early Recovery Cluster of the NDRRMC and participate succeeding activities to be organized by the Council (i.e. scientific conference, Post-Disaster Needs Assessment, etc.)
2. Sustain coastal water and air monitoring, oil spill recovery and cleanup operations
3. Introduce contingency measures to abate impacts on marine protected areas, mangroves and other ecosystems
4. Sustain proper collection, transport, and disposal of recovered wastes to TSD facilities
5. Implement arrangements for cash for work in collaboration with DSWD, DOLE, DOH and affected LGUs
6. Continue linkage with donors, private organizations, development partners, and other partners for possible support
7. Strengthen evidence basis for possible future action against accountable parties

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