Рамочная конвенция
по защите морской среды
Каспийского моря

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Региональный проект «Решение проблемы морского мусора в регионе Каспийского моря»

(Записка временного Секретариата)

Введение

Морской мусор сегодня является одной из самых сложных экологических проблем в глобальном масштабе. В последнее десятилетие этому вопросу уделялось все больше внимания с точки зрения объема посвященных ему исследований, и установления обязательств мирового сообщества по решению данной проблемы. Проблема морского мусора также становится все более актуальной в регионе Каспийского моря.

Следует признать, что усилия, предпринимаемые Прикаспийскими странами в борьбе с проблемой морского мусора, являются недостаточными, фрагментарными и не в полной мере скоординированными. Отсутствие соответствующей платформы для обмена опытом также является препятствием для решения этой проблемы. Кроме того, данная проблема осложняется отсутствием специалистов в области устойчивого потребления и обращения с отходами в регионе.

Поэтому в конце 2018 года был запущен проект «Решение проблемы морского мусора в регионе Каспийского моря», который реализуется общественным фондом «Центр водных инициатив» - WIC (Республика Казахстан) под эгидой временного Секретариата Тегеранской конвенции и финансируется Фондом Кока-Кола через Global Water Challenge.

Исторический обзор

Поскольку проблемы, связанные с морским мусором, не ограничиваются национальными территориями, региональное сотрудничество между прикаспийскими странами имеет жизненно важное значение. Положения подпункта a) пункта 2 статьи 5 Московского протокола предусматривают принятие региональных и/или национальных программ или планов действий, основанных на мерах по контролю за источниками загрязнения и содержащих соответствующие меры. При подготовке планов действий, программ и принятии мер по предотвращению, контролю, сокращению и ликвидации загрязнения из наземных источников протокол в максимально возможной степени учитывает категории веществ, выявленных на основе их опасных или других вредных характеристик, включая морской мусор (пункт 6 раздела B Приложения I к Московскому протоколу).

В ходе пятой сессии Конференции Сторон (КС-5) Тегеранской конвенции, 28–30 мая 2014 года в Ашхабаде, Туркменистан, Стороны «приветствовали участие соответствующих международных

организаций и представителей частного сектора, в том числе нефтяной и газовой промышленности, морских транспортных компаний, и призвали продолжить поддержку реализации Тегеранской конвенции и протоколов к ней», а также «призвали всех доноров рассмотреть, продолжить, возобновить или увеличить на двухсторонней или многосторонней основе свою поддержку процессу реализации положений Тегеранской конвенции и протоколов к ней».

На шестом заседании Подготовительного комитета (ПодКом-6) к шестой сессии Конференции Сторон (КС-6) Тегеранской конвенции (сентябрь 2018 года, Баку, Азербайджан) Стороны Тегеранской конвенции были проинформированы о разрабатываемых проектах, представленных в документе КС-6 (TC/COP6/Info2), и обменялись мнениями по ним. В документе представлена информация о вышеупомянутом проекте по решению проблемы морского мусора в регионе Каспийского моря. Стороны Тегеранской конвенции приветствовали и поддержали соответствующую работу и деятельность временного Секретариата Тегеранской конвенции (ВСТК).

Письмом от 5 декабря 2018 года Стороны Тегеранской конвенции были проинформированы о начале реализации проекта «Решение проблемы морского мусора в регионе Каспийского моря» (далее – проект) и получили проектный документ.

Цели и задачи

Основной целью проекта является создание надежной сети для решения проблемы морского мусора и содействие сотрудничеству соответствующих заинтересованных сторон, а также разработка проекта Каспийского плана действий по морскому мусору для предотвращения и сокращения морского мусора в Каспийском море.

Конкретные цели проекта заключаются в следующем:

- создание региональной сети по борьбе с морским мусором в регионе Каспийского моря. Сеть будет также служить платформой для участия в диалоге и расширения сотрудничества с деловыми и промышленными кругами, лицами, эксплуатирующими морские ресурсы, местными общинами и другими соответствующими группами гражданского общества, а также национальными заинтересованными сторонами, уделяющими особое внимание морскому мусору, на соответствующем уровне для реализации Каспийского плана действий по морскому мусору;
- разработка проекта Каспийского плана действий по морскому мусору, воплощенного в Московском протоколе по защите Каспийского моря от загрязнения из наземных источников.

В рамках проекта были определены следующие задачи для достижения вышеупомянутых целей:

- Онлайн-встречи: облачная программная платформа Interprefy используется для объединения экспертов и заинтересованных сторон и обеспечения бесперебойного и регулярного общения, включая видео и устный перевод. На сегодняшний день было проведено четыре онлайн-встречи;
- Определение заинтересованных сторон: с пятью национальными экспертами заключены контракты для содействия первоначальному созданию Региональной сети по морскому мусору;
- Портал КЭИЦ: с международным экспертом заключен контракт на разработку концептуальной записки для создания и функционирования Региональной сети по морскому мусору и оказания технической поддержки Региональной сети по морскому

мусору, включая разработку специального раздела на портале КЭИЦ, его хостинг и обслуживание;
- Тренинги по морскому мусору: массовый открытый онлайн-курс по морскому мусору (ЮНЕП и Открытый университет) и по стратегиям устойчивого туризма (GSTC);
- Празднование Дня Каспийского моря и связанные с ним мероприятия: содействие организации и проведению кампании по очистке побережья и повышению осведомленности;
- Каспийский план действий по морскому мусору: с международным экспертом заключен контракт на проведение работ по национальному исследованию морского мусора, библиографии, имеющей отношение к проблеме морского мусора в регионе Каспийского моря; и разработке Каспийского плана действий по морскому мусору.

В настоящее время 10 назначенных национальными правительствами экспертов и два международных эксперта официально наняты для оказания помощи в достижении целей проекта. Список представлен в Приложениях I и II.

Процесс

Первоначальное создание региональной сети по морскому мусору, состоящей из пяти национальных сетей, заняло около трех месяцев. Для этого были привлечены национальные эксперты из пяти прикаспийских стран и один международный эксперт.

Подготовка проекта Каспийского регионального плана действий по морскому мусору (КРПДММ) осуществлялась национальными экспертами прикаспийских государств и международным экспертом. С этой целью были заключены контракты с пятью национальными экспертами для предоставления их национальных материалов и вклада в разработку проекта Каспийского плана действий по морскому мусору.

Для этого были подготовлены национальные обзоры на основе вопросника, направленного национальным экспертам 8 апреля 2019 года, который представлен в Приложении III. К настоящему моменту эксперты из Ирана, Казахстана, Российской Федерации и Туркменистана представили свои подготовленные обзоры. Обзор результатов на английском языке представлен в Приложении IV.

Процесс разработки КРПДММ занял почти год, в течение которого международным экспертом в сотрудничестве с национальными экспертами было разработано 6 проектов КРПДММ. В ходе данного процесса был проведен ряд онлайн встреч на платформе Interprefy. Международный эксперт также подготовил библиографию, в которой перечислены 107 документов с резюме, относящихся к проблеме морского мусора в Каспийском море. Она представлена в Приложении V.

Письмом от 10 июня 2020 года ВСТК распространил окончательный проект КРПДММ, разработанный национальными экспертами, назначенными Прикаспийскими государствами, при содействии международного эксперта. Проект содержится в Приложении VI.

Предлагаемые действия

Конференция Сторон может пожелать:

- Приветствовать проект Каспийского регионального плана действий по морскому мусору и обратиться с просьбой к Секретариату координировать доработку Плана для его принятия КС-7 и выразить признательность «Программе Нового мира» за финансовую поддержку

проекта «Решение проблемы морского мусора в регионе Каспийского моря», представленного в документе;

Приложение I

Список экспертов по морскому мусору и заинтересованных сторон

Национальные эксперты:

Г-н Фаиг Муталлимов, Национальный эксперт по морскому мусору и заинтересованных сторон из Азербайджана

Г-жа Жанар Маутанова, Национальный эксперт по морскому мусору и заинтересованных сторон из Казахстана

Г-Жа Фарназ Шоае, Национальный эксперт по морскому мусору и заинтересованных сторон из Ирана

Центр международных проектов, Национальный эксперт по взаимодействию с Конвенцией от Российской Федерации

Г-жа Гозель Ораздурдыева, И.о. национального эксперта по морскому мусору и заинтересованных сторон из Туркменистана

Международный эксперт:

Г-н Винсент Лальё, сотрудник службы технической поддержки портала КЭИЦ

Общественный фонд «Центр водных инициатив»:

Г-жа Сандугаш Абдижалелова, Менеджер проекта

Г-жа Нургуль Тастенбекова, менеджер ЦВИ

Г-н Мейрам Арыстанов, менеджер ЦВИ

Приложение II

Список экспертов национальных экспертов и международный эксперт по разработке Каспийского Плана действий по морскому мусору

Национальные эксперты:

Г-н Фаиг Муталлимов, Национальный эксперт по морскому мусору и заинтересованных сторон из Азербайджана

Г-жа Жанар Маутанова, Национальный эксперт по морскому мусору и заинтересованных сторон из Казахстана

Г-Жа Фарназ Шоае, Национальный эксперт по морскому мусору и заинтересованных сторон из Ирана

Центр международных проектов, Национальный эксперт по взаимодействию с Конвенцией от Российской Федерации

Г-жа Гозель Ораздурдыева, И.о. национального эксперта по морскому мусору и заинтересованных сторон из Туркменистана

Международный эксперт:

Г-н Любомир Ефтич, международный эксперт для разработки Каспийского Плана действий по морскому мусору

Общественный фонд «Центр водных инициатив»:

Г-жа Сандугаш Абдижалелова, Менеджер проекта

Г-жа Нургуль Тастенбекова, менеджер ЦВИ

Г-н Мейрам Арыстанов, менеджер ЦВИ

Приложение III

Оценка в целях разработки Регинального плана действий по морскому мусору Каспийского моря

Национальный опрос по морскому мусору

Вопросник

Временный Секретариат Тегерансокй Конвенции

Апрель 2019

Введение и общие сведения

Морской мусор, включая пластик и микропластик, является глобальной проблемой, затрагивающей все океаны и моря мира. Это создает экологические, экономические, медицинские и эстетические проблемы, которые являются следствием неэффективной практики обращения с твердыми отходами, отсутствия инфраструктуры, беспорядочной деятельности и поведении людей и недостаточного понимания общественности потенциальных последствий их действий.

Каспийское море - крупнейший внутриматериковый водоем в мире, занимает глубокое понижение на границе Европы и Азии с уровнем воды примерно на 27 м ниже уровня Мирового океана. Площадь моря составляет около 436 000 км2, его объем около 78 000 км3, а длина береговой линии 7 000 км. Максимальная глубина моря составляет 1025 м, а средняя - 184 м. Географический район, в котором экономическая деятельность может оказывать заметное воздействие на окружающую среду Каспийского региона, т. е. прикаспийские экономические районы, является домом для 14,8 млн. человек.

Море граничит с пятью странами (Азербайджан, Иран, Казахстан, Российская Федерация и Туркменистан), которые в 1998 году в партнерстве с международными партнерами (ЕС, ПРООН, ЮНЕП и ВБ) учредили Каспийскую экологическую программу (КЭП). Общая цель КЭП заключается в содействии устойчивому развитию и рациональному использованию окружающей среды Каспия.

На первом этапе КЭП, в 1998-2002 годы, программа создала региональный координационный механизм для достижения устойчивого развития и управления Каспийской окружающей средой; завершила трансграничный диагностический анализ (ТДА) приоритетных экологических вопросов и сформулировала для регионального и национального одобрения стратегическую программу действий (САП) и Национальный Каспийский план действий (НКАП) для каждой из пяти стран. Страны продемонстрировали свою приверженность делу защиты и восстановления окружающей среды Каспийского моря, подписав в 2003 году Рамочную конвенцию о защите морской среды Каспийского моря (Тегеранскую конвенцию), которая вступила в силу 12 августа 2006 года.

Второй этап КЭП ознаменовался продолжающимся переходом к более активному региональному участию в программе, при этом его международные партнеры, включая ГЭФ и ЕС, играли поддерживающую роль. Этот этап также характеризовался повышенным вниманием к осуществлению САП и НКАП, разработанных ранее и полностью обновленных, полной ратификации Тегеранской конвенции и конструктивным региональным диалогам по четырем связанным с ней протоколам, касающимся защиты биоразнообразия, наземных источников загрязнения, ОВОС в трансграничном контексте и чрезвычайных мер реагирования на разливы нефти.

Из вопросов, которым уделялось значительное внимание на двух этапах КЭП, можно выделить загрязнение морской среды и неустойчивая деятельность по освоению прибрежных районов. Оба были отнесены к числу двух основных региональных экологических областей, вызывающих озабоченность в рамках САП, и для решения этих проблем было разработано и рекомендовано довольно большое число восстановительных и превентивных мер и стратегий.

Об этом опросе

В последние годы прикаспийские страны активизировали усилия по решению проблемы морского мусора. В настоящее время идет подготовка Регионального Плана действий по морскому мусору Каспийского моря и он подразумевает сбор актуальной национальной информации. Такая информация должна быть собрана национальными экспертами (пункт 5.4 ТЗ национальных экспертов) и направлена, путем заполнения этого вопросника, во временный Секретариат Тегеранской конвенции не позднее 1 июня 2019 года.

Ответы на вопросник будут использованы при подготовке:

1. Списка литературы по морскому мусору в регионе Каспийского моря; и
2. Проекта Плана действий по морскому мусору Каспийского моря .

Инструкции по опросу

- Пожалуйста, прочитайте весь этот документ и спланируйте свой подход, прежде чем приступать к заполнению опроса.
- Настоящий *Национальный опрос по морскому мусору* был разработан для заполнения национальным экспертом на английском языке на основе консультаций с соответствующими секторами, учреждениями и организациями*.
- Содержание и качество *Регионального плана действий по морскому мусору Каспийского моря* будет зависеть от содержания и качества ответов на этот Национальный опрос.
- В связи с этим просим вас приложить все усилия для того, чтобы ответить на каждый вопрос опроса как можно точнее, правильнее, в полном объем и всесторонне. Это может потребовать от вас проведения поиска и обзора литературы, а также широких консультаций с другими экспертами и должностными лицами в вашей стране (см. таблицу ниже).
- Пожалуйста, заполните опрос в электронном виде, в MS Word. Пожалуйста, используйте столько места, сколько необходимо для каждого вопроса.
- Вы можете связаться с временным Секретариатом Тегеранской конвенции по любым возникшим вопросам.

Заполненные *Национальные опросы* должны быть представлены по электронной почте временному Секретариату Тегеранской конвенции **к 1 июня 2019 года**.

***** Заинтересованные стороны в странах, с которыми следует консультироваться при заполнении опроса, могут включать:

Управление окружающей среды	Портовые власти / корпорации	Муниципальные советы
Администрация морского транспорта и береговая охрана	Управление рыбного хозяйства	Сектор по управлению отходами
Судоходство	Сектор рыболовства и аквакультуры	Сектор прибрежного туризма
Ученые и научно-исследовательские институты в области морского дела	Экологические НПО	Другие заинтересованные стороны

-

Вопросы Опроса

1. Информация о стране

1.1 Название страны:

1.2 Имя:

Пожалуйста, укажите имя и полные контактные данные лица, заполняющего этот вопросник.

Просьба также представить обновленную информацию о национальных координаторах и контактных лицах по морскому мусору в вашей стране.

1.3 Должность:

1.4 Организация:

1.5 Адрес:

1.6 Тел:

1.7 Email:

1.8 Skype:

2. Состояние проблемы

(Пожалуйста, приложите любые ссылки, исследования, отчеты, карты, графики и т. д., которые относятся к этим вопросам)

2.1 Исследования и мониторинг:

Существуют ли исследования и мониторинг о масштабах проблемы морского мусора в вашей стране? Если да, пожалуйста, укажите и опишите:

2.2 Международная очистка побережья:

Участвует ли ваша страна в Международной очистке побережья (ICC) (www.coastalcleanup.org), ежегодно организуемой организацией Ocean Conservancy? Если да, пожалуйста, перечислите контакты ICC и очищенные места в вашей стране и опишите, какие тенденции эта деятельность показала?

2.3 Другие очистки:

Ваша страна организует / участвует в каких-либо других подобных очистках на побережье? (например, «Очисти мир» - www.cleanuptheworld.org, проект PADI *Project* AWARE - www.projectaware.org, Green Fins - www.greenfins.net или другие программы): Если да, то перечислите контакты и места, где они были очищены в вашей стране, и опишите программу (ы) и результаты в вашей стране на сегодняшний день:

2.4 Дифференциация источника:

Дифференцируют ли / идентифицируют ли какие-либо из имеющихся данных о морском мусоре в вашей стране (например, наземные и судовые)? Если да, опишите (пожалуйста, предоставьте данные, если это возможно):

2.5 Зоны накопления:

Имеется ли информация о характере циркуляции океана и зонах накопления морского мусора в водах вашей страны и вдоль побережья? Если да, пожалуйста, опишите (включите электронные копии карт, если это возможно):

2.6 Воздействие на экологию и окружающую среду:

Имеется ли какие-либо данные / другая информация о воздействии морского мусора на экологию и окружающую среду в вашей стране? Если это так, пожалуйста, укажите источники данных и опишите основные результаты (приведите ссылки):

2.7 Социально-экономическое воздейтсвие:

Есть ли какие-либо данные / другая информация о социально-экономическом воздействии морского мусора в вашей стране? Если это так, пожалуйста, укажите источники данных и опишите основные результаты (приведите ссылки):

2.8 Другие научные данные и исследования:

Есть ли какие-либо данные и результаты других исследований и мониторинга, которые имеют отношение к оценке состояния морского мусора в вашей стране? Если да, пожалуйста, опишите программу (ы) и результаты на сегодняшний день (пожалуйста, приведите ссылки):

3. Национальные институциональные механизмы и политические рамки

3.1 Ответственный орган

Есть ли в вашей стране ведущее агентство (ответственный орган) по проблемам морского мусора? Если да, пожалуйста, предоставьте контактную информацию:

3.2 Оперативная группа

Имеется ли в вашей стране межсекторальная целевая группа, рабочая группа, комитет или аналогичная группа или группы, отвечающие или заинтересованные в решении проблем морского мусора? Если да, пожалуйста, назовите и опишите (включая функции и членство):

3.3 Политика и законы по морскому мусору

Имеются ли в вашей стране политика, законодательство, нормативные акты и / или другие инструменты, непосредственно касающиеся морского мусора? Если да, пожалуйста, назовите и опишите:

3.4 Другие политики и законы, имеющие отношение к решению проблемы морского мусора

Какие другие политики, законодательство, правила и / или другие инструменты обеспечивают основу для борьбы с морским мусором, в частности с пластиком? например регулирование производства, использования и утилизации пластика.

3.5 МАРПОЛ

Ратифицировала ли ваша страна пересмотренное Приложение V к МАРПОЛ (которое вступило в силу 1 января 2013 года), и если да, то в какую дату и в каком виде реализуется национальное законодательство? Какое государственный орган управляет этим законодательством?

3.6 Портовые приемные сооружения

Предоставляют ли порты в вашей стране адекватные возможности приема мусора с судов, как это требуется в соответствии с Приложением V к МАРПОЛ? Если так, как они финансируются? Пожалуйста, предоставьте детали и контакты:

Должны ли суда, которые намереваются использовать приемные сооружения, платить за их использование, и если да, то сколько?

Существуют ли какие-либо препятствия для эффективного предоставления и использования портовых средств приема отходов в вашей стране? Пожалуйста, опишите.

4. Международные соглашения, другие инициативы и программы

4.1 Цели в области устойчивого развития, включая, в частности, цель 14.1 ЦУР

Ваша страна взяла на себя обязательства или приняла меры по борьбе с морским мусором в контексте планирования, реализации ЦУР и отчетности? Пожалуйста, опишите.

4.2 ГПД

Является ли ваша страна участником Глобальной программы действий (ГПД) для борьбы с наземными источниками загрязнения морской среды? Если да, то какие мероприятия по ГПД были предприняты в вашей стране для борьбы с морским мусором? Является ли ваша страна партнером в кампании «Чистые моря», и если да, то каково ваше национальное обязательство в контексте кампании?

4.3 Базельская Конвенция

Является ли ваша страна Стороной Конвенции о контроле за трансграничной перевозкой опасных отходов и их удалении (Базельская конвенция)? Если да, то какие мероприятия Базельской конвенции были проведены в вашей стране для борьбы с морским мусором?

4.4 Лондонская Конвенция с Протоколом

Является ли ваша страна участником Лондонской конвенции о предотвращении загрязнения моря сбросами отходов и других материалов (1972 год) и Протокола 1996 года? Если да, какие мероприятия были предприняты в вашей стране для борьбы с морским мусором?

4.5 Другие Глобальные/Региональные программы

Участвует ли ваша страна в каких-либо других глобальных, региональных или субрегиональных программах по борьбе с морским мусором? Пожалуйста, опишите.

4.6 НПО

Проводятся ли в вашей стране какие-либо мероприятия, проводимые НПО, связанные с морским мусором? Если это так, пожалуйста, перечислите контакты НПО и кратко опишите соответствующие мероприятия, связанные с морским мусором, и результаты на сегодняшний день.

4.7 Понимание и осведомленность

Каков уровень понимания и осведомленности о морском мусоре в вашей стране?

Проводятся ли в вашей стране конкретеное информационное взаимодействие и кампании по повышению осведомленности о морском мусоре? Если да, пожалуйста, опишите. Пожалуйста, предоставьте любые образцы продуктов по повышению осведомленности и материалы.

4.8 Интегрированное управление отходами

Существует ли в вашей стране интегрированная система управления отходами, в том числе на национальном, провинциальном и / или муниципальном уровнях? Если да, то управляется ли в этой системе прибрежный и морской мусор и интегрировано ли управление отходами в портах в такую широкую систему? Пожалуйста, опишите:

4.9 Экономические инструменты

Существуют ли в вашей стране какие-либо экономические инструменты, связанные с управлением отходами, и применимы ли они к морскому мусору? Пожалуйста, опишите.

5. Барьеры, пробелы и потребности

5.1 Барьеры и пробелы

Пожалуйста, опишите основные препятствия на пути эффективной профилактики, сокращения и управления морским мусором в вашей стране.

5.2 Национальные потребности и План действий

Пожалуйста, опишите в перечне приоритетов основные потребности вашей **страны** в эффективной профилактике, сокращении и управлении морским мусором, включая основные элементы, которые должны быть включены в **Национальный** план действий по морскому мусору.

5.3 Региональные потребности и План действий

Пожалуйста, опишите в списке приоритетов основные потребности в вашем **Регионе** для эффективной профилактики, сокращения и управления морским мусором, включая основные элементы, которые должны быть включены в **Региональный** план действий по морскому мусору.

6. Дополнительные пункты

Пожалуйста, заполните, чтобы добавить дополнительные пункты.

7. Список литературы, библиография и дополнительные материалы

Пожалуйста, включите список всех соответствующих ссылок, цитируемых в ответах на Опрос, а также библиографию источников информации о морском мусоре в вашей стране и любые другие материалы, которые вы считаете полезными. Ссылки должны быть на английском языке (если оригинальная ссылка на русском языке, он должен оставаться на русском языке, но должна быть включена английская версия). При любой возможности ссылка должна иметь ссылка на сайт.

Пожалуйста, отправьте заполненный опрос по электронной почте временному секретариату Тегеранской конвенции к **1 июня 2019**

Annex IV

Responses by Caspian Countries to the Survey Questionnaire

Survey questionnaire was responded to by Islamic Republic of Iran, Republic of Kazakhstan, Russian Federation and Turkmenistan.

In the tables below are presented summaries/extracts of responses.

The full national survey responses are with the TCIS.

7 August 2019

Table 1. Status and trends of marine litter. Summary of responses by Caspian countries

	Republic of Azerbaijan	Islamic Republic of Iran	Republic of Kazakhstan	Russian Federation	Turkmenistan
2.1 Surveys and Monitoring		1. Unfortunately, no specific study has been done yet to accurately estimate the extent of marine litter in Iran. 2. All the existing data in this issue come from the project-based surveys.	1. The lack of a garbage monitoring system is one of the key problems in the waste management system in Kazakhstan. 2. In the Environmental Code of the Republic of Kazakhstan (2007 with changes and additions 2018) a provision has been fixed on the conduct of state accounting of municipal waste, but it has not been completely settled. 3. Different types of waste are taken into account and recorded by different government and non-state structures, which does not provide a single objective assessment of the state of affairs in handling production and consumption waste.	1. For the Russian coast of the Caspian Sea, research and monitoring of marine litter were not carried out, although coastal cleanups are regularly carried out by the municipalities. 2. It should be noted that, the Russian coast of the Caspian has various indicators of practical accessibility. It should be considered that the swampy, flooded and overgrown with reeds and other vegetation of the coast, as well as currently formed deltas and lagoons are difficult to access. Therefore, almost the entire northern and north-western coast (with the exception of small local areas), including almost the entire Kizlyar and Agrakhan bays, should be considered difficult to monitor and collect marine litter. South off the Agrahan spit, accessible coastal areas (beaches) alternate with relatively low and inaccessible areas.	1. There is no large-scale problem of marine litter in the waters of the Turkmen sector of the Caspian Sea. Directly research and monitoring of the environment by the marine litter pollution is not carried out; for this reason, there is no data on the extent of marine litter. 2. According to the information, provided by the representative of the Service of the Caspian ecological control (Service Caspecocontrol) their officers who carry out the state environmental control and monitoring by the pollution of the coastal area and waters of the Caspian Sea with plastic

					garbage (plastic bags and (or) plastic bottles, other plastic products) are detected in a single and small amount.
2.2 International Coastal Cleanup		1. There is no coordinator for ICC in Iran. 2. This is a volunteer-based activity, some interested people joined it during the previous years. For example, there are 12 people who participated in the event as it is reported in the ICC report for 2018, but there is no information whether this happened on the coasts of the Caspian Sea or on the coasts of Persian Gulf and Oman Sea.	Kazakhstan does not participate in the ICC.	1. ICC is carried out since 2000 within the framework of NOWPAP. 2. At the same time, every fourth year this campaign is held in Russia. 3. At the same time, every fourth year this campaign is held in Khasan district of Primorsky krai).	Turkmenistan does not participate in such events.
2.3 Other Cleanups		No	1. In the coastal zone of the Caspian Sea on the territory of Mangystau region on a regular basis, twice a year (in spring and autumn), measures are taken to clean up the coastal zone.	1. In the Caspian littoral subjects of the Federation, the following events are held annually: “Clean Banks” campaign, the “Water of Russia”, and “We Can’t Live Without Water”. All participants of the actions cleaned the shores and coastal zone of the water body.	Turkmenistan does not participate in cleanups.

			2. Also organized the world weekly action "We clean the world - clean the universe from litter". The campaign involves a wide range of stakeholders, including government officials, representatives of non-governmental public organizations, students, and all volunteers. 3. In addition, within the framework of the Caspian Sea Day on August 12, an action is held annually with a wide circle of interested parties to clear the coastal sea zone. 4. Coastal clean-up actions are organized in order to draw public attention to the environmental problems of the Caspian Sea.	2. In 2018, as part of the International Youth Forum in Dagestan, which was attended by 250 young people from 28 regions of Russia, as well as from Azerbaijan, Egypt, Kazakhstan, Turkmenistan, and Moldova, the ecological quest “Clean Caspian” was held at the municipal beach of Manas village, the outcome of which was 82 bags with litter with a total weight of half a ton.	
2.4 Source Differentiation		There are no documented data in Iran on the abundance, composition and sources of marine litter in the Caspian Sea.	1. In accordance with the Environmental Code of the Republic of Kazakhstan, waste is classified as production and consumption	1. The Federal law “On environmental protection” provides for the formation of a fundamentally new system of regulation of adverse impact on the environment. It includes differentiation in the level of	There is no use of term “marine litter” in Turkmenistan. With regard to pollution, a more acceptable term “land-based sources of pollution”, “solid

			waste. Waste is also classified into the four categories. In terms of marine litter there are no differences between land or ship litter. 2. In the field of merchant shipping, the procedure for storage and processing of garbage on board, delivery of garbage to port reception facilities is governed by the provision of the Environmental Code of the Republic of Kazakhstan (2015).	environmental pollution, the application of the state regulation measures to them, as well as economic incentives for entities that use BET. 2. Federal waste classification catalogue (FWCC), the state register of waste disposal facilities, as well as data bank on waste and technologies for disposal and neutralization of various types of waste represents the list of the types of waste which are in circulation in the Russian Federation and systematized by set of classification signs.	waste" are used and land-based objects that are potential polluters are monitored and controlled.
2.5 Accumulation Zones		There is no information available yet but at present, a project titled "Effects of sea currents on the distribution of marine litters in the coastal waters of Mazandaran province" is underway.	Information on the nature of ocean circulation and marine litter accumulation zones is not available.	In addition to marine litter generated on land and concentrated on the coastline and beaches, the generation of litter and waste from economic activities at sea is also important. This material is distributed over the surface of the sea and on the seabed, although some part of the litter of marine origin could be concentrated on the coastline, and some part of the litter from land sources can migrate far on the sea surface or sink.	1. There is no information on ocean circulation patterns. 2. In communication with the Foreign Economic Relations Department of "Turkmen maritime and river lines", Agency of the Ministry of Industry and Communication of Turkmenistan information was given

					that there were no zones for marine litter in the port territory.
2.6 Ecological and Environmental Impacts		No information is available.	Environmental impact assessment studies have not been carried out in Kazakhstan.	1. The Caspian seal (Phoca caspica) is a special impact monitoring object specific to the Caspian Sea. This species is at the top of the trophic pyramid of the Caspian Sea, and therefore its population is of indicative value for assessing the overall wellbeing of the ecosystem of the Caspian Sea. 2. The abundance and diversity of planktonic organisms undergo qualitative changes depending on the season of the year and the area of the Caspian and type of exposure. Therefore, the plankton community is able to reflect short-term and/or limited in scope adverse impacts. 3. Benthic communities are most stable in time, often characterize the local ecological situation and are able to preserve retrospective information about previous exposure levels. These groups of organisms are sensitive to the granulometric composition of bottom sediments, including finely divided fractions, and, therefore, could be considered as potential indicators of the long-	Such studies have not been done yet.

				term technogenic load on the seabed. 4. Zoobenthos in the ecosystem of the Northern Caspian is also a potential "target" of impact. 5. The indicator related to cleaning the water area from litter was officially introduced into the state programme "Development of the fishery complex".	
2.7 Socioeconomic Impacts		1. No solid information is available. 2. However, in the EIA reports for the evaluation of large projects in sea (including development of breakwaters, ports, opening of maritime routes in ports,…) when it comes to dredging issue, there are some parts available for the socio-economic effects of dredging.	Studies on the impact of marine litter on socio-economic development have not been conducted.	1. As part of the research work of the RAS in 2010-2015, assessments were made of the impact of marine litter on environmental management in the coastal zones, primarily in the suburban areas of large cities – Vladivostok, Nakhodka etc. 2. Studies have demonstrated that the short-term financial benefits of using plastic in the current economic system do not create incentives for the transition to phasing out the use of plastic or low-quality plastic or to prohibiting their one-time use. 3. In addition, it is relatively difficult to estimate the economic losses caused by marine litter. Moreover, attributing economic damage caused by marine litter to the pollutant seems impossible.	No information available.

2.8 Other Scientific Data and Studies		1. In 2017, a study was done by University of Tarbiat Modares as "Investigating Abundance, Distribution and Accumulation of Plastic Resin Pellets and Fragments in the Caspian Sea: A Case Study of Noor Shores". It was found that plastic debris and fragment are widely and unevenly distributed along shorelines of the Caspian Sea. 2. The following projects are currently underway: (i) Survey on abundance and types of Microplastics in the coastal sediments of south of the Caspian Sea-Phase I: Ramsar to Mahmood Abad by Iranian National Institute for Oceanography and Atmospheric Science; and (ii) Study on the situation of plastic debris in fish and water birds stomach on the southern shores of the Caspian Sea by DOE.	Studies related to the assessment of the state of marine litter in Kazakhstan has not been conducted.	1. In Russia, research on the issue of marine litter was carried out as part of the international NOWPAP Regional Marine Litter Action Plan which was initiated in programme in the region of the Sea of Japan (MALITA) which started in 2008. 2. Primorsky krai of Russia is fully covered by the geographical scope of the NOWPAP region. The most notable area of marine litter distribution in Primorsky krai is the Peter the Great Bay. River runoff and coastal sea currents lead to the formation of a local level of circulation in the Peter the Great Bay. 3. Another area within the Russian part of NOWPAP that is potentially contaminated with marine litter is the Tatar Strait. The qualitative and quantitative characteristics of marine litter vary depending on the distance from the coastline, as they are determined by the strength and speed of the currents, the distribution of pollution sources and some other factors. 4. Studies of coastal litter in the Amur Bay show that synthetic rubber tires make up about 60%	Regarding to this issue Turkmenistan may submit the only provision which was reflected in the Tehran Convention (Article 20), namely: (a) developing methods for the assessment of the toxicity of harmful substances and investigations of its affecting process on the environment of the Caspian Sea; (b) developing and applying environmentally sound or safe technologies; (c) the phasing out and/or substitution of substances likely to cause pollution; (d) developing environmentally sound or safe methods for the disposal of hazardous substances; (e) developing environmentally sound or safe

				of marine litter in this area in relation to other litter items. 5. Studies have confirmed that the discharge of the Tumannaya river is responsible for the distribution of litter transported along the southwestern coast of the Primorsky krai. 6. Of importance for the study of the marine litter problem is the development of environmental operational indicators and indicators of the state of the marine environment for regions, one of which is marine litter. Currently, a list of Ecological Operational Indicators and Indicators of the State of the Marine Environment of the NOWPAP Region has been compiled in the region of the Northwestern Pacific, including 12 operational indicators for assessing the environment of the region and 24 groups of indicators 7. Studies on marine litter were carried out by SOI of Roshydromet as part of the GEF/UNDP-EMBLAS international project on the Black Sea. Studies included the distribution of marine litter in the coastal zone,	techniques for water-construction works and water-regulation; (f) assessing the physical and financial damage resulting from pollution; (g) improvement of knowledge about the hydrological regime and ecosystem dynamics of the Caspian Sea including sea level fluctuations and the effects of such fluctuations on the Sea and coastal ecosystems; and (h) studying the levels of radiation and radioactivity in the Caspian Sea.

				and visual monitoring of marine litter. 8. Relevant studies were conducted in the Baltic Sea region as part of the participation in the HELCOM Regional Action Plan on Marine Litter.	

Table 2. National institutional arrangements and policy framework. Summary of responses by Caspian countries

	Republic of Azerbaijan	Islamic Republic of Iran	Republic of Kazakhstan	Russian Federation	Turkmenistan
3.1 Lead Agency		1. According to the Iran's Waste Management Law, Department of Environment (DOE) is responsible for the supervision and good performance of collection, recycling and disposal of the wastes in Iran but the executive operations are carried out by municipalities that are subordinate to the Ministry of Interior. 2. DOE is the Lead Agency of marine litter issues in the country.	1. There is no separate body responsible for marine litter in Kazakhstan. 2. At the same time, the issues of solid domestic waste (SDW) are within the competence of the Ministry of Ecology, Geology and Natural Resources of the Republic of Kazakhstan. 3. In addition, in accordance with the Environmental Code of the Republic of Kazakhstan and the Law	1. Ministry of Natural Resources and Environment of the Russian Federation 2. Federal Service for Nature Use Supervision (Rosprirodnadzor) 3. Ministry of Transport of the Russian Federation 4. Regional authorities	1. The Service Caspecocontrol" is the Lead Agency at the Turkmen coastal zone, which could be engaged in marine litter issues in future. 2. Water quality, state control over the protection and rational use of water, land resources and atmospheric air in the Turkmen sector of the Caspian Sea is carried out by Caspecocontrol". The Service's activities

			of the Republic of Kazakhstan "On Local State Governance and Self-Government in the Republic of Kazakhstan", local executive bodies are charged with organizing a separate collection at the source of their education, disposal and recycling of SDW.		extend to the waters of the Turkmen sector of the Caspian Sea from Cape Sue to Esenguly on the 52nd meridian, to enterprises, organizations, institutions, foreign companies, along the routes of oil pipelines and gas pipelines in the territory indicated waters of Turkmenistan and other floating craft, objects located in the Turkmen sector of the Caspian Sea, as well as on a two kilometres protected coastal strip of land, including other objects, which have a negative impact on sea waters and departing from said zone. 3. Additional to the mentioned above the Service, the utilities of Turkmenbashi city are engaged in garbage cleaning up activities

					on the coastal zone and on the territory, adjacent to it.
3.2 Task Force		1. There is an advisory committee in the DOE to consider implementation issues of London Protocol. Members of this committee are mainly from different sectors of the DOE and its provincial offices in coastal provinces in north and south of the country. 2. There is also a Marine Environment Protection Committee based in the Ports and Maritime Organization which follows the implementation and enforcement of the IMO decisions and resolutions including the new IMO action plan which contributes to the global solution for preventing marine plastic litter entering the oceans through ship based activities. This committee consists of representatives from	Separate target groups, working groups, committees responsible for marine litter do not exist.		1. There is no directly formed working group, committee or similar group or groups dealing with the marine litter issues. 2. Following organisations can be listed: (a) The Service “Caspecocontrol”, (b) The Balkan Hyakimlik (City administration); (c) Utilities of Turkmenbashi city; (d) Sanitary-epidemiologic Service of the Balkan region; (e) "Turkmen maritime and river lines" Agency of the Ministry of Industry and Communications of Turkmenistan; (f) The International Marine Port Turkmenbashi which are also responsible for cleanness of the coastal zone of the

		different relevant authorities such as DOE, Fisheries Organization, shipping companies, academia and etc.			Caspian sea; and (g) The Interdepartmental Commission on the Caspian Sea under the President of Turkmenistan (IDC) (2007).
3.3 Policy and Laws on ML		1. Waste Management Law (2004): this law is developed to fulfil the fiftieth Principle of the Islamic Republic of Iran Constitutional Law (which links current and future generations to the environment and makes it a public duty to protect the environment) and in order to protect the environment from harmful effects of waste materials. 2. Waste Management bylaw (2005): The Waste Management Law supplemented by an executive bylaw that contains specific provisions for the various types of waste in respect to waste avoidance, reduction, recycling, and	1. In Kazakhstan, the problem of marine litter is not considered separately. 2. The state policy of Kazakhstan in the field of waste management is defined in the Concept for the transition of the Republic of Kazakhstan to a green economy, approved by Decree of the President of the Republic of Kazakhstan (2013, hereinafter - Concept) and aimed at introducing separate waste collection, developing the waste recycling sector with the production of recycled materials with the attraction of investments, including through public-private	1. In the Russian legislation, the problem of 'marine litter' is not considered separately, it is an integral part of the legislation in the field of waste management. 2. From 2014 to 2017, the federal legislation in the field of waste management was radically changed against the background of the transfer of authority to regulate this industry to the regional level and introduction of the institute of "regional operators for management of solid municipal waste – an operator for solid municipal waste management". 3. Changes in the legislation in the field of preventing pollution of the Caspian Sea from land-based sources in 2017 were based on changes in the environmental legislation and took place in 2017, which mainly affected two federal laws: "On environmental	1. There are not yet policies, legislation, regulations and other legal instruments which address directly marine litter. 2. Laws and regulation which could be connected to marine litter issue are: (a). Law "On waste" (2015); (b). Law "On Nature Protection"; (c). "**Decree on State Ecological Examination No. 2864 (1996); (d). Law „Hydrocarbon Resource" (2010); (e).** Rules for the protection of coastal waters of Turkmenistan from pollution from ships (2005); (f). Law "On approval and implementation of the Merchant Shipping in

		disposal as well as collection and transport. 3. Due to the Article 9 of the Iran's Civil Code, all the treaties between the government of Iran and other governments, in accordance with the Constitutional Law, shall have the force of law. Therefore, the following conventions/protocols that have been ratified by Iran's Parliament are forcible: (i) London Protocol; (ii) Basel Convention; (iii) Moscow Protocol to the Tehran Convention; and Annex V of MARPOL Convention.	partnership. The concept provides target indicators for bringing the share of recycling up to 40% by 2030, 50% by 2050. In order to achieve the target indicators defined by the Concept, as well as for the integrated solution of problems with solid waste, the Road maps for the introduction of separate collection, sorting, recycling and recycling of solid domestic waste, the interaction of local executive bodies with specialized enterprises in the field of circulation were approved and implemented with SDW until 2020 and Complexes of measures for modern disposal and recycling of SDW with the wide involvement of small and medium-sized businesses. 3. In the Republic of Kazakhstan the basic laws and regulations governing the activities	protection" and "On production and consumption wastes". 4. The main tools for implementation of environmental policy, including in the field of waste management in the Russian Federation, is the State Programme of the Russian Federation "Environmental Protection for 2012-2020". 5. Starting from 2017, the priority project "Clean Country" has been integrated into the structure of the State Programme "Environmental Protection for 2012-2020". 6. The Decree of the President of 07.05.2018 "On national goals and strategic objectives of the development of the Russian Federation for the period through 2024" In the framework of this Decree the national project "Ecology" is being implemented. 7. The priority project "Conservation and pollution prevention of the Volga river", which has been implemented since 2017 within the framework of the State Programme of the Russian Federation "Environmental Protection for 2012-2020", is of great	Turkmenistan"; (g). "Protocol for the conservation of biological diversity to the Tehran Convention"; (h). "Water Code" (2016); (i). Law "On fisheries and conservation of aquatic biological resources" (2011); and (j). "Law on Environmental Safety" (2017).

			of the collection, recycling and processing of solid waste are: (i) Environmental Code of the Republic of Kazakhstan (2007, amended 2018) and (ii) Seven Orders of different Ministries.	importance for the Caspian Sea region. 8. Federal law of 24.06.1998 "On production and consumption wastes". 9. At the regional level, the near Caspian subjects within the framework of the formation of the regulatory legal framework in the field of waste management, adopted a number of regulatory legal acts.	
3.4 Other Policies and Laws Relevant in Addressing ML		1. Disposable bags are a huge source of environmental pollution. In Iran, several NGOs have geared up to raise public awareness about the environmental impacts of plastic bags, which has helped designate July 12 as the National Plastic-Bag Free Day 2. DOE has a three-year plan aimed at eliminating plastic shopping bags in the capital Tehran. The plan focuses on three main objectives: (a) reducing the production and distribution of plastic bags, (b) avoiding their	1. To achieve the target indicators defined in the Concept, to introduce the collection, transportation, processing, reclamation and disposal of solid waste, as well as to streamline and systematize the work of the secondary raw materials market, a regulatory legal framework has been created. Thus, amendments were made to the Environmental Code on Waste Management.	1. To increase the efficiency of activities in the field of waste management, including combating litter, legal instruments related to minimization of offenses and implementation of relevant legislation are required. 2. The Codex on Administrative Offenses of 30.12.2001 provides for administrative offenses in the field of environmental protection. Appropriate penalties for: (a) non-compliance with environmental and sanitary-epidemiological requirements under the production and consumption waste management; (b) violation of the rules for the protection of water bodies; (c) violation of water use rules; and (d). violations	See point "Policy and Laws on marine litter" above.

		use and replacing them with fabric bags and other reusable alternatives, and (c) reusing the existing bags. DOE will cooperate with supermarkets to phase out plastic bags and replace them with eco-friendly alternatives. 3. A prohibition is also imposed on the use of plastic water bottles in all the offices of DOE (headquarter and 31 provincial offices) across the country since mid-January 2018.	2. The Environmental Code of the Republic of Kazakhstan and the Law of the Republic of Kazakhstan "On Local State Governance and Self-Government in the Republic of Kazakhstan" entrusted local executive bodies with the obligation to organize a separate collection at the waste generating sources, disposal and recycling of SDW. 3. The Law "On Government Procurement" provides for priority on goods produced from recycled materials in the territory of the Republic of Kazakhstan during public procurement. 4. Investment rationale development for the introduction of advanced technologies for collection and disposal of waste, with the production of compost, biogas and	of the special regime for economic activities on the coastal protective strip of a water body, and in the water protective zone of a water body. 3. Sanctions are also provided for non-compliance with requirements, including water legislation and waste management.	

			recycled products for Aktobe, Atyrau, Karaganda, Taldykorgan, Taraz, Kostanay. Government decrees justify investment transferred to the akimats of relevant areas to continue work.		
3.5 MARPOL		1. Iran ratified Annex V of the MARPOL Convention in 2015. 2. The implementing National Legislation for that is the "Executive Criteria for Waste Management in Ports". 3. The Ports and Maritime Organization (PMO) of Iran is the designated national authority with the responsibility to administer all Iranian ports and enforce the maritime conventions such as MARPOL convention to which Iran is a party. All Port Authorities are regarded as subsidiaries of the PMO.	1. The Republic of Kazakhstan has been a party to the MARPOL Convention since 1994 and of revised Annex V since 2013. 2. The requirements of Annex V to MARPOL are implemented within the framework of environmental legislation and legislation in the field of merchant shipping of the Republic of Kazakhstan. Both of these laws are within the competence of the Ministry of Energy of the Republic of Kazakhstan and the Ministry of Industry and Infrastructure Development of the	1. The Russian Federation acceded to the MARPOL Convention on 04.12.2011. 2. The amendments to Annex V to MARPOL 73/78, came into effect since March 1, 2018. The changes included criteria for determining harmfulness of cargo residues to the environment and a new format for the Garbage Record Book. 3. The activities associated with the implementation of the commitments of the Russian Federation on the implementation of activities under the Convention and the 1997 Protocol, are coordinated by the Ministry of Transport of the Russian Federation. 4. The Federal Agency for Maritime and River Transport organizes the implementation of	1. MARPOL Convention with all Annexes ratified in 2014. 2. Turkmenbashi International Marine Port Authority uses/refers to MARPOL Convention.

			Republic of Kazakhstan respectively.	works on ships control in the seaports of the Russian Federation to meet the requirements of the 1997 Protocol. 5. The main legal documents of the Russian Federation regulating issues related to the prevention, reduction and control of pollution from ships are: (a) “Strategy for development of the sea port infrastructure of Russia through 2030”; and (b) “Merchant Shipping Code of the Russian Federation”. 6. Important legal instruments for the implementation of MARPOL are: (a) “Strategy for development of sea terminals for integrated service of vessels of fishing fleet taking into account the coastal logistic infrastructure intended for transportation, storage and distribution of fish production”; (b) “Codex of inland water transport of the Russian Federation”; and (c) Federal law “On amendments to the Federal law “On seaports in the Russian Federation and on amendments to certain legal acts of the Russian Federation” and certain legal acts of the Russian Federation”.	

3.6 Port Reception Facilities		1. There are reception facilities for receiving garbage from vessels in all the main ports of Iran. Different types of garbage separated and labeled in the waste bags will be placed on the quay, and the garbage collection contractor collects the waste regularly at specific times. 2. The port receives the costs of the waste from vessel itself, while the private sector who collect garbage for recycling also pay. 3. The Manual of Tariffs applicable to vessels and cargo in ports of Iran entered into force in 2014. Charges of garbage reception of MARPOL Convention Annex V must be collected from all vessels. 4. Charges of solid cargo waste reception set out in annex III of MARPOL Convention shall be negotiated between the Port Authority and the	1. Nowadays garbage collection from ships is carried out only in the port of Aktau. In accordance with the order of the Ministry of Investments and Development of the Republic of Kazakhstan (2015) "On approval of the list of mandatory seaport services", the port provides services to receive from the vessel without any restrictions all types of pollution except for ballast water during the stay in the port. 2. For the collection of ship-generated waste at the port of Aktau 2 specialized vessels are used, which cover 100% of the need for ships entering the port to dispose of liquid and solid waste. Vessels pay for the delivery of waste in the port in accordance with the established tariffs. There are no barriers to the effective provision	1. 1. For navigation, environmental safety in Russian seaports, including the Russian ports of the Caspian Sea, is ensured through the following main activities: (a) daily control and cleaning litter from harbours, access channels and fairways; (b) verifying on a voluntary basis of compliance with the rules of the International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM) in the sea ports of Russia; and (c) implementation of the provisions of MARPOL Convention at sea ports through the development of Ship Waste Management Plans. 2. In the Caspian Sea, the largest Russian sea ports are the ports of Astrakhan, Makhachkala and Olya. 3. Environmental work in the seaports of the Caspian Sea is carried out by the Seaport Administration and business entities. 4. Removal of garbage from ships is possible in the following ways: accumulation in special containers with their subsequent transfer to the collecting vessel or to the shore; discharge overboard;	1. There is no port reception facility at present. 2. Vessels' garbage and other solid waste are taken away upon the request of the vessel/ship owners and driven away to the landfill. 3. Oil and gas companies operating in the Turkmen sector of the Caspian Sea practice zero discharge, protecting the environment in the area of work. 4. Drilling sludge is collected on offshore platforms in metal containers, household waste is stored in storage tanks, and oily wastewater is bunched into special containers. All of this is transported by special vessels or pumped through a pipeline ashore to industrial waste disposal sites.

		Ship considering the IMDG Code classes. 5. Vessels/ crafts calling in Iranian port harbors for non-commercial purposes such as fueling, ballasting, crew-shifting, provision supply, repair, medical aids, research and training activities and the like are exempted from all tariff items except for garbage collection charges.	and use of port reception facilities.	thermal destruction in ship incinerators. 5. Plastic garbage shall remain on board the vessel until it is delivered to the port reception facilities without being converted to slag in the incinerator. 6. To conserve the environment, an environmental fee is charged per 1 cubic meter of the conditional volume of the vessel from ships. 7. In Russian ports of the Caspian Sea region, the control is carried out by the experts of the port control of the seaport (MPA "Astrakhan") when registering the vessel for departure.	Factories for their acceptance are located in the cities of Turkmenbashi and Khazar. 5. In recent years, a cluster of modern industrial and transport enterprises has been created on the Turkmen coast of the Caspian Sea. The environmental safety system that is being implemented and embedded there is based on a set of measures aimed at eliminating damage to the natural environment, reducing risks and man-made impacts on the Caspian vulnerable ecosystem.

Table 3. International agreements, other initiatives and programmes. Summary of responses by Caspian countries

	Republic of Azerbaijan	Islamic Republic of Iran	Republic of Kazakhstan	Russian Federation	Turkmenistan

4.1 Sustainable Development Goals including in particular SDG 14.1		Iran is to take by 2025 thirteen actions toward the target 14.1 of SDG, amongst them: Develop and implement a comprehensive program on management of marine litter.	The goals of sustainable development until 2030 are provided for in the Concept on the transition of the Republic of Kazakhstan to a “green” economy, approved by the Decree of the President of the Republic of Kazakhstan (2013). The Concept identifies target indicators that envisage bringing the share of waste processing to 40% by 2030 and 50% by 2050..	1. Currently, in the Russian Federation in the context of achieving the Sustainable Development Goals 2030, the problem of integrated management of coastal marine areas, including the waste management problems, in particular marine litter is becoming increasingly relevant and is reflected in strategic documents for the development of the country and regions. 2. Sustainable Development Goals 2030 are implemented within the framework of the implementation of such strategic documents as: (a) “The Strategy of Ecological Safety of the Russian Federation for the period until 2025”; (b) “Strategy of development of marine activity of the Russian Federation through 2030”; (c) “Marine Doctrine of the Russian Federation for the period up to 2020”; and (d) “Strategy for the development of industry for processing, disposal and neutralization of production and consumption waste for the period up to 2030”. 3. The Sustainable Development Goals of the UN 2030 Sustainable Development Agenda are reflected in regional strategic	No actions towards addressing marine litter in the context of the SDG.

				documents such as: (a) “The Strategy for the Socio-Economic Development of the North Caucasus Federal District until 2025”; and (b) “Strategy for socio-economic development of the Southern Federal District until 2020 ”. 4. These documents provide for: (a) development of a waste disposal management system, primarily in resort areas, including the construction of waste recycling plants; (b) construction of complexes for medical waste processing and destruction; (c) construction of landfills; and (d) support for existing and construction of new recycling plants.	
4.2 GPA		1. Iran has participated in GPA meetings several times. The activities done under the GPA was mainly periodic monitoring of the main rivers to the Caspian Sea. As the majority of the rivers pass across densely populated areas in the Caspian region and consequently they transfer a very high load of pollution to the sea, the	Kazakhstan does not participate in the Global Program of Action.	1. Marine litter is one of the categories of sources of marine pollution in the GPA. 2. In the Caspian Sea region, using the GPA methodology, as part of the CEP activities, a review was carried out on a regional assessment of the levels of pollutants coming from land-based sources of pollution in the Caspian coastal zone. 3. The Russian Federation regularly participates in the	Country does not participate in GPA actions.

		monitoring of the rivers is periodically done by the provincial offices of DOE. The parameters which are measured during these programs are mainly air temperature, water temperature, pH, EC, dissolved oxygen, turbidity, salinity and nutrients. 2. Iran does not participate in the Clean Seas Campaign.		intergovernmental meetings to review the implementation of the GPA. 4. Within the framework of the national project "Ecology", under the project "Clean Country", various measures are being taken in various marine regions of the country to clean up marine and coastal areas.	
4.3 Basel Convention		1. Iran ratified Basel Convention in 1992. 2. Accordingly the following restrictions were imposed by the country on transboundary movement of hazardous wastes and their disposal: (a). Export for final disposal; (b). Export for recovery; (c). Import for final disposal; (d). Important for recovery; and (e). Transit. 3. Basel Convention Regional Centre for Training and Technology Transfer in Iran (BCRC	1. Kazakhstan joined the Basel Convention (2003) on the basis of Law and is taking steps to fulfill the obligations. 2. At the legislative level, a number of changes and additions have been made to the Environmental Code of the Republic of Kazakhstan (2011, 2012, 2016), including in the area of regulating the handling of hazardous waste and persistent organic pollutants.	1. Russia ratified the Basel Convention in 1994 by the Federal law. 2. Pursuant to the Article 5 of the Basel Convention, the competent authority is the Ministry of Natural Resources and Environment of the Russian Federation. 3. The implementation of the Convention is carried out by Rosprirodnadzor of the Ministry of Natural Resources and Environment of the Russian Federation. 4. At the fourteenth meeting of the Conference of the Parties to the Convention (2019), the	1. Party to the Basel Convention since 1996. 2. Country is not fully involved in the activities of the Basel Convention. 3. The movement of hazardous waste is recorded in a log, identifying the name of the waste, its volume / quantity, shipment dates and the country of origin and destination.

		Iran) was established in 2004. The core functions of the center are including training of the staff in BCRC in Tehran and the representatives from member states and non-member states, technology transfer to the region, awareness raising, conducting workshops, seminars and associated projects and cooperating with UN and its bodies and other relevant intergovernmental and NGO's.	3. The import, export and transit of waste is carried out on the basis of issuing a notification and a conclusion on transboundary movement of waste to the competent authorities of the country.	Russian Party supported the decision of the fourteenth meeting to amend the relevant annexes regarding marine plastic litter, and the establishment of the Partnership on Plastic Waste. 5. Marine litter is considered in Russia as an integral part of waste, and relevant measures to minimize pollution of marine and coastal zones, including the western part of the Caspian Sea, are implemented as part of the relevant programmes. 6. Legislation on waste, including relevant to the implementation of the Basel Convention, is given in section 3.3 above. There are a number of relevant additional by-laws.	4. The country applies rules for the transport of dangerous goods, based on the agreement of the CIS countries.
4.4 London Convention with Protocol		1. Iran has been party to London Convention since 1996 and London Protocol since 2015. 2. An advisory committee was established in DOE. 3. According to LP requirements, there is a procedure for assessment and issuing permit for dumping of dredged material at sea in Iran to ensure that any	Kazakhstan is not a party to the London Convention.	1. The Russian Federation is a party to the London Convention. 2. During the 40th Consultative Meeting of Representatives of the Contracting Parties to the London Convention (2018), in which the Russian delegation took part, much attention was paid to the issue of prevention of marine pollution from marine litter and microplastics.	Country did not ratify London Convention with Protocol.

		adverse environmental effects are minimized. 4. Several training workshops were held with the cooperation of IMO.		Of importance to the provisions of the London Convention was the consideration of recommendations for reducing the discharge of plastic microparticles into the sea during dredging and from sewage sludge. 3. Russia suggested that it is necessary to separate the consideration of marine pollution with marine litter and microplastic, taking into account different sources, monitoring methods and the definition of measures to prevent marine pollution with marine litter and microplastic. It is advisable to involve representatives of various industries, such as chemical, pharmaceutical and medical, in matters of marine pollution with microplastics. The proposal was generally supported by the participants.	
4.5 Other Global / Regional Programmes		For the Tehran Convention programmes and activities, Iran always took part in the coastal cleanup programmes for the celebration of Caspian Day along with other activities.	1. Nowadays Kazakhstan participates in the implementation of the regional project “Addressing the problems of marine litter in the Caspian Sea region”, which is being	1. The basis for the development of this issue are UNEP events and documents. 2. The Russian Party supports all UNEP resolutions and events on marine litter at UNEA meetings, in particular the UNEP Global Marine Litter Partnership (GMPM) /	Country actively participates in project «Addressing Marine litter in the Caspian Sea region".

			carried out under the Tehran Convention with the participation of all five Caspian states. The goal of the project is to prevent and reduce pollution and the effects of litter on marine organisms, their habitat, public health and safety, and to reduce the socio-economic costs caused by marine litter pollution. 2. One of the main objectives of the project is to develop a draft Action Plan to combat marine litter in the coastal zone of the Caspian Sea.	Global Marine Litter Action Programme, the UNEA decisions on “Marine litter from plastic and plastic microparticles” and on “Oceans and seas” 3. The main findings of UNEP documents and resolutions can become the basis for the development of regional actions in the Caspian to combat marine litter, such as: (a) the need to prioritize actions to mitigate the problem of marine litter; (b) development of a marine litter monitoring programme to determine the amount of litter along the coastline, in the water column, on the ocean floor, in the upper layers of the ocean and biota; (c) the need to assess the socio-economic and environmental costs associated with the consequences of littering the marine environment; (d) application of a life cycle approach to plastic products, taking into account the degradation of various polymers and fragmentation rate (in the marine environment), including improving the process of closing the development and manufacturing cycle of products, as well as increasing the service	

				life of products; and (e) assessment of the effectiveness of relevant international, regional and subregional strategies and methods for guiding the combating scrap and microparticles of plastics in the marine environment, taking into account relevant legal regulatory frameworks and identifying possible gaps and options for addressing them, including through regional cooperation and coordination.	
4.6 NGOs		1. There are many active NGOs in the field of environment protection in Iran. Many of them have been active in lots of coastal programs in the coastal areas of the Caspian Sea or somehow working on the waste management issue. They have arranged many cleanup activities in the coastal areas or along the rivers heading to the sea. They have held some workshops for the local people, children and students to raise the public awareness on the	1. In Kazakhstan, clean-up campaigns are held on an annual basis with public participation. Public organizations are widely involved in the organization of such actions. 2. "Water Initiatives Center" Public Fund participates in activities to celebrate the Caspian Sea Day, which is celebrated in Kazakhstan according to a decision of the Conference of the Parties to the Tehran Convention, including	1. Non-governmental organizations of Russia on the issues of marine litter are actively involved in the activities of NOWPAP, and the regional conventions – Bucharest, HELCOM. 2. In the Caspian, public organizations, including those under the implementation of the Tehran Convention and its Public Strategy, implement various environmental measures to clean up the coast of the Caspian Sea and rivers. 3. In 2018 the following activities were carried out with the participation of public organizations: (a) Ecological	1. The Nature Protection Society of Balkan region together with the city/village/schools' administration, closely works with schoolchildren, public society, etc. in clean-up activities at the coastal zone of the Turkmen sector of the Caspian Sea. 2. In 2009 the Nature Protection Society of Turkmenistan implemented project: "Let's Keep the Caspian Clean" at the

		importance of the issue of wastes. 2. Among them, the followings could be mentioned: Ramsar Green Watch Society; Sabzkaran Balan Institute; and Nature Cleaners: Mazandaran Province; Golestan Province; and Gilan Province.	organizing a campaign to clean up the coast from marine litter.	campaign “Clean Shores to Our Rivers and Lakes”; (b) The all-Russian campaign “Water of Russia”; (c) cleanups of the Caspian shipping channel, the Lagansky Bank channel, Olya-Caspian irrigation canal were held in the coastal area of Lagansky district of the Republic of Kalmykia; (d) the Republic of Dagestan took part in the all-Russian campaign of the All-Russian Popular Front “General Cleaning of the Country”; (e) environmental actions to clean the banks of the Volga River – “Clean Banks” etc. 4. Such events were carried out annually, in 2017 – the “Year of Ecology” in Russia, they were also carried out in the framework of the national project “Ecology” and the project “Clean Country”. 5. The activities of public organizations carrying out their work in the Caspian region of Russia are closely related to the main activities of state universities and state natural reserves located in the region. In most cases, public structures are organized with their assistance and are mainly focused on	coastal area of the National Tourist Zone “Avaza”. 3. The clean-up activities have been implemented with the Nature Protection Society of Turkmenistan and schoolchildren of the local schools of Turkmenbashi city.

				enlightenment, research and education.	
4.7 Understanding & Awareness		1. The problem of marine litter is quite a new issue for the public in Iran. There are some efforts to raise the public awareness by the government, academia and NGOs which are not enough at all. 2. One of the components of the local and national waste management plans of the country is promoting the level of understanding of the public on how they can play an important role in reducing waste production through correction the purchase pattern, reuse the products, less use of disposable products and participation in recycling plans in order to separate the wastes from the source. 3. However, these are the issues considered as the waste management plans on the land and when it comes to the issue of marine litter, we can say that the level of	1. An important role in the successful implementation of the waste management policy in Kazakhstan is played by the environmental awareness and culture of the population. 2. Despite the ongoing arrangements for the installation of containers and carrying out explanatory and other informational works, nowadays with a high level of production and consumption, the ecological culture of the population, the culture of respect for the environment remains at a low level. 3. Nowadays, an Action Plan for organizing outreach work among the population on waste management, the formation of ecological awareness and culture in society has also been	1. The level of understanding and awareness of marine litter in Russia due to the geographical location of the country, the presence of marine and coastal zones and various anthropogenic pressures on them, participation in international programmes and projects is quite high in such stakeholder groups as government officials, scientific community, a number of industries, the public. The level of awareness among such population groups as the rural population, representatives of the tourism business, etc. is insufficient. 2. As mentioned above, in the framework of various national projects the level of education on this issue is quite high. 3. See also sections 2.2 and 2.3. 4. Currently, a significant number of organizations (public environmental organizations, libraries, educational institutions, etc.) operate in the near Caspian	1. In connection with the project “Addressing Marine Litter in the Caspian Sea Region” meetings were held with parties concerned. 2. Before and during webinar communication with all partners was held.

		understanding about the marine litter is so weak in Iran among the public. 4. Millions of visitors from across the country travel to the Iran's northern provinces along the Caspian Sea's southern coasts during the Persian New Year (Nowruz). Green-road, clean-beach national plan is designed to promote the environmental awareness of travelers to the Caspian Sea during this holiday time with respect to the elements of sustainable tourism and so far has been implemented for two years. The plan includes different tasks from providing environmental information in specific areas to the clean-up activities on cities' entrance and exit in cooperation with municipalities, districts, railways and other sectors along the different roads from Tehran to the main northern cities of the country. The main objective of this plan is to	adopted. The plan provides for the revision of curricula for pre-school, school institutions, and higher education institutions and the inclusion in them of topics related to environmental protection and the rational use of natural resources, including issues of safe waste management; conducting a broad communication company and educational programs to increase public awareness of the use of natural resources and environmental problems; behavior change regarding waste management.	subjects of Russia, which conduct activities in this direction.	

		prevent pollution and damage to the environment as well as preserve the natural environment and ecological conditions of the rivers and the coasts of the Caspian Sea. 5. Caspian Sea Day Celebration: Every year on the occasion of the Caspian Day (12 August), many awareness raising programs carry out to draw public attention to the need to safeguard the unique Caspian Sea environment and make the protection of the marine environment of the Caspian Sea a responsibility of each and every individual.			
4.8 Integrated Waste Management		1. There is an integrated waste management plan at the national level. At the same time, each province/city should have its own integrated waste management plan. However, it has not been developed for all the provinces/cities yet. 2. There is no specific term as for marine litter in the integrated waste management plans of the	1. From 2016 it is forbidden to dispose mercury-containing lamps and devices, metal scrap, waste oils and liquids, batteries, electronic waste at landfills. 2. Since January 1, 2019, the ban on the disposal of plastic, waste paper, cardboard,	1. The effectiveness of actions to address the problem of pollution by waste, including marine litter, depends on the use of an integrated approach to managing activities in the marine and coastal zones, including litter entering ways, taking into account economic, social and environmental factors, coordinated actions of various	1. Turkmenistan mainly implements a centralized waste management system at the national and provincial level. 2. Turkmenbashi International Marine Port has specific procedures for wastewater, garbage and other waste.

		coastal provinces/cities but as the main sources for marine litter is from land based sources, then we can say that marine litter is somehow managed within these systems. 3. The integrated waste management plan at the national level does not include waste management by ports and harbors. This is an issue that should be met by the provincial integrated waste management plan.	paper and glass were entered into force. 3. Since January 1, 2021 the ban on the burial of construction and food waste comes into force. 4. There are more than 130 enterprises sorting and processing waste, producing more than 20 types of products. Sorting complexes of various capacities are available in 18 more settlements. 5. From this year, a pilot project on organizing separate collection of solid waste, processing and recycling organic (food) waste is implementing by Akimat of Astana together with the EPR Operator LLP.	competent industry management bodies. 2. The priority of an integrated approach to the processing, disposal and neutralization of waste, as well as to the return of secondary resources in production is envisaged by the "Strategy for the development of industry for processing, disposal and neutralization of production and consumption waste for the period up to 2030". 3. An integrated approach to the processing, disposal and neutralization of waste includes the development of territorial schemes for waste management, including solid municipal waste, which are the most complete source of information on waste management (Decree of the Government of the Russian Federation (2016) "On approval of requirements for the composition and content of territorial schemes for waste management, including solid municipal waste". Such schemes were approved for Astrakhan oblast, Republic of Kalmykia, and Republic of Dagestan).	

				4. The integrated waste management system also suggests a system of measures for the construction and modernization of the system of municipal infrastructure and facilities used for waste disposal. 5. An important tool for an integrated approach is the approval at the level of the near Caspian subjects of regional operators for the municipal solid waste management and the Rules for the implementation of the activities of regional operators for the municipal solid waste management.	
4.9 Economic Instruments		1. According to the waste management law of Iran and its bylaw, there are some economic instruments used in relation to waste management including municipal waste charges, recycling charges and cash penalties for offenders. 2. These economic instruments could also be applicable to marine litter.	1. For the sustainable operation of the SDW management system under the Concept on Transition to a Green Economy, it is planned to improve the pricing policy, which will simultaneously correspond to the solvency of the population and ensure the attractiveness of this sector for private investors.	1. Federal law "On environmental protection" (2002, amended 2017) provides the new edition of "Payment for negative impact on the environment". 2. The main principles of economic regulation in the field of waste management are: (a) reducing the amount of waste and involving them in economic circulation; and (b) payment for waste placement (Federal law "On production and consumption waste", 1998, amended 2015).	1. Important component of the updated environmental legislation of Turkmenistan was the introduction of market mechanisms in the field of environmental management. 2. The Law "On Nature Protection" (2014) and the Law "On wastes" have economic procedure

			2. Activity on the formation of a sustainable financial system in the field of management of SDW should be aimed at ensuring full recovery of the costs of services provided for the collection, removal, sorting, disposal, recycling and disposal of SDW. The functioning of the system will be carried out by: (a) tariffs; (b) revenues; (c) the expense of manufacturers and importers. 3. Government procurement is another tool to stimulate the development of waste management, so the purchase of products produced on the basis of secondary raw materials should have priority over analogues produced from primary raw materials. 4. In order to involve the public in the	3. The Federal law on waste also introduced the concept of "environmental fee". 4. The environmental fee rate is formed on the basis of the average amount of costs for the collection, transportation, processing and disposal of a single product or a unit mass of the product that has lost its consumer properties. The rate of environmental fee may include the specific amount of costs for the creation of infrastructure facilities intended for this purpose. Environmental fee rates are set by the Government of the Russian Federation. 5. For goods in packaging that are not ready-to-use products, the environmental fee is paid only in respect of the packaging itself, and is not paid in respect of goods that are subject to recycling and are exported from the Russian Federation.	for various aspects of pollution.

			development of a separate collection system, it is necessary to introduce instruments to encourage the population for a separate collection, to introduce differentiated tariffs.		

Table 4. Barriers, gaps and needs. Summary of responses by Caspian countries

	Republic of Azerbaijan	Islamic Republic of Iran	Republic of Kazakhstan	Russian Federation	Turkmenistan
5.1 Barriers & Gaps		1. Lack of proper routine monitoring program and survey to investigate marine litter problem and provide data on the extent and nature of marine litter, source differentiation, zones of accumulation and its environmental, ecological and socio-economic impacts in the country. 2. Excessive consumption of plastic bottles and plastic disposable food containers in Iran mainly	1. Solid domestic waste has a huge negative impact on the environment with its multicomponent composition, released by harmful and toxic substances. In Kazakhstan, there is practically no integrated waste management system, including monitoring, storage, recycling and disposal of industrial and household waste, which hinders the transition to	1. The environmental problem of waste management is its location in landfills that do not meet the requirements or are not intended for this purpose. One of the reasons is the lack of special landfills for waste disposal. Thus, in the Astrakhan oblast there are 7 such landfills, including 2 – in the coastal area, in Kalmykia and in Dagestan – 1 special landfill per subject, one of them – in the coastal area. 2. The problem is the lack of widespread use of modern	-

		due to low prices of plastic. 3. Deficiencies in specific national legislation addressing the issue of marine litter as a separate concept. 4. Lack of guidelines, regulations, criteria and environmental standards for the management of marine litter. 5. Due to the absence of damage cost assessment for the marine litter, clean-up cost assessment and relevant fines, there is no operational guarantee to control, prevent and combat with marine litter in Iran. 6. Lack of integrated waste management in coastal provinces (although all the provinces should have this instrument according to the law, some of them are still under preparation).	sustainable development. 2. Accumulated over the decades, the volume of municipal waste in Kazakhstan exceeds expert more than 100 million tons. Approximately 3 million tons of municipal waste is generated annually, according to the results of 2017, only 442.7 thousand tons or 13.7% is recycled, and 5.3 thousand tons (0.2%) of the received waste is sent to recyclable. The bulk of waste in Kazakhstan is stored in landfills and unauthorized landfills.	industrial methods of waste disposal. 3. Violations of environmental legislation also hamper the effective management of waste, including marine litter. For example, violations related to waste disposal in water protective zones of rivers and seas. Placement of production and consumption waste in water protective zones is prohibited (household waste, construction waste, etc.) in accordance with provisions of the article 65 of the Water Codex of the Russian Federation. 4. Lack of legal and administrative mechanisms related to marine litter in the waste legislation system. 5. Lack of research on the effects of marine litter on biota, on monitoring and assessment of state of marine litter pollution. 6. Low demand for recycling materials, as only since 2019 the law provides for separate waste collection, therefore currently there is no required amount of materials for recycling.	

		7. Inadequate public awareness regarding the magnitude of the marine litter issue and its negative socio-economic and public health impacts.			
5.2 National Needs & Action Plan		1. Establishment of a national marine litter monitoring program; 2. Establishment of a marine litter data bank; 3. Planning to reduce production and consumption of plastic bottles, bags and disposable containers; 4. Put more efforts to encourage private sectors to expand the plastic recycling industry; 5. Tagging all commercial fishing nets which helps to identify owners or users of the marked fishing gear and thus contributes to preventing fisheries-related marine litter being abandoned; 6. Conducting more awareness raising	For solving the problems of integrated management of SDW in Kazakhstan, the following is necessary: (a) the introduction of an effective system for the collection of SDW; (b) introduction of a regional approach in the treatment of SDW; (c) increase the volume of processing and disposal of waste; (d) development of cost-effective mechanisms for the collection, transportation and processing of SDW; (e) reclamation of landfills and construction of SDW landfills that meet international standards; (f) increasing the culture of waste collection; (g)	1. The National Caspian Action Plan, developed in accordance with the Tehran Convention on the basis of programmes for the development of the near Caspian subjects, in accordance with the strategies of socio-economic development of the near Caspian region of Russia includes activities related to pollution of the coastal environment, including waste. 2. The following is necessary to address the marine litter problem: (a) collection and review of data and information on marine litter in the marine and coastal environment of the near Caspian subjects, identifying gaps and needs for the scale of marine litter management; (b) establishment of a marine litter monitoring programme to determine the amount of litter along the coastline; (c) further educational activities aimed at clarifying the	1. Development of industry positively impacts the environment, in terms of keeping cleanliness of Turkmen coastal waters/coastal zone, in terms of the planned and sustainable development of the Turkmen coastal zone, the development of aesthetic education among tourists and population, the coverage of a large area that is monitored and the management of facilities located on the shore. 2. Some proposed interventions for National Action Plan are: (a) Create a network of marine

		programs including clean-up and participatory activities as well as educational and training programs to help behavior changing of the people from different levels of society including relevant personnel from government, academia, local communities, NGOs and relevant industries.	conducting research on marine litter.	problem of marine litter, sources of its formation, measures to reduce its release into the marine environment; (d) special attention to beach vacations, as beach tourism is the main source of garbage in the marine environment; (e) the need for a sufficient number of waste bins on the coast; (f) work with manufacturers of "potential" marine litter, aimed at reducing its quantity; (g) work with large chain shopping malls aimed at reducing the purchase of plastic packaging materials; (h) state support for enterprises engaged in recycling; and (i) improvement of legislation, including regional legislation, related to the problem of marine litter and regulating tourism activities in the region. 3. The problem of marine litter is largely related to the functioning of certain sectors of the economy, such as sea transport and port facilities, fisheries, health resorts, leisure industry and tourism, the exploitation of offshore oil and gas fields, and it is here that the problems associated with marine litter should be given priority.	litter national stakeholders; (b) Training of school teachers on the problem; (c) Introduction/ training the marine litter problem into school program; (d) Development of educational programs for schoolchildren/ students; (e) Terrestrial and Coastal Plastic Waste Management; (f) Marine Debris Management; (g) Development of financing and institutional support mechanism; (h) Holding of regular beach clean-up activities; (i) Setup one pilot project to show how to manage marine litter/plastic debris; and (j) Public awareness campaign: Organization of photo contest among schoolchildren in schools.

				4. It is necessary to involve large oil and gas companies in addressing these problems. For example, such a major company as Lukoil has great capabilities in the field of monitoring marine pollution, which could also be used to monitor marine litter. 5. Further development of specially protected areas should also help alleviate the problem of marine litter, since a special regime and rules of conduct are established in these territories. 6. A wide involvement of public organizations and media is necessary to enhance the culture of the population, and activities related to cleaning the coast of garbage. One of the highest priority problems to be solved is to increase the capacity for sorting and processing waste.	
5.3 Regional Needs & Action Plan		1. Caspian Sea is a common body of water and since the problem of marine litter is a transboundary issue, development, adoption and implementation of a regional framework and Action Plan on marine litter is highly necessary	Key elements of a regional action plan on combating marine litter: (a) organization of research studies on the problems of marine litter and the impact of marine litter on the environment of the Caspian Sea; (b)	1. In order to prevent and mitigate the potential adverse effects of marine debris on the marine and coastal environment of the Caspian Sea, the following proposals are presented, which may be reflected in the regional Caspian marine litter action plan: (a) adaptation of existing international and national	Following interventions are proposed to be included in the Caspian Marine Litter Action Plan:

		for the Caspian Sea region to determine the actions that should be done at the regional level to tackle this problem. 2. The Regional Action Plan should define and select a common standardized methodology for monitoring and determining the nature and amount of marine litter in all the five countries of the region to make it possible to compare the results from every country. 3. Relevant capacity building and technical training should be carried out at the regional level.	adapted regional measures to combat marine litter based on international best practices; (c) development of measures for monitoring marine litter in the Caspian region; and (d) measures to improve national policies and legislation in the fight against marine litter.	developments on marine litter in other regions to the Caspian Sea region; (b) identification and systematization of baseline data on the main land-based sources of pollution of the marine and coastal environment of the Caspian Sea; and (c) identification of the main units of fishery and aquaculture waste that may contribute to the formation of marine litter. 2. The most important component of protection, conservation and restoration of the natural environment is scientific research. It is important to utilize the significant scientific potential generated in the Caspian littoral states to the problems of pollution of the marine and coastal environment of the Caspian Sea and to ensure sustainable development of the region: (a) organization of scientific research to study microplastics as persistent pollutants present in all marine habitats and trophic transmission of microplastics through benthic and pelagic food networks; (b) conducting research on marine litter as a vector for the movement of invasive alien	1. Strengthen regional cooperation on marine litter; 2. Choosing a methodology for its inclusion in national and regional programs for monitoring and assessing the state of marine debris, including waste record; 3. Implementing programs of interaction with civil society (private sector, NGOs and the scientific community) through the development of cooperation with key stakeholders; 4. Conducting awareness and education campaigns by preparing brochures in different languages, using press, mass media, etc.; 5. Development of professional industry rules for competent

				species; (c) organization of studies on the impact of marine litter on marine and coastal biodiversity and habitats and studies on the rate of degradation or fragmentation of litter under various conditions; (d) studies on the sources of marine litter and amount of litter entering the marine environment; (e) assistance to researches aimed at the development of technologies to ensure the reduction of the environmental impact of plastic on the marine environment and to develop new or improved alternatives; (f) development of marine litter monitoring strategies; (g) development of harmonized approaches to monitoring marine litter, analysis and reporting based on standardized methodologies, taking into account existing guidelines for monitoring marine litter, such as the European Union Guidelines for monitoring marine litter in European seas etc.; (h) development and introduction of socio-economic incentives for the prevention of garbage entering the environment; (i) development of recommendations to stimulate	management of marine litter (for example, for tourism, boating, fishing); and 6. Development and improvement of strategy and systems for the collection and disposal of marine litter/garbage.

				structural economic changes, which should ensure a reduction in the production and consumption of plastics, increase in the production of more environmentally friendly materials, and on the expansion of recycling and reuse; (j) improvement of the legislation of the Caspian littoral states on marine litter in general, and on the regulation of various microplastics sources by legislative acts; and (k) use of existing platforms and tools for cooperation that will enhance collaboration on the issue of marine litter (such as the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities, the Global Partnership on Marine Litter, regional seas action plans). 3. There is an urgent need to change attitudes and behavior of both individual groups of society and society as a whole towards a more reasonable attitude to the environment. It is necessary to improve a variety of educational and practical training programmes for various groups of society in order to increase awareness of the obligation to	

				prevent pollution of the marine environment. Raising public awareness can help decision-making in improvement of control and prevention of pollution of the marine environment. 4. Possible types of specific activities for this complex of problems – events to clean up marine litter on the coast, propaganda campaigns among the population and tourists, educational work with schoolchildren and youth.	

Annex V

CASPIAN MARINE LITER ACTION PLAN

BIBLIOGRAPHY

DOCUMENTS RELEVANT TO THE ISSUE OF

MARINE LITTER IN THE CASPIAN SEA

REFERENCES WITH SUMMARIES

June 2019

Introduction

Preparation of the Bibliography of references relevant to the issue of marine litter in the Caspian Sea was suggested by the Tehran Convention Interim Secretariat and is to contain relevant references at the Global, Caspian regional and Caspian national levels.

Preparation of the Bibliography was undertaken as a desk-top study. Sources of information were:

(i) In depth review of the web and selection of the relevant documents and information;

(ii) Documents provided by Tehran Convention Interim Secretariat; and

(iii) Responses by Caspian National Experts to the National Survey Questionnaire.

A thorough survey of the web resulted in many relevant documents. Out of those 107 documents were selected to be presented in this Bibliography. The selected documents have high relevance to the issue of marine litter in the Caspian Sea.

The length of the selected documents varied from a few pages to several hundred pages. Also some documents covered only one issue but in some, quite a number of relevant issues were covered.

In order to make it more useful for readers it was decided to prepare two versions of the Bibliography:

(i) Document which has: (a) reference; (b) link (if available); and (c) short summary (up to about 20 lines). This was done in order to provide the reader with condensed relevant information so that the reader will not have to open the link to find out about the content of the document. This document has 107 references and 57 pages; and

(ii) Document which has: (a) reference; and (b) link (if available), but no summary. This document has 107 references and 15 pages.

In order to make it easier for the users of these references the selected documents were organized into the following chapters:

(i) Global

(ii) Four Successful Regional Marine Litter Action Plans

(iii) Tehran Convention and its Protocols

(iv) Caspian Regional

(v) Caspian Countries

- Republic of Azerbaijan
- Islamic Republic of Iran

- Republic of Kazakhstan
- Russian Federation
- Turkmenistan

GLOBAL

This chapter contains references, links (when available) and summaries of 51 documents of high relevance to the Caspian region.

Niaounakis (2017): Management of Marine Plastic Debris, Prevention, Recycling and Waste Management, Michael Niaounakis, Elsevier, 436 pp.

https://books.google.hr/books?id=hWI8DgAAQBAJ&pg=PA404&lpg=PA404&dq=China+Marine+Litter&source=bl&ots=N1HYBQG4WI&sig=g5B0vbAf0hGQIuQwVGWz4yXNres&hl=hr&sa=X&ved=0ahUKEwj0moTBsp3WAhUINxQKHYm1CGk4ChDoAQhNMAQ#v=onepage&q=China%20Marine%20Litter&f=false

(Last accessed 13 June 2019)

The book Management of Marine Plastic Debris addresses the global problem of marine plastic debris (MPD), a waste created by human activities in oceans, seas, lakes, waterways, and the coast lines. Most of the plastic debris, which are disposed deliberately or accidentally in water bodies remain in the water for a very long period. Floating, sunk, and stranded plastic debris in the oceans and the beaches have become a major environmental issue with serious societal and economic effects, which can be compared with other issues of modern time, including climate change, ocean acidification, and loss of biodiversity. Very little progress has been made in finding a technical solution for cleaning the oceans and the seas and implementing a proper prevention mitigation policy/strategy. This book provides an updated and detailed overview of the environmental, social, and economic problems created by the disposal of plastic debris in oceans, seas, and waterways, giving an analysis of the type, composition, and chemical identity of the constituting polymers, reviewing all available technologies for the treatment of MPD, and providing the regulatory framework to work within.

Galgani (2015): Global Distribution, Composition and Abundance of Marine Litter, François Galgani, Georg Hanke, Thomas Maes, Chapter 2 in Marine Anthropogenic Litter, 2015, 29-56 pp.

https://link.springer.com/chapter/10.1007/978-3-319-16510-3_2

(Last accessed 13 June 2019)

Marine debris is commonly observed everywhere in the oceans. Litter enters the seas from both land-based sources, from ships and other installations at sea, from point and diffuse sources, and can travel long distances before being stranded. Plastics typically constitute the most important part of marine litter sometimes accounting for up to 100 % of floating litter. On beaches, most studies have demonstrated densities in the 1 item m^{-2} range except for very high concentrations because of local conditions, after typhoons or flooding events. Floating marine debris ranges from 0 to beyond 600 items km^{-2}. On the sea bed, the abundance of plastic debris is very dependent on location, with densities ranging from 0 to >7700 items km^{-2}, mainly in coastal areas. Recent studies have demonstrated that pollution of microplastics particles <5 mm, has spread at the surface of oceans, in the water column and in sediments, even in the deep sea. Concentrations at the water surface ranged from thousands to hundred thousands of particles km^{-2}. Fluxes vary widely with factors such as proximity of urban activities, shore and coastal uses, wind and ocean currents. These enable the presence of accumulation areas in oceanic convergence zones and on the seafloor, notably in coastal canyons. Temporal trends are not clear with evidences for increases, decreases or without changes, depending on locations and environmental conditions. In terms of distribution and quantities, proper global estimations based on standardized approaches are still needed before considering efficient management and reduction measures.

Science Advances (2017): Production, use, and fate of all plastics ever made, R. Geyer, J. R. Jambeck and K. L. Law, Science Advances, Vol. 3, no. 7

http://advances.sciencemag.org/content/3/7/e1700782.full

(Last accessed 13 June 2019)

Plastics have outgrown most man-made materials and have long been under environmental scrutiny. However, robust global information, particularly about their end-of-life fate, is lacking. By identifying and synthesizing dispersed data on production, use, and end-of-life management of polymer resins, synthetic fibers, and additives, we present the first global analysis of all mass-produced plastics ever manufactured. We estimate that 8300 million metric tons (Mt) as of virgin plastics have been produced to date. As of 2015, approximately 6300 Mt of plastic waste had been generated, around 9% of which had been recycled, 12% was incinerated, and 79% was accumulated in landfills or the natural environment. If current production and waste management trends continue, roughly 12,000 Mt of plastic waste will be in landfills or in the natural environment by 2050.

UN Environment (2017): Combating Marine Plastic Litter and Microplastics: An Assessment of the effectiveness of relevant international, regional and subregional governance strategies and approaches, Summary for Policy Makers, UNEP/AHEG/2018/1/INF/3, 21 pp.

https://papersmart.unon.org/resolution/uploads/unep_aheg_2018_1_inf_3_summary_policy_makers.pdf

(Last accessed 13 June 2019)

This summary provides an overview of the key findings of the assessment “Combating marine plastic litter and microplastics: An assessment of the effectiveness of relevant international, regional and subregional governance strategies and approaches.” This assessment was developed in response to the resolution on Marine Plastic Litter and Microplastic adopted by the UNEA 2 and seeks to outline gaps and propose options for addressing these gaps for consideration of the UNEA 3. The assessments reviewed 18 international and 36 regional instruments and identified existing gaps and concluded that current governance strategies and approaches provide a fragmented approach that does not adequately address marine plastic litter and microplastics. This includes limitations in scope and mandate, broad and indirect application to the issue and variations in strategies and approaches incorporated in binding and/or voluntary instruments. Governance must, inter alia and in addition to managing what is already in the environment, reduce the risk of plastic becoming marine plastic litter and microplastic by factoring in production forecasts, setting global standards for design, provide security for end-markets and strongly support the 6R approach and policy frameworks must be designed to keep pace with innovation, from production to disposal, while providing the necessary environmental guidance. The assessment proposed three options for improved governance strategies and approaches: 1. Maintaining the status quo; 2. Review and revise existing frameworks to address marine plastic litter and microplastics and add a component to coordinate industry; and 3. A new global architecture with a multilayered governance approach.

Overview of the Guidelines for the Monitoring and Assessment of Plastic Litter in the Ocean. 16 pp.

https://papersmart.unon.org/resolution/uploads/un_environment_science_-_marine_plastics_guidelines_synopsis_18-03553_002.pdf

(Last accessed 13 June 2019)

The effort to promote a more harmonised approach to the design of sampling programmes for the monitoring and assessment of marine litter, including the selection of appropriate indicators (i.e. type of sample and litter item), the collection of samples or observations, the characterisation of sampled material, dealing with uncertainties, data analysis and reporting the results, is the direct result of UN Environment, supported by IOC-UNESCO being tasked with supporting countries to implement methodologies and procedures to report against target 14.1 ‘By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based

activities, including marine debris and nutrient pollution' under Sustainable Development Goal 14. The report summarised the state of our knowledge on sources, fate and effects of marine plastics and microplastics, and describe approaches and potential solutions to address this multifaceted conundrum. A key intention of the guidelines is to support the further development of the marine litter monitoring framework under SDG 14.1.1.

19th Meeting of the Contracting Parties to the Barcelona Convention (2016), Decision IG.22/10: Implementing the Marine Litter Regional Plan in the Mediterranean (Fishing for Litter Guidelines, Assessment Report, Baselines Values, and Reduction Targets),

UNEP(DEPI)/MED IG.22/28, 523-554 pp.

https://wedocs.unep.org/bitstream/handle/20.500.11822/6072/16ig22_28_22_10_eng.pdf?sequence=1&isAllowed=y

(Last accessed 13 June 2019)

Fishing for Litter (FfL) is referring to the removal of marine litter from the sea by the fishermen and is one of the most important measures that have the potential to reduce the amounts of marine litter at sea by involving one of the key stakeholders sectors, the fishing industry. Apart from removing litter from the sea, mainly from the seafloor, these practices substantially contribute to raising awareness on the problem within the sector and the need for better waste management. FfL initiative has demonstrated on a limited scale that the objectives and aims of the scheme can gain the support of the fishing industry, harbour authorities and local authorities. Furthermore, it can contribute to changing practices and culture within the fishing sector, provide a mechanism to remove marine litter from the sea, and raise awareness among the fishing industry, other sectors and the general public. FfL initiative integrates several benefits: environmental, social, economic and scientific. FfL activities have been widely applied mainly in NE Atlantic Ocean, and specifically in the North Sea. There are two types of FfL practices, active and passive: (i) Active practices are specifically performed to remove marine litter and fishermen involved are paid; and (ii) Passive practices are carried out by fishermen during their normal fishing activities without financial compensation. There are many environmental benefits of retrieval actions of marine litter, these benefits increase when developing in sensitive areas where protection and conservation of marine biodiversity are priority but the precautionary principle should be applied. The objective of this guide is two-fold: to provide technical guidance on the mechanism to remove litter from the sea in an environmentally friendly manner ensuring negative impacts on marine environment and ecosystems are avoided, and to provide guidance on the process of involving the stakeholders responsible for the implementation and coordination of FfL practices.

GESAMP (2019): Guidelines of the monitoring and assessment of plastic litter and microplastics in the ocean (Kershaw, P.J., Turra, A. and Galgani, F. editors), (IMO/FAO/UNESCO-IOC/UNIDO/WMO/IAEA/UN/UNEP/UNDP/ISA Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection). Rep. Stud. GESAMP No. 99, 130 pp.

https://environmentlive.unep.org/media/docs/marine_plastics/une_science_dvision_gesamp_reports.pdf

(Last accessed 13 June 2019)

The Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) has been involved in the issue of marine plastic litter and microplastics for over a decade. This report is a product of the GESAMP Working Group (WG40) on 'Sources, fate and effects of plastics and microplastics in the marine environment'. The report was prepared by 19 independent experts from 14 countries supported by a number of national and international bodies. The principle purpose of this report is to provide recommendations, advice and practical guidance, for establishing programmes to monitor and assess the distribution and abundance of plastic1 litter in the ocean. The main audience of the report is intended to be national, inter-governmental and international organisations with responsibilities for managing the social, economic and ecological consequences of land- and sea-based human-activities on the marine environment. The intention is to promote a more harmonised approach to the design of sampling programmes, the selection of appropriate indicators (i.e. type of sample), the collection of samples or observations, and the characterisation of sampled material,

dealing with uncertainties, data analysis and reporting the results. It provides links to protocols and data recording sheets that are intended be used in the field. The scope is restricted to monitoring plastic litter in the marine environment. The report is intended to provide a step-by-step approach to designing and implementing a programme for monitoring marine plastic litter, assuming no prior knowledge.

UNEP (2016): Marine plastic debris and microplastics – Global lessons and research to inspire action and guide policy change, 274 pp.

http://wedocs.unep.org/bitstream/handle/20.500.11822/7720/-Marine_plasctic_debris_and_microplastics_Global_lessons_and_research_to_inspire_action_and_guide_policy_change-2016Marine_Plastic_Debris_and_Micropla.pdf?sequence=3&isAllowed=y

(Last accessed 13 June 2019)

Society's adoption of plastics as a substitute for traditional materials has expanded almost exponentially since the 1950s, when large-scale plastic production began. Durability is a common feature of most plastics, and it is this property, combined with unwillingness or inability to manage end-of-life plastic effectively that has resulted in marine plastics and microplastics becoming a global problem. As for many pollutants, plastic waste is a trans-boundary, complex, social, economic and environmental problem with few easy solutions. It is only in the past decade that the scale and importance of the problem has received due attention. This report was prepared at the request of the UNEA 1 (2014, Resolution 16/1). It is intended to summarise the state of our knowledge on sources, fate and effects of marine plastics and microplastics, and describe approaches and potential solutions. Marine plastics are distributed throughout the ocean, from the Arctic to the Antarctic. This is due to the durability of plastics, the global nature of potential sources and the ease to which surface currents will carry floating plastics. Improving wastewater and solid waste collection and management presents the most urgent short-term solution to reducing plastic inputs, especially in developing economies. Examples of measures are presented to bring about marine litter reduction and removal. These include Best Environmental Practices (BEPs), Best Available Techniques/Technologies (BATs), Market-Based Instruments (MBIs), legislation or some other intervention.

UNEP GPA (2015): Biodegradable Plastics and Marine Litter, Misconceptions, Concerns and Impacts on Marine Environment, 38 pp.

http://wedocs.unep.org/bitstream/handle/20.500.11822/7468/-Biodegradable_Plastics_and_Marine_Litter_Misconceptions%2c_concerns_and_impacts_on_marine_environments-2015BiodegradablePlasticsAndMarineLitter.pdf.pdf?sequence=3&isAllowed=y

(Last accessed 13 June 2019)

The development and use of synthetic polymers, and plastics has conferred widespread benefits on society. One of the most notable properties of these materials is their durability which, combined with their accidental loss, deliberate release and poor waste management has resulted in the ubiquitous presence of plastic in oceans. As most plastics in common use are very resistant to biodegradation, the quantity of plastic in the ocean is increasing, together with the risk of significant physical or chemical impacts on the marine environment. Some common non-biodegradable polymers, such as polyethylene, are manufactured with a metal-based additive that results in more rapid fragmentation. This will increase the rate of microplastic formation but there is a lack of independent scientific evidence that biodegradation will occur any more rapidly than unmodified polyethylene. Other more specialised polymers will break down more readily in seawater, and they may have useful applications, for example, to reduce the impact of lost or discarded fishing gear. However, there is the potential that such polymers may compromise the operational requirement of the product. In addition, they are much more expensive to produce and financial incentives may be required to encourage uptake. A further disadvantage of the more widespread adoption of 'biodegradable' plastics is the need to separate them from the non-biodegradable waste streams for plastic recycling to avoid compromising the quality of the final product. In conclusion, the adoption of plastic products labelled as 'biodegradable' will

not bring about a significant decrease either in the quantity of plastic entering the ocean or the risk of physical and chemical impacts on the marine environment, on the balance of current scientific evidence.

UN Environment (2017): Combating marine plastic litter and microplastics: An assessment of the effectiveness of relevant international, regional and subregional governance strategies and approaches, UNEP/EA.3/INF/5, 197 pp.

https://undocs.org/unep/ea.3/inf/5

(Last accessed 13 June 2019)

The negative impacts of marine plastic litter and microplastics are widely recognized as unacceptable at the biological, ecological and the socio-economic levels. Litter disposal and accumulation in the marine environment is one of the fastest-growing threats to the health of the world's oceans. The annual global rate of plastic production has continued to grow exponentially without a parallel increment in management measures, resulting in an ongoing contribution to marine plastic litter and microplastics from land, air and ocean. Long-term solutions include improved governance at all levels as well as behavioural and system changes, such as a more circular economy and more sustainable production and consumption patterns. The most urgent short-term solution to reducing plastic inputs, especially in developing economies, is improving waste collection and management. Efforts need to be made to improve coordination of activities and finding synergies under multiple multilateral environmental agreements, as well as the monitoring of progress specific to the issue of plastic pollution. Harmonization of targets, reporting procedures, compliance and liability would be some of the challenges presented by a fragmented approach. The current framework needs to be strengthened to better address marine plastic litter and microplastics. An approach that engages all sectors, including the plastics industry, is more likely to be effective at a global level. An overarching international mechanism with a multilayered governance approach would provide opportunities for a cohesive and robust approach to reducing, if not eliminating, the ecological and socio-economic impacts of plastics by targeting urgent and significant global curtailment in the leakage of plastic waste into the environment.

UNEP (2014): Valuing Plastics: The Business Case for Measuring, Managing and Disclosing Plastic Use in the Consumer Goods Industry, 116 pp.

http://wedocs.unep.org/bitstream/handle/20.500.11822/9238/-Valuing%20plastic%3a%20the%20business%20case%20for%20measuring%2c%20managing%20and%20disclosing%20plastic%20use%20in%20the%20consumer%20goods%20industry-2014Valuing%20plasticsF.pdf?sequence=8&isAllowed=y

(Last accessed 13 June 2019)

Plastic is one of the most useful and important materials in modern society but the environmental impacts of plastic cannot be ignored. The objective of this report is to help companies manage the opportunities and risks associated with plastic use since the use of plastic causes environmental and social impacts. The analysis described in this document identifies a range of risks and opportunities facing companies that are intensive users of plastic. Risks include the impact of tougher environmental legislation such as bans on disposable plastic bags, carbon pricing schemes and chemicals regulation, damage done to the reputation of brands targeted by campaigners over their association with plastic litter, clean-up costs and disruption to the plastic supply chain caused by resource scarcity and price volatility. The research identifies where plastic is used most intensively by focusing on 16 consumer goods sectors where plastic is commonly used. This research then analyses the exposure of companies to these risks and opportunities by expressing quantities of plastic used as a natural capital cost. These findings hold significant impacts for companies. The research drills down into and assesses the main quantifiable impacts of plastic use in products and packaging. The research assesses the largest publicly-listed companies of each of the 16 target sector by revenue - 100 in total and currently there is no correlation between a sector's disclosure rate and its plastic intensity or absolute natural capital cost due to plastic. Based on findings, the research makes a series of recommendations to companies.

The research includes several case studies of companies striving to implement good practice on plastic management, including Lush cosmetics, electronics companies Apple, Dell and Hewlett Packard, and soft drink company Coca Cola.

GEO 6 (2019): Healthy Planet, Healthy People, Front, 33 pp.

https://wedocs.unep.org/bitstream/handle/20.500.11822/27680/GEO6_front.pdf?sequence=1&isAllowed=y

(Last accessed 13 June 2019)

The sixth Global Environment Outlook (GEO 6) shows clearly that our species now stands at a crossroads. It can choose a challenging but navigable path towards a new golden age of sustainable development as envisaged by the United Nations' Agenda 2030 in which human hunger and poverty are consigned to history through the sustainable use of Earth's resources and the natural environment that leaves no-one behind. Or it can continue with current trends and practices, which will lead to a losing struggle against environmental disruptions, which threaten to overwhelm large parts of the world. GEO 6 clearly identifies the problems that have to be addressed if this latter outcome is to be avoided. But it also points to the solutions to these problems, to ways in which the aspirations of the Sustainable Development Goals (SDGs) can be realised and Earth's air, biodiversity, oceans, land and freshwater restored to health, to the incalculable benefit of Earth's people. The Chapters of the GEO 6 are: 1. Introduction and context; 2. Drivers of environmental change; 3. The current state of our data and knowledge; 4. Cross-cutting issues; 5. Air; 6. Biodiversity; 7. Oceans and coasts; 8. Land and soil; 9. Freshwater; 10. Approach to assessment of policy effectiveness; 11. Policy theory and practice; 12. Air policy; 13. Biodiversity policy; 14. Oceans and coastal policy; 15. Land and soil policy; 16. Freshwater policy; 17. Systemic policy approaches for cross-cutting issues; 18. Conclusions of policy effectiveness; 19. Outlooks in GEO-6; 20. A long-term vision for 2050; 21. Future development without targeted policies; 22. Pathways towards sustainable development; 23. Bottom-up Initiatives and Participatory Approaches for Outlooks; 24. The way forward; and 25. Future data and knowledge needs.

GEO 6 (2019): Healthy Planet, Healthy People, 745 pp. Chapter 7 – Oceans and Coasts, 176-198 pp.

https://wedocs.unep.org/bitstream/handle/20.500.11822/27658/GEO6_CH7.pdf?sequence=1&isAllowed=y

(Last accessed 13 June 2019)

The amount of marine litter continues to increase – an estimated 8 million tons (Mt) of plastics enters the ocean each year, as a result of the mismanagement of domestic waste in coastal areas. Without intervention, the quantity of plastic in the ocean is expected to increase to 100-250 Mt by 2025. {7.3.3}. Cleaning up the oceans is not a sustainable option without action to stop litter from entering the oceans. Sources of marine litter can generally be correlated with the efficiency of solid waste management and wastewater treatment. Research suggests that up to 95 per cent of the plastic entering the ocean does not remain in the surface waters. Efforts to address marine litter should focus primarily on its prevention at source through sustainable consumption and production patterns, sound waste management, wastewater treatment and resource recovery using the principles of a circular economy. If nations do not take action to prevent litter from entering the ocean, it will continue to accumulate and compromise ecosystem health and human food security. Prevention involves ensuring recovery and recycling of all used plastic products, encouraging communities to reduce the volume of rubbish generated, and improving solid waste management and wastewater treatment. Cleaning up the oceans is not a sustainable option without action to stop litter from entering the oceans.

GEO 6 (2019): Healthy Planet, Healthy People, 745 pp. Chapter 14, Oceans and Coastal Policy, 349-370 pp.

https://wedocs.unep.org/bitstream/handle/20.500.11822/27666/GEO6_CH4.pdf?sequence=1&isAllowed=y

(Last accessed 13 June 2019)

Problems involving numerous activities, sectors and sources (e.g. marine litter) may require policies involving comprehensive and coordinated measures. When such problems involve multiple jurisdictions, governance approaches to engage neighbouring countries (e.g. the Regional Seas Programme) may be appropriate. {14.2.2}. The impacts of human activities on the oceans have serious social and economic implications, which directly and indirectly affect human health and well-being. Marine litter and plastic pollution are rising to the forefront of pollution issues. With the Regional Plan on Marine Litter Management in the Mediterranean (the Plan), the UNEP Mediterranean Action Plan (MAP) was the first Regional Seas Programme and Convention to develop legally binding measures to prevent and reduce the adverse effects of marine litter on marine and coastal environments. Adopted in 2013, the entry into force of the Plan coincided with the update of national action plans of the Mediterranean countries to combat pollution from land-based sources and activities. The Plan involves some key principles on pollution control and prevention, including the integration of marine litter management into solid waste management and the reduction. Some regions have recently adopted a regional framework, such as the Plan in the Mediterranean, to coordinate and harmonize monitoring. In the case of the Plan in the Mediterranean, stakeholder collaboration to reduce plastic consumption is a key component of the Plan. However, more diverse stakeholders were only included in the VME process after the UNGA Resolution was adopted. Common to most of the cases was the involvement of relevant stakeholders, including resource users, businesses, experts, environmental NGOs and government, at some point in the policy process.

GEO 6 (2019): Healthy Planet, Healthy People, 745 pp. The threats to biodiversity from marine litter and microplastics (p. 151).

https://wedocs.unep.org/bitstream/handle/20.500.11822/27539/GEO6_2019.pdf?sequence=1&isAllowed=y

Marine litter, including marine plastic litter and microplastics, is considered a major threat to biodiversity, with serious impacts reported over the last four decades. Recent research shows that more than 800 marine and coastal species are now affected through ingestion, entanglement, ghost fishing or dispersal by rafting. Between 2012 and 2016, aquatic mammal and seabird species known to be affected by marine litter ingestion increased from 26% to 40%, respectively. Plastics, which constitute 75% of marine litter, have been shown to act as carriers for persistent bioaccumulative and toxic substances; provide habitats for unique microbial communities; act as a potential vector for disease; and provide a means to transport invasive alien species across oceans and lakes. Research on physical and toxicological effects of microplastic provides evidence of trophic transfer in planktonic food chains as well as the direct uptake of microplastics by marine invertebrates. Ingestion of microplastic by fish has been shown to cause physiological stress, liver cancer and endocrine dysfunction, affecting female fertility and the growth of reproductive tissue in mail fish. According to the United Nations 51 trillion microplastic particles, 500 times more than stars in our galaxy litter our seas, seriously threatening marine wildlife.

GEO 6 (2019): Healthy Planet, Healthy People, 745 pp. Marine litter (pp. 188-189).

https://wedocs.unep.org/bitstream/handle/20.500.11822/27539/GEO6_2019.pdf?sequence=1&isAllowed=y

Plastic pollution has been recognized for decades as a threat to marine biodiversity. One of the most visible impacts is death or injury of marine life from entanglement with derelict fishing gear and plastic packaging. Many animals also ingest litter, either accidentally or intentionally when it is mistaken for food. This can cause starvation due to intestinal blockage or lack of nutrition. Recent reviews have found that a growing number of turtles, marine mammals and seabirds are endangered or killed by floating litter. Microplastics are now appearing in food consumed by humans; however, the impact on human health is uncertain. Plastic particles have been found in the intestines of fish from all oceans. There are currently no standard methods for assessing the health risks of ingesting plastic particles. For fish at least, people do not generally consume their digestive tract where plastic accumulates, so intake is probably limited. In instances where people consume whole organisms, such as mussels and oysters, ingestion rates could be higher. There are currently no proven toxic effects of chemicals sorbed by plastic particles found across a range of marine biota, but more data are

needed to fully understand the relative importance of exposure to sorbed chemicals from microplastics compared with other exposure pathways. The economic and social costs of marine litter include indirect effects such as interfering with small-scale fishing opportunities, tourism and recreation. These costs are generally unquantified but may fall disproportionately on those with livelihoods most closely tied to coastal activities. Some direct economic costs include the cost of beach cleaning and accidents related to navigation hazards or fouling. The EU has estimated that every year up to €62 million are lost to the fishing industry from damage to vessels and gear and reduced catch due to ghost fishing (abandoned gear that continues to catch marine organisms as it drifts) and up to €63 million is spent on beach cleaning.

Jambeck et al. (2015): Plastic waste inputs from land into the ocean, J. R. Jambeck, R. Geyer, C. Wilcox, T. R. Siegler, M. Perryman, A. Andrady, R. Narayan, K. Lavender Law, Science, 5 pp.

https://www.iswa.org/fileadmin/user_upload/Calendar_2011_03_AMERICANA/Science-2015-Jambeck-768-71__2_.pdf

(Last accessed 13 June 2019)

Plastics (macro-, micro- and nano-plastic) in the marine environment are of increasing concern because of their persistence and effects on the oceans, wildlife, and potentially humans. The quantity of mismanaged plastic waste generated annually by population living within 50 km of a coast worldwide that can potentially enter the ocean as marine debris from waste generated on land was studied by linking worldwide data from 192 countries on solid waste, population density, and economic status. By applying a range of conversion rates from mismanaged waste to marine debris, it was estimated the mass of plastic waste entering the ocean from each country in 2010. In such list top four countries are COBSEA member countries (China, Indonesia, Philippines and Vietnam) and Thailand is sixth and Malaysia eight. It was calculated that 275 million metric tons (MT) of plastic waste was generated in 192 coastal countries in 2010, with 4.8 to 12.7 million MT entering the ocean. Population size and the quality of waste management systems largely determine which countries contribute the greatest mass of uncaptured waste available to become plastic marine debris. Without waste management infrastructure improvements, the cumulative quantity of plastic waste available to enter the ocean from land is predicted to increase by an order of magnitude by 2025.

FAO (2017): Microplastics in fisheries and aquaculture, FAO Technical Paper 615, A. Lusher, P. Hollman and J. Mendoza-Hill, 147 pp.

http://www.fao.org/3/a-i7677e.pdf

(Last accessed 13 June 2019)

Adverse effects of microplastics ingestion have only been observed in aquatic organisms under laboratory conditions, usually at very high exposure concentrations that exceed present environmental concentrations by several orders of magnitude. In wild aquatic organisms microplastics have only been observed within the gastrointestinal tract, usually in small numbers, and at present there is no evidence that microplastics ingestion has negative effects on populations of wild and farmed aquatic organisms. In humans the risk of microplastic ingestion is reduced by the removal of the gastrointestinal tract in most species of seafood consumed. However, most species of bivalves and several species of small fish are consumed whole, which may lead to microplastic exposure. A worst case estimate of exposure to microplastics after consumption of a portion of mussels (225 g) would lead to ingestion of 7 micrograms (µg) of plastic, which would have a negligible effect (less than 0.1 percent of total dietary intake) on chemical exposure to certain PBTs and plastic additives. Microplastic contamination of aquatic environments will continue to increase in the foreseeable future and at present there are significant knowledge gaps on the occurrence in aquatic environments and organisms of the smaller sized microplastics (less than 150 µm), and their possible effects on seafood safety. Currently there are no methods available for the observation and quantification of nanoplastics in aquatic environments and organisms.

Cheshire, A.C., Adler, E., Barbière, J., Cohen, Y., Evans, S., Jarayabhand, S., Jeftic, L., Jung, R.T., Kinsey, S., Kusui, E.T., Lavine, I., Manyara, P., Oosterbaan, L., Pereira, M.A., Sheavly, S., Tkalin, A., Varadarajan, S., Wenneker, B., Westphalen, G. (2009). UNEP/IOC Guidelines on Survey and Monitoring of Marine Litter. UNEP Regional Seas Reports and Studies, No. 186; IOC Technical Series No. 83: xii + 120 pp.

http://wedocs.unep.org/xmlui/bitstream/handle/20.500.11822/13604/rsrs186.pdf?sequence=1&isAllowed=y

(Last accessed 13 June 2019)

Marine litter (ML) monitoring generally fall into one of three basic types: 1. Beach litter surveys; 2. Benthic litter surveys; and 3. Floating litter surveys. It is widely accepted that a major factor that limits our knowledge of (and therefore the ability to manage) ML results from inconsistencies in the design and delivery of sampling and assessment programmes. The objectives for this study were to develop a set of standardized operational guidelines for the conduct of beach, benthic and floating litter assessments and two classes of surveys were developed: 1. Comprehensive surveys for beach, benthic and floating ML; and 2. Rapid surveys for beach litter. This report aims to outline practical operational guidelines for the survey and monitoring of ML and in particular: 1) To collect information from around the world on existing experience and methods for the monitoring and assessment of ML drawing on information already compiled; 2) To develop a comparative analysis of selected methodologies on ML survey and monitoring, including reporting protocols and forms; and 3) To develop a set of practical operational guidelines on survey and monitoring of on-shore, floating and sea-floor ML for consistent application worldwide. The detailed review of 13 different sampling protocols that are currently being used around the world to survey beach cast, benthic and/or floating ML were undertaken. Survey protocols were assessed against 46 criteria related to the basic structure of the survey, the analysis of sampling units, the frequency and timing of surveys, the systems used for litter classification and the underpinning framework for facilitation and management of logistics. Four sets of guidelines have been developed: 1) Comprehensive assessments of beach cast litter; 2) Assessments of benthic litter; 3) Assessments of floating litter; and 4) Rapid assessments of beach cast litter. Guidelines include a comparative analysis of information from around the world on existing experience and methods for surveys, monitoring, reporting protocols and assessment of ML.

Human footprint in the abyss: 30 year records of deep-sea plastic debris, Marine Policy, Vol 96, Oct. 2018, pp. 204-212, Sanae Chiba, Hideaki Saito, Ruth Fletcher, Takayuki Yogi, Makino Kayo, Shin Miyagi, Moritaka Ogido, Katsunori Fujikura

https://doi.org/10.1016/j.marpol.2018.03.022

(Last accessed 13 June 2019)

This study reports plastic debris pollution in the deep-sea based on the information from a recently developed database. The Global Oceanographic Data Center (GODAC) of the Japan Agency for Marine-Earth Science and Technology (JAMSTEC) launched the Deep-sea Debris Database for public use in March 2017. The database archives photographs and videos of debris that have been collected since 1983 by deep-sea submersibles and remotely operated vehicles. From the 5010 dives in the database, 3425 man-made debris items were counted. More than 33% of the debris was macro-plastic, of which 89% was single-use products, and these ratios increased to 52% and 92%, respectively, in areas deeper than 6000 m. The deepest record was a plastic bag at 10898 m in the Mariana Trench. Deep-sea organisms were observed in the 17% of plastic debris images, which include entanglement of plastic bags on chemosynthetic cold seep communities. Quantitative density analysis for the subset data in the western North Pacific showed plastic density ranging from 17 to 335 items km^{-2} at depths of 1092–5977 m. The data show that, in addition to resource exploitation and industrial development, the influence of land-based human activities has reached the deepest parts of the ocean in areas more than 1000 km from the mainland. Establishment of international frameworks on monitoring of deep-sea plastic pollution as an Essential Ocean Variable and a data sharing protocol are the keys to delivering scientific outcomes that are useful for the effective management of plastic pollution and the conservation of deep-sea ecosystems.

Brouwer, R., Hadzhiyska, D., Ioakeimidis, C., and Ouder, H. (2017): The social costs of marine litter along European coasts, Ocean & Coastal Management, Vol. 138, pp. 38-49

https://www.sciencedirect.com/science/article/pii/S0964569117300297

(Last accessed 13 June 2019)

Highlights of the study: This study assesses the social costs of marine litter along European coasts; Social costs are based on public perception of the impact of marine litter on beach experience; A distinction is made between point (litter left by visitors) and diffuse source (marine debris washed ashore) pollution; Public willingness to pay for beach clean-up programs is estimated for comparison with the clean-up costs of beaches; and Significant differences exist in public perception and valuation across three European countries. This is the first study to assess the social costs of marine debris washed ashore and litter left behind by beach visitors along different European coasts. Three identical surveys, including a discrete choice experiment, are implemented at six beaches along different European coastlines: the Mediterranean Sea in Greece, the Black Sea in Bulgaria and the North Sea in the Netherlands. Beach visitors are asked for their experiences with beach litter and their willingness to volunteer in beach clean-up programs and their willingness to pay an entrance fee or increase in local tax to clean up marine litter. Significant differences are found between countries. This has important implications for the size and transferability of the estimated social costs of marine litter across Europe.

CSIRO (2017): World’s largest marine pollution project

https://www.csiro.au/en/News/News-releases/2017/Worlds-largest-marine-pollution-project

(Last accessed 13 June 2019)

CSIRO is undertaking the world’s largest marine pollution survey, working with countries across the globe to help them assess and reduce the amount of litter entering the oceans. Some of the world's top 20 polluters will take part in the project including China, Bangladesh, Indonesia, Vietnam and the United States, plus other countries including Australia, South Korea and Taiwan. CSIRO senior scientist Dr Denise Hardesty said the project would provide hard numbers on the amount of litter entering the ocean by using real data collected on coastlines and cities across the globe. This will be the first time anyone has brought together a group of countries to look at exactly how much litter is entering the oceans," Dr Hardesty said. “We will be able to see where the hotspots lie by looking at how people, wind, the shape of the land and storm water moves rubbish into the ocean and then give advice on how to improve this based on science-based interventions. The project was announced two months after Dr Hardesty presented to the world’s first G20 summit on marine pollution, and on World Ocean Day which in 2017 is focused on plastic pollution. Along with causing marine and environmental problems, things like plastic bags can also cause storm water drains to become blocked, leading to significant localised flooding and serious health risks for local people."The project follows years of marine debris research led by Dr Hardesty and her team. The project is collaboration between CSIRO, the Oak Family Foundation and Schmidt Marine Technology Partners.

GESAMP (2016): Sources, fate and effects of microplastics in the marine environment, part two of assessment (P. J. Kershaw and C. M. Rochman, Eds.), Rep. Stud. GESAMP 93, 220 pp.

http://www.gesamp.org/site/assets/files/1275/sources-fate-and-effects-of-microplastics-in-the-marine-environment-part-2-of-a-global-assessment-en.pdf

(Last accessed 13 June 2019)

This report provides an update and further assessment of the sources, fate and effects of microplastics in the marine environment, carried out by Working Group 40 of GESAMP. The distribution of microplastics in the five main ocean compartments (sea surface, water column, shoreline, seabed and biota) are described, together with the transport mechanisms that regulate fluxes between compartments. Regional 'hot-spots' of sources, distribution and accumulation zones are reported, in response to the UNEA request. The effects of microplastics on marine biota have been explored in greater detail. Possible effects of microplastics on commercial fish and shellfish were considered. The economic aspects of microplastic contamination are considered. This relies heavily on studies looking at the effects of macro-debris on various sectors, given the paucity of knowledge of direct economic effects of microplastics. Social aspects are focused around factors influencing long-term behaviour change, including risk perceptions, perceived responsibility and the influence of demographics. Good practice guidance on sampling and analysis at sea, in sediments and in biological samples are summarized. The section on initial risk assessment framework describes some basic principles about risk, likelihood and consequences.

Gilman et al. (2016). Abandoned, lost or otherwise discarded gillnets and trammel nets, E. Gilman, F. Chopin, P. Suuronen, and B. Kuemlangan, FAO 600, UNEP, 96 pp.

http://www.fao.org/3/a-i5051e.pdf

(Last accessed 13 June 2019)

The ecological and socio-economic problems caused by abandoned, lost and discarded fishing gear (ALDFG) are increasingly of concern. Used primarily by coastal, artisanal, small-scale fisheries worldwide, marine gillnets and trammel nets, which have relatively high ghost fishing potential, account for about one-fifth of global marine fisheries landings. FAO and the GPA/GPML7UNEP, commissioned this study to identify best practices to estimate ghost fishing mortality rates and levels, priority research needs, and the status of international monitoring and management of ALDFG and ghost fishing by marine gillnet and trammel net fisheries. Recommendations to improve estimates of regional and global rates and levels of ghost fishing from ALDFG from marine gillnet and trammel net fisheries were made. An assessment was made and opportunities were identified to improve intergovernmental organizations' data collection protocols and management measures to prevent and remediate ALDFG and ghost fishing by marine gillnets and trammel nets.

Sustainable Development Goals:

https://www.un.org/sustainabledevelopment/sustainable-development-goals/

(Last accessed 13 June 2019)

17 Goals to Transform our World. The Sustainable Development Goals are a call for action by all countries – poor, rich and middle-income – to promote prosperity while protecting the planet. They recognize that ending poverty must go hand-in-hand with strategies that build economic growth and address a range of social needs including education, health, social protection, and job opportunities, while tackling climate change and environmental protection. **Goal 14: Conserve and sustainably use the oceans, seas and marine resources.** The world's oceans – their temperature, chemistry, currents and life – drive global systems that make the Earth habitable for humankind. Our rainwater, drinking water, weather, climate, coastlines, much of our food, and even the oxygen in the air we breathe, are all ultimately provided and regulated by the sea. Throughout history, oceans and seas have been vital conduits for trade and transportation. Careful management of this essential global resource is a key feature of a sustainable future. However, at the current time, there is a continuous deterioration of coastal waters owing to pollution and ocean acidification is having an adversarial effect on the functioning of ecosystems and biodiversity. This is also negatively impacting small scale fisheries. Marine protected areas need to be effectively managed and well-resourced and regulations need to be put in place to reduce overfishing, marine pollution and ocean acidification. **Goal 14.1:** By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution. **Indicator 14.1.1:** Index of coastal eutrophication and floating plastic debris density.

UNEA 4 (2019): Ministerial declaration of the United Nations Environment Assembly at its fourth session, UNEP/EA.4/HLS.1, 3 pp.

http://wedocs.unep.org/bitstream/handle/20.500.11822/27925/K1901029%20-%20UNEP-EA.4-HLS.1%20-%20Advance.pdf?sequence=4&isAllowed=y

(Last accessed 13 June 2019)

Innovative solutions for environmental challenges and sustainable consumption and production: 5. We, the world's ministers for the environment, are determined to ambitiously scale up our efforts to overcome common environmental challenges, including health-related challenges, in a balanced and integrated manner through identifying and developing innovative solutions by fostering sustainable and efficient resource management; promoting the use and sharing of environmental data; and engaging civil society, citizens, indigenous peoples and local communities, the private sector, academia and all other relevant stakeholders as appropriate; and we therefore decide, taking into account our national circumstances, to take the following actions: (i) We will improve national environmental monitoring systems and technologies, including for air, water and soil quality, biodiversity, deforestation, marine litter, and chemicals and waste, and we encourage the development of national environmental data management capacities; (l) We will address the damage to our ecosystems caused by the unsustainable use and disposal of plastic products, including by significantly reducing the manufacturing and use of single-use plastic products by 2030, and we will work with the private sector to find affordable and environmentally friendly alternatives.

UNEA 4 (2019): GEO 6 Key Messages (2019), UNEP/EA.4/INF.18, 4 pp.

https://wedocs.unep.org/bitstream/handle/20.500.11822/27692/GEO6_Key_Messages.pdf?sequence=1&isAllowed=y

(Last accessed 13 June 2019)

Key message no. 8: Marine plastic litter, including microplastics, occurs in all levels of the marine ecosystem and also shows up in fisheries and shellfish at alarming levels and frequency. The adverse impact of marine microplastic on the marine system is unknown with potential health impacts through the consumption of fish and marine products. More research on the magnitude of the problem is still needed.

UNEA 4 (2019): Resolution: Marine plastic litter and microplastics, UNEP/EA.4/L.7, 4 pp.

https://papersmart.unon.org/resolution/uploads/k1900897.pdf

(Last accessed 13 June 2019)

The United Nations Environment Assembly: Noting with concern that the high and rapidly increasing levels of marine litter, including plastic litter and microplastics represent a serious environmental problem at a global scale, negatively affecting marine biodiversity, ecosystems, animal well-being, societies, livelihoods, fisheries, maritime transport, recreation and tourism, and economies; Calls upon Member States and other actors at local, national, regional and international levels, private sector, civil society, academia, and other stakeholders to address the problem of marine litter and microplastics prioritizing a whole life cycle approach and resource efficiency, building on appropriate existing initiatives and instruments, and supported by and grounded in science, international cooperation, and multi-stakeholder engagement. Quite a number of other points in this resolution are covering various aspects of marine litter, including plastic and microplastic.

UNEA 4 (2019): Addressing single-use plastic products pollution, UNEP/EA.4/L.10, 2 pp.

https://papersmart.unon.org/resolution/uploads/k1900861.pdf#overlay-context=node/271

(Last accessed 13 June 2019)

The United Nations Environment Assembly: (i) Encourages Member States to develop and implement national or regional actions, as appropriate, to address the environmental impacts of single-use plastic products; (ii) Encourages member states to take comprehensive action, in regard to single-use plastic products, to address the waste through, where appropriate, legislation, implementation of international agreements, provision of adequate waste management infrastructure, improvement of waste management practices and support for waste minimization, and environmentally sound clean-up activities, as well as information sharing and supporting innovation; and (iii) Requests the Executive Director of the United Nations Environment Programme, in partnership with other UN agencies, funds and programmes, to: (a) Support Member States, upon their request, in the development and implementation of national or regional action plans to address the environmental impacts of single-use plastic products; and (b) Facilitate and/or coordinate technical and policy support to governments, especially of developing countries that so request, the scientific community, non-governmental organizations, the private sector and other stakeholders, regarding the environmental impact of single-use plastic products and the promotion of innovative and environmentally friendly solutions for their replacement, taking into account their full environmental impact.

UNEA 4 (2019): Progress in the work of the ad hoc open-ended expert group on marine litter and microplastics established by resolution 3/7. Report of the Executive Director, UNEP/EA.4/12, 4 pp.

https://undocs.org/UNEP/EA.4/12

(Last accessed 13 June 2019)

The experts of the ad hoc open-ended expert group on marine litter and microplastics established by the UNEA 3, 2017, pursuant to its resolution 3/7, met in Nairobi in May 2018 and in Geneva in December 2018 to further examine the barriers to and options for combating marine plastic litter and microplastics from all sources, especially land-based sources, and to provide options for continued work to the UNEA 4. The background information document for both meetings entitled “Combating marine plastic litter and microplastics: an assessment of the effectiveness of relevant international, regional and subregional governance strategies and approaches –a summary for policymakers” (UNEP/AHEG/2018/1/INF/3) assesses the effectiveness of the current legal and policy framework for combating marine litter and microplastics. It also identifies gaps in that framework and options for addressing them. There is a need to eliminate marine litter and microplastics from land-and sea-based sources through a holistic and evidence-based approach considering the full life-cycle to move to resource-efficient and circular management of plastic, avoiding leakage. The overall approach should be comprehensive and holistic, transparent and evidence-based. It should incorporate sea-based and land-based sources, the circular economy perspective and the full-life-cycle approach. It should target the elimination and prevention of plastic waste and marine litter, and should include immediate as well as sustained, long-term action. It should be supported by and grounded in a science-policy interface; international cooperation; multi-stakeholder engagement; and the realities of differences in regional and local contexts and (technical/financial) capacities.

UNEA (2018), First meeting of the Ad hoc open-ended expert group on marine litter and microplastics: Combating marine plastic litter and microplastics: an assessment of the effectiveness of relevant international, regional and subregional governance strategies and approaches - A summary for policymakers, UNEP/AHEG/2018/1/INF/3, 21 pp.

https://papersmart.unon.org/resolution/uploads/unep_aheg_2018_inf3_summary_assessment_en_rev.pdf

(Last accessed 13 June 2019)

This summary provides an overview of the key findings of the assessment "Combating marine plastic litter and microplastics: An assessment of the effectiveness of relevant international, regional and subregional governance strategies and approaches." This assessment was developed in response to the resolution on Marine Plastic Litter and Microplastic adopted by the UNEA 2 and seeks to outline gaps and propose options for addressing these gaps for consideration of the UNEA 3. The assessments reviewed 18 international instruments as well as 36 regional instruments. The assessment identified existing gaps and concluded that current governance strategies and approaches provide a fragmented approach that does not adequately address marine plastic litter and microplastics. When looking forward, a progressive holistic approach is now urgently needed. Governance must, inter alia, reduce the risk of plastic becoming marine plastic litter and microplastic by factoring in production forecasts, setting global standards for design, and provide security for end-markets. This assessment has mapped the current governance strategies and approaches at the international, regional and sub-regional levels and outlined progress and efforts under a number of instruments. These efforts will provide some degree of progress, but combined may not reach the desired outcomes at a global level of protecting the environment, human health and food security. A long-term and holistic approach will begin with the strengthening of current efforts and focusing on each aspect of the lifecycle of plastics. Voluntary measures can provide a strong foundation for a new global architecture that combines voluntary, self-regulatory and binding measures. The United Nations Environment Assembly may consider possible policy options presented in this study to accelerate global efforts to address marine litter. The right to a healthy environment for current and future generations requires a shift in policy direction if the current flow of plastic litter and microplastics into the environment is to be checked.

UNEA 3 (2017): Resolution 3/7: Marine litter and microplastics, UNEP/EA.3/Res.7, 4 pp.

https://papersmart.unon.org/resolution/uploads/k1800210.english.pdf

(Last accessed 13 June 2019)

This resolution, amongst others: Stresses the importance of long-term elimination of discharge of litter and microplastics to the oceans and of avoiding detriment to marine ecosystems and the human activities dependent on them from marine litter and microplastics; Urges all actors to step up actions to "by 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution"; Encourages all member States, based on best available knowledge of sources and levels of marine litter and microplastics in the environment, to prioritize policies and measures at the appropriate scale to avoid marine litter and microplastics from entering the marine environment; Also encourages all member States and invites other actors, taking into account national conditions: To fully implement the recommendations and actions set out in its resolutions 1/6 and 2/11, as relevant, and emphasizes that those resolutions have important elements and guidance that are not repeated in the present resolution; To develop and implement action plans for preventing marine litter and the discharge of microplastics; To include marine litter and microplastics in local, national and regional waste management plans and in wastewater treatment where appropriate; To develop integrated and source-to-sea approaches to combat marine litter and microplastics from all sources, taking into account that plastic litter and microplastics are transported to the oceans from land-based sources by rivers and run-off or wind from land and that plastic litter is an important source of microplastics, and include the land/sea and freshwater/sea interface in action plans for preventing marine litter, including microplastics.

UNEA 2 (2016): Resolution 2/11. Marine plastic litter and microplastics, UNEP/EA.2/Res.11

http://wedocs.unep.org/bitstream/handle/20.500.11822/11186/K1607228_UNEPEA2_RES11E.pdf?sequence=1&isAllowed=y

(Last accessed 13 June 2019)

This Resolution: (i) Recognizes that the presence of plastic litter and microplastics in the marine environment is a rapidly increasing serious issue of global concern that needs an urgent global response taking into account

a product life-cycle approach; (ii) Stresses that prevention and environmentally sound management of waste are keys to long-term success in combating marine pollution, including marine plastic debris (MPD) and microplastics; (iii) Recognizes that education, capacity-building, knowledge transfer and awareness-raising regarding sources and negative effects of are crucial; (iv) Requests the ED, within available resources, to assist Member States, in the development and implementation of national or regional measures and action plans; and recognizes that targeted measures in regions that are the largest sources of ML are especially important for the global reduction of MPD and microplastics; (v) Recognizes the need to identify transport and distribution pathways and hotspots of ML, to cooperate regionally and internationally to clean up such hotspots; (vi) Encourages Governments at all levels to further develop partnerships with industry and civil society and establish public-private partnerships, including with regard to environmentally friendly alternatives to plastic packaging and deposit refund systems; (vii) Recognizes that Governments need to further identify the most significant sources, as well as important and cost-effective preventive measures at the national and regional levels; invites Governments to undertake such prioritized measures nationally and through regional and international cooperation and in cooperation with industry, as appropriate, and to share their experiences; (viii) Encourages product manufacturers and others to consider the life cycle environmental impacts of products containing microbeads and compostable polymers; and (ix) Invites those in a position to do so to provide financial and other support for follow-up of this resolution.

UNEA 1 (2014): Resolution 1/6: Marine plastic debris and microplastic, Resolutions and decisions adopted by UNEA 1, 40 pp.

http://wedocs.unep.org/bitstream/handle/20.500.11822/17285/K1402364.pdf?sequence=3&isAllowed=y

(Last accessed 13 June 2019)

This resolution: (i) *Notes with concern* the serious impact which marine litter, including plastics stemming from land and sea-based sources, can have on the marine environment, marine ecosystem services, marine natural resources, fisheries, tourism and the economy, as well as the potential risks to human health; (ii) *Recognizes* that plastics, including microplastics, in the marine environment are a rapidly increasing problem due to their large and still increasing use combined with the inadequate management and disposal of plastic waste, and because plastic debris in the marine environment is steadily fragmenting into secondary microplastics; (iii) *Also recognizes* the need for more knowledge and research on the source and fate of microplastics and their impact on biodiversity, marine ecosystems and human health, noting recent knowledge that such particles can be ingested by biota and could be transferred to higher levels in the marine food chain, causing adverse effects; (iv) *Requests* the Executive Director to support countries, upon their request, in the development and implementation of national or regional action plans to reduce marine litter; and (v) *Encourages* Governments to take comprehensive action to address the marine plastic debris and microplastic issue through, where appropriate, legislation, enforcement of international agreements, provision of adequate reception facilities for ship-generated wastes, improvement of waste management practices and support for beach clean-up activities, as well as information, education and public awareness programmes.

Global Partnership on Marine Litter (GPML) (2012)

https://www.unenvironment.org/explore-topics/oceans-seas/what-we-do/addressing-land-based-pollution/global-partnership-marine

(Last accessed 13 June 2019)

The Global Partnership on Marine Litter (GPML), launched in 2012 at Rio + 20 in Brazil, is a global partnership gathering international agencies, Governments, NGOs, academia, private sector, civil society and individuals. Specific objectives of the GPML are: (i) To reduce the impacts of marine litter worldwide on economies, ecosystem, animal welfare and human health; (ii) To enhance international cooperation and coordination through the promotion and implementation of the Honolulu Strategy and the Honolulu Commitment; (iii) To promote knowledge management, information sharing and monitoring of progress on the implementation of

the Honolulu Strategy; (iv) To promote resource efficiency and economic development through waste prevention e.g. 4Rs (reduce, re-use, recycle and re-design) and by recovering valuable material and/or energy from waste; (v) To increase awareness on sources of marine litter, their fate and impacts; (vi) To assess emerging issues related to the fate and potential influence of marine litter, including (micro) plastics uptake in the food web and associated transfer of pollutants and impacts on the conservation and welfare of marine fauna.

UN (2016): Marine Debris, Chapter 25 in First Global Integrated Marine Assessment (First World Ocean Assessment), J. Wang, K. Kiho, D. Ofiara, A. Bera, R. Lohmann, and M. C. Baker, 34 pp.

http://www.un.org/depts/los/global_reporting/WOA_RPROC/Chapter_25.pdf

(Last accessed 13 June 2019)

The content of the Chapter 25 is: 1. Overview (Definition of marine debris; Types of marine debris; and Sources of marine debris); 2. Environmental impacts (Entanglement and ingestion; Transport of chemicals; Habitat destruction; Introduction and spread of alien species; Socioeconomic impacts; Impacts on beach communities, Beach use, and Coastal tourism; Impacts on commercial fishing; and Impacts from invasive species); 3. Assessment of the status of marine litter (Floating marine debris; Beach debris; and Benthic marine debris); 4. Prevention and clean-up of marine debris; and 5. Gaps, needs, priorities.

NOWPAP MERRAC(2008): Regional Report on Sea-based Marine Litter in the NOWPAP Region, 34 pp.

http://www.globalgarbage.org/NOWPAP/regional.pdf

(Last accessed 13 June 2019)

Marine Environmental Emergency Preparedness and Response Regional Activity Centre (MERRAC), one of four Regional Activity Centres of Northwest Pacific Action Plan (NOWPAP), has been designated to implement activities related to sea-based marine litter. The 9th MERRAC Focal Points Meeting decided to develop the National Reports on sea-based marine litter in NOWPAP region for understanding general situation (5-7 June 2006). Based upon the National Reports, MERRAC has developed a regional report titled “Regional Report on Sea-based Marine Litter in the NOWPAP Region,” as background information for further works on sea-based marine litter issue. This report aims to provide such general information on sea-based marine litter in the NOWPAP region. Main chapters of the document are: 1. Marine Litter from Sea-based Sources in the NOWPAP Region; 2. Impacts of Sea-based Marine Litter; 3. Law and Policies to Manage Sea-based Marine Litter; 4. Port Reception and Treatment Facilities; 5. Outreach Programmes; and 6. Recommendations.

Ellen MacArthur Foundation (2016): The New Plastic Economy–Catalysing Action, 68 pp.

https://www.ellenmacarthurfoundation.org/assets/downloads/New-Plastics-Economy_Catalysing-Action_13-1-17.pdf

(Last accessed 13 June 2019)

The New Plastics Economy presents a bold and much-needed vision for a plastics system that works. It provides a new way of thinking about plastics as an effective global material flow, aligned with the principles of the circular economy. It aims to harness the benefits of plastics while addressing its drawbacks, delivering drastically better system-wide economic and environmental outcomes. This vision, laid out initially in the 2016 report, The New Plastics Economy – Rethinking the future of plastics, has inspired businesses, policy-makers and citizens worldwide. It forms the basis for the ambitious New Plastics Economy initiative, launched in May 2016 and supported by dozens of leading businesses, philanthropists, cities and governments. This report is

the first to provide a concrete set of actions to drive the transition, based on three strategies differentiated by market segment. Thorough analytical work, including a detailed segment-by-segment analysis of the plastic packaging market, numerous interactions with players across the plastics value chain and discussions with experts revealed that a programme of concerted action across three key areas could trigger an accelerated transition towards the New Plastics Economy. The three key transition strategies and related priority action areas are: 1. Without fundamental redesign and innovation, about 30% of plastic packaging will never be reused or recycled; 2. For at least 20% of plastic packaging, reuse provides an economically attractive opportunity; and 3. With concerted efforts on design and after-use systems, recycling would be economically attractive for the remaining 50% of plastic packaging.

Derraik, J.G.B.: Marine Pollution Bulleting (2002), Vol. 44, pp. 842-852,: The pollution of the marine environment by plastic debris: a review

https://www.sciencedirect.com/science/article/pii/S0025326X02002205

(Last accessed 13 June 2019)

The deleterious effects of plastic debris on the marine environment were reviewed by bringing together most of the literature published so far on the topic. A large number of marine species is known to be harmed and/or killed by plastic debris, which could jeopardize their survival, especially since many are already endangered by other forms of anthropogenic activities. Marine animals are mostly affected through entanglement in and ingestion of plastic litter. Other less known threats include the use of plastic debris by “invader” species and the absorption of polychlorinated biphenyls from ingested plastics. Less conspicuous forms, such as plastic pellets and “scrubbers” are also hazardous. To address the problem of plastic debris in the oceans is a difficult task, and a variety of approaches are urgently required. Some of the ways to mitigate the problem are discussed.

Declaring war on plastic to save our oceans: EIB, KfW and AFD launch a 2-billion euros initiative, 2018

http://www.afd.fr/en/declaring-war-plastic-save-our-oceans-eib-kfw-and-afd-launch-2-billion-euros-initiative

(Last accessed 13 June 2019)

Ahead of the IMF/World Bank Group meetings, KfW Group on behalf of the German Federal Government, the European Investment Bank (EIB) and the Agence Française de Developpement (AFD) launched the Clean Oceans Initiative to support the development and implementation of sustainable projects that will reduce pollution in the world’s oceans over the next five years. This partnership will provide EUR 2-billion long-term financing for projects aiming at reducing marine litter, especially plastics, as well as untreated wastewater discharge, with a view to crowding-in private sector investment. The Clean Oceans Initiative will notably target the following sectors: Collection, pre-treatment and recycling of waste and particularly plastics collected on land, from rivers and from the sea; Improved waste management in ports and harbours to support the reduction of marine littering from ships and transport on water; Support to plastic prevention measures, market development for recycling plastics and other materials and public awareness building; and Support to the implementation of wastewater treatment plants that enable reduction in the discharge of plastics and other pollutants to rivers and oceans. Over three billion people depend on marine and coastal biodiversity for their livelihoods and the market value of marine and coastal resources and industries is estimated at EUR 2 600 billion per year, so about 5 per cent of global GDP. Maintaining clean oceans is therefore crucial for sustainable development and poverty reduction by increasing people’s income and improving health. An estimated 8 million tons of plastic waste and microplastics, is discharged into the world’s oceans every year, threatening marine ecosystems, people and communities that depend on clean oceans. If we continue along this path, it is estimated that by 2050 there will be more plastics than fish in the oceans by weight.

Economic Times (2017): Indian Government makes use of plastic waste in road construction mandatory, Rajat Arora

https://economictimes.indiatimes.com/news/economy/infrastructure/government-makes-use-of-plastic-waste-in-road-construction-mandatory/articleshow/49919167.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

(Last accessed 13 June 2019)

The Indian government has made it mandatory for road developers to use waste plastic along with bituminous mixes for road construction to overcome the growing problem of disposal of plastic waste in India's urban centres. Road developers will now have to use waste plastic along with hot mixes for constructing bitumen roads within 50 km of periphery of any city that has a population of over half a million. India generates 5.6 million tonnes of plastic waste annually. As per a study by the Central Pollution Control Board, 60 large cities in India generate over 15,000 tonnes of plastic waste every day. Delhi generates close to 7,000 tonnes of waste every day, of which over 10 per cent is pure plastic but cannot be disposed even by waste-to-energy plants because of environmental reasons. In an observation earlier this year, the Supreme Court had said that the country was sitting on a plastic time bomb. Plastic will add to the longevity of roads by making them water resistant and also increasing the resistance of roads to change in weather. The ministry will also encourage state governments and rural development ministry to make use of plastic waste mandatory in construction of roads.

Zhenpeng Ge et al. (2016): Semi-automatic recognition of marine debris on beaches, **Zhenpeng Ge**, **Huahong Shi**, **Xuefei Mei**, **Zhijun Dai**, and **Daoji Li**, Sci Rep.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4860581/

(Last accessed 13 June 2019)

An increasing amount of anthropogenic marine debris is pervading the earth’s environmental systems, resulting in an enormous threat to living organisms. Additionally, the large amount of marine debris around the world has been investigated mostly through tedious manual methods. Therefore, we propose the use of a new technique, light detection and ranging (LIDAR), for the semi-automatic recognition of marine debris on a beach because of its substantially more efficient role in comparison with other more laborious methods. Our results revealed that LIDAR should be used for the classification of marine debris into plastic, paper, cloth and metal. Additionally, we reconstructed a 3-dimensional model of different types of debris on a beach with a high validity of debris revivification using LIDAR-based individual separation. These findings demonstrate that the availability of this new technique enables detailed observations to be made of debris on a large beach that was previously not possible. It is strongly suggested that LIDAR could be implemented as an appropriate monitoring tool for marine debris by global researchers and governments.

MARPOL Annex V

http://www.imo.org/en/OurWork/environment/pollutionprevention/garbage/Pages/Default.aspx

(Last accessed 13 June 2019)

Persuading people not to use the oceans as a rubbish tip is a matter of education - the old idea that the sea can cope with anything still prevails to some extent but it also involves much more vigorous enforcement of regulations such as MARPOL Annex V. MARPOL Annex V seeks to eliminate and reduce the amount of garbage being discharged into the sea from ships. Unless expressly provided otherwise, Annex V applies to all ships, which means all ships of any type whatsoever operating in the marine environment, from merchant ships to fixed or floating platforms to non-commercial ships like pleasure crafts and yachts. Although the Annex is

optional, it did receive a sufficient number of ratifications to enable entry into force on 31 December 1988. Today, more than 150 Countries have signed up to MARPOL Annex V. MARPOL Annex V generally prohibits the discharge of all garbage into the sea, except as provided otherwise in regulations 4, 5, and 6 of the Annex, which are related to food waste, cargo residues, cleaning agents and additives and animal carcasses. Under MARPOL Annex V, garbage includes all kinds of food, domestic and operational waste, all plastics, cargo residues, incinerator ashes, cooking oil, fishing gear, and animal carcasses generated during the normal operation of the ship and liable to be disposed of continuously or periodically. To assist Governments, ships and port operators in implementing relevant requirements under MAPROL Annex V, MEPC has developed and adopted the Guidelines for the implementation of MARPOL Annex V. Issues covered with MARPOL Annex V are: (a) Port reception facilities; b) Special areas; (c) Port state control; (d) Placard; (e) Garbage management plan; (f) Garbage Record Book; (g) Cargo residues; (h) Shipboard incinerator; (i) Verification of compliance; and (j) Polar Regions.

Ocean Conservancy (2017): Stemming the tide: Land-based strategies for a plastic-free ocean, McKinsey Center for Business and Environment, 48 pp.

https://oceanconservancy.org/wp-content/uploads/2017/04/full-report-stemming-the.pdf

(Last accessed 13 June 2019)

Because of its longevity, ubiquity, and sheer volume, plastic debris is now emerging as a new, truly global challenge. Growth in the global use of plastic-intensive consumer goods is projected to increase significantly over the next ten years, especially in markets where waste-management systems are only just emerging. We also now have research to suggest that the majority of plastic enters the ocean from a small geographic area, and that over half comes from just five rapidly growing economies—China, Indonesia, the Philippines, Thailand, and Vietnam. With a focus on where quick action would have the greatest impact, this report suggests that coordinated action in just these five countries could significantly reduce the global leakage of plastic waste into the ocean by 2025. Specifically, interventions in these five countries could reduce global plastic-waste leakage by approximately 45 % over the next ten years. The first step should focus on the five countries that together account for between 55 and 60 %t of the total plastic-waste leakage; this report describes an integrated set of measures that together could reduce leakage in these five countries by 65 % and reduce total global leakage by approximately 45 % by 2025. This is the prerequisite for successfully ending plastic-waste leakage entirely by 2035. For each lever, the report specifies costs and plastic-waste-leakage reduction potential. Total costs of implementing these levers could be contained at an estimated $5 billion a year—an investment with significant returns to the entire economy. That amount could largely be met through typical project-financing mechanisms involving the public, private, and multilateral sectors. Of the leakage that comes from land-based sources, we found that 75 % comes from uncollected waste, while the remaining 25 % leaks from within the waste-management system itself. In low-collection countries, the priority should be to push collection levels to 80 % over the next decade (the current average in these countries is about half that).

Ocean Conservancy (2017): The Next Wave: Investment Strategies for Plastic Free Seas, 97 pp.

https://oceanconservancy.org/wp-content/uploads/2017/05/the-next-wave.pdf

(Last accessed 13 June 2019)

This document, prepared by Ocean Conservancy and Trash Free Seas Alliance® is an excellent document providing outstanding analysis and proposals for solution. Ocean Conservancy had over 30 years brought together over 11 million volunteers from 153 countries in annual International Coastal Cleanup campaigns, picking up 100 million kg of trash from the world's beaches and waterways. But with 8 million metric tons of plastic trash entering oceans every year and prospect of 250 million metric tons of plastic in the oceans by 2025, cleanup alone will not be enough. Plastic waste's leakage must be tackled from all points in the pollution pathway. The goal suggested by the Trash Free Seas Alliance® is to sustainably reduce the amount of plastic waste leaking into the ocean annually by 50% by 2025. Although not easy, this goal is attainable if all

stakeholders - government, development finance, the private sector, grant funders, private investors, academics, and civil society and community organizations work together using all available means.

Ocean Conservancy (2017): Together for our Ocean, International Coastal Cleanup for 2016, 28 pp.

https://oceanconservancy.org/wp-content/uploads/2017/06/International-Coastal-Cleanup_2017-Report.pdf

(Last accessed 13 June 2019)

In partnership with volunteer organizations and individuals around the globe, Ocean Conservancy's International Coastal Cleanup engages people to remove trash from the world's beaches and waterways, identify the sources of debris and change the behaviours that cause marine debris in the first place. In 2016 more than half a million volunteers made the International Coastal Cleanup a success. From 112 countries around the world, volunteers, site captains, state and county coordinators worked tirelessly to collect over 18 million pounds of trash. It was covered enough miles of coastline to walk around the moon twice. It was collected enough balloons to lift a 2,200 lb. walrus and enough fishing line to reach the bottom of the Mariana Trench – the ocean's deepest point – nine times over. It is people like volunteers that continue to inspire optimism for the future of our ocean. For more than 30 years, volunteers across the world have come together to become a global force for good. Together, we can achieve a positive future for our ocean In the 2016 Ocean Conservancy Campaign took part 504,583 persons; it was collected 8,346,055 kg of trash, it was covered 24,136 km, it was collected 13,840,398 items, 2,825 divers took part in the campaign, covering 236 miles of waterways and collected 41,141 pounds of trash (46,844 items). Main items collected were 1,863,838 cigarette butts, 1,578,834 plastic beverage bottles, 822,227 plastic bottle cups, 762,353 food wrappers, and 520,900 plastic grocery bags. Of the items collected were: 1,212,602 plastic pieces, 1.066,644 foam pieces, and 496,640 glass pieces. From Caspian countries Azerbaijan and Russia participated.

The Guardian (2017): A million bottles a minute: world's plastic binge 'as dangerous as climate change

https://www.theguardian.com/environment/2017/jun/28/a-million-a-minute-worlds-plastic-bottle-binge-as-dangerous-as-climate-change?utm_campaign=Facebook&utm_source=Link&utm_medium=AMS

(Last accessed 13 June 2019)

Annual consumption of plastic bottles is set to top half a trillion by 2021, far outstripping recycling efforts and jeopardising oceans, coastlines and other environments. A million plastic bottles are bought around the world every minute and the number will jump another 20% by 2021, creating an environmental crisis some campaigners predict will be as serious as climate change. The demand, equivalent to about 20,000 bottles being bought every second, is driven by an apparently insatiable desire for bottled water and the spread of a western, urbanised "on the go" culture to China and the Asia Pacific region. Fewer than half of the bottles bought in 2016 were collected for recycling and just 7% of those collected were turned into new bottles. Instead most plastic bottles produced end up in landfill or in the ocean. Scientists at Ghent University in Belgium recently calculated people who eat seafood ingest up to 11,000 tiny pieces of plastic every year. Shifting to a real circular economy for plastics is a massive opportunity to close the loop, save billions of dollars, and decouple plastics production from fossil fuel consumption. The amount of plastic produced in a year is roughly the same as the entire weight of humanity. It's clear that the soft drinks industry needs to reduce its plastic footprint.

BRAND AUDIT TOOL KIT

https://www.breakfreefromplastic.org/brandaudittoolkit/

(Last accessed 13 June 2019)

Break Free From Plastic. The global movement working to stop plastic pollution for good is taking coastal cleanups a step further – by naming the brands most responsible for plastic pollution found on our beaches and beyond. Corporations like Coca-Cola, PepsiCo, Nestle, Unilever, Starbucks, Procter & Gamble, and McDonald's have a HUGE role to play when it comes to plastic pollution. We are sold coffee, soda, chips, candy, sandwiches, shampoo, soap, and even fruits and vegetables packaged in throwaway plastic. It's time for these corporations to invest in alternatives and phase out single-use plastic, don't you agree? Here's where we need YOUR help! By categorizing and counting branded plastic packaging during your cleanup efforts, you will help us identify the corporations most responsible. Steps to Conduct a Brand Audit: 1. First, it is important to make a waste deposit plan. Think ahead on how to properly dispose all waste from your clean-up activity. Note: this is not limited to plastics alone; 2. In any clean-up activity, it is important to have the proper gear to do your work and to protect yourself and your volunteers; 3. After you have identified the location of your clean-up, specify and measure the size of the designated clean-up area; 4. Make a plan for recording your data; 5. Train your volunteers on how to record the data; 6. Clean up all the waste in your designated site; 7. Take photos of the piles of plastic from each manufacturer and post it to social media; 8. Clean the audit area carefully and properly, remembering to leave the site cleaner than before you started; 9. In order for us to use your awesome information, **enter your data,** upload your photos along with a scanned copy/screenshot/excel file of the actual data form and submit them via our **form; and 10.** If you have the resources to do so, box up the branded items and send it back to the manufacturer. Include a letter to the company describing the purpose of your brand audit and urge them to **#breakfreefromplastic**!

UN General Assembly (2012): Resolutions adopted by the General Assembly on 27 July 2012, The future we want, A/RES/66/288, 53 pp.

http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/66/288&Lang=E

(Last accessed 13 June 2019)

The General Assembly endorses the outcome document of the United Nations Conference on Sustainable Development, entitled "The future we want".

The future we want. We, the Heads of State and Government and high-level representatives, having met at Rio de Janeiro, Brazil, from 20 to 22 June 2012, with the full participation of civil society, renew our commitment to sustainable development and to ensuring the promotion of an economically, socially and environmentally sustainable future for our planet and for present and future generations. **V. Framework for action and follow-up. A. Thematic areas and cross-sectoral issues. Oceans and seas.** 163. We note with concern that the health of oceans and marine biodiversity are negatively affected by marine pollution, including marine debris, especially plastic, persistent organic pollutants, heavy metals and nitrogen-based compounds, from a number of marine and land-based sources, including shipping and land run-off. We commit to take action to reduce the incidence and impacts of such pollution on marine ecosystems, including through the effective implementation of relevant conventions adopted in the framework of the International Maritime Organization, and the follow-up of relevant initiatives such as the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities, as well as the adoption of coordinated strategies to this end. We further commit to take action to, by 2025, based on collected scientific data, achieve significant reductions in marine debris to prevent harm to the coastal and marine environment.

5th International Marine Debris Conference (2011), Honolulu, Hawaii,

https://5imdc.wordpress.com/about/commitment/

(Last accessed 13 June 2019)

The Honolulu Commitment: 1. Make choices that reduce waste in order to halt and reverse the occurrence of marine debris; 2. Encourage all citizens, industry and governments to take responsibility for their contribution and find solutions to the marine debris problem; 3. Share openly and freely technical, legal, policy, community-

based and economic / market-based solutions that will help prevent, reduce and manage marine debris; 4. Advocate mechanisms that emphasise the prevention or minimisation of waste; 5. Facilitate initiatives that turn waste into a resource in an environmentally sustainable manner; 6. Develop global, regional, national and local targets to reduce marine debris; 7. Improve global knowledge, understanding and monitoring of the scale, nature, source and impact of marine debris, and raise awareness of its impact on public health, biodiversity and economic development; 8. Collaborate with global, regional and sub-regional organisations, to enhance the effectiveness of multi-lateral initiatives aimed at preventing, reducing and managing marine debris; 9. Encourage financial support for global, regional, national and local actions that contribute to the implementation of the Honolulu Strategy; 10. Encourage relevant intergovernmental fora, including those at global and regional scales, to express support for the Honolulu Commitment and encourage governments to take action consistent with the objectives and strategic activities outlined in the Honolulu Strategy; 11. Participate in a global network of stakeholders committed to understanding, preventing, reducing and managing marine debris in an environmentally sustainable manner; and 12. Contribute to the development and successful implementation of the Honolulu Strategy – a framework for the prevention, reduction and management of marine debris – and its periodic review.

G20 Action Plan on Marine Litter (2017)

http://www.g20.utoronto.ca/2017/2017-g20-marine-litter.html

(Last accessed 13 June 2019)

The G20 recognizes the urgent need for action to prevent and reduce marine litter in order to preserve human health and marine and coastal ecosystems, and mitigate marine litter's economic costs and impacts. The G20 stresses the direct relationship between the challenge of marine litter, environment, human health, economic development, social well-being, biodiversity and food security. Realizing the global nature of the challenge of marine litter, the G20 will work together to promote and initiate measures and actions at local, national, and regional levels to prevent and reduce marine litter. The G20 recognizes that the lack of effective solid waste management, wastewater treatment and storm water systems, and unsustainable production and consumption patterns, are primary land-based sources and pathways of marine litter. A lack of certainty in scientific evidence can no longer be accepted as an excuse for non-action. The G20 will take action to prevent and reduce marine litter of all kinds, including from single-use plastics and micro-plastics. The G20 reiterates its commitment to prevent and substantially reduce marine litter and its impacts by 2025 in support of the 2030 Agenda for Sustainable Development and its Sustainable Development Goals and targets related to marine pollution, waste management, waste water treatment and sustainable consumption and production by putting into practice the 'G20 Operational Framework' and the voluntary Global Network of the Committed (GNC).

FOUR SUCCESSFUL REGIONAL MARINE LITTER ACTION PLANS

This chapter contains references, links and summaries of four Regional Marine Litter Action Plans of Northwest Pacific (2008), Mediterranean (2013), Northeast Atlantic (2014) and Baltic (2015).

NOWPAP (2008): Regional Action Plan on Marine Litter, Northwest Pacific Action Plan

http://wedocs.unep.org/bitstream/handle/20.500.11822/26352/NOWPAP_RAPMALI.pdf?sequence=1&isAllowed=y

(Last accessed 13 June 2019)

NOWPAP member states are Japan; People's Republic of China; Republic of Korea; and Russian Federation. The goal of the NOWPAP Regional Action Plan on Marine Litter (RAP MALI) is to improve the quality of the marine and coastal environment of the Northwest Pacific region by addressing the marine litter problem through cooperation and partnerships. The following three objectives are 1. To prevent the marine litter input into the marine and coastal environment; 2. To monitor the quantities and distribution of marine litter; and 3. To remove existing litter that was already discarded, disposed of and abandoned. The NOWPAP RAP MALI is a

non-legally binding action plan for the NOWPAP member states. One of critical factors for success of NOWPAP RAP MALI is a combination of national and regional actions. RAP MALI WORK PLAN contains 3 Components (which are actually three Objectives mentioned above). Each Component contains Actions and each Action contains Activities. In total there are 3 Components, 13 Actions and 33 Activities. Each activity provides information on the deadline and participants. The Components and Actions are: Component 1. Prevention of the marine litter input to the marine and coastal environment (Actions: 1.1. Legal and administrative instruments; 1.2. Wise management of marine litter; 1.3. Information, education, outreach and public awareness; 1.4. Cooperation with civil society, and 1.5. Research activities); Component 2. Monitoring of marine litter quantities and distribution (Actions: 2.1. Marine litter monitoring using NOWPAP guidelines; 2.2. Maintenance of marine litter database; 2.3. Compilation of data from national monitoring programmes; 2.4. Regular assessments of current situation and trends in marine litter quantities and distribution; and 2.5. Collection of marine litter-related research outcomes); and Component 3. Removing existing marine litter and its disposal (Actions: 3.1. Beach cleanup campaigns; 3.2. Removal of existing marine litter; and 3.3. Research activities related to marine litter.

Regional Plan on Marine Litter Management in the Mediterranean in the Framework of Article 15 of the Land Based Sources Protocol (2013), 18th Ordinary Meeting of the Contracting Parties to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean and its Protocols, UNEP(DEPI)/MED IG.21/9Annex II–Thematic Decisions, Decision IG.21/7l, pp. 143-173.

http://ec.europa.eu/environment/marine/good-environmental-status/descriptor-10/pdf/decision_21_7_marine_litter_mediteranien.pdf

(Last accessed 13 June 2019)

The Contracting Parties to the Barcelona Convention are Albania, Algeria, Cyprus, Croatia, Bosnia & Herzegovina, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Morocco, Montenegro, Monaco, Slovenia, Spain, Syria, Tunisia and Turkey. The rationale for the preparation of this Regional Plan is to improve the quality of the marine and coastal environment in accordance with the provisions of the LBS Protocol and to achieve the goals set by the decisions of the 17th meeting of the Contracting Parties in 2012, Decision IG.20/4. The main objectives of the Regional Plan are to: (a) Prevent and reduce to the minimum marine litter pollution in the Mediterranean and its impact on ecosystem services, habitats, species in particular the endangered species, public health and safety; (b) Remove to the extent possible already existent marine litter by using environmentally respectful methods; (c) Enhance knowledge on marine litter; and (d) Achieve that the management of marine litter in the Mediterranean is performed in accordance with accepted international standards and approaches as well as those of relevant regional organizations and as appropriate in harmony with programmes and measures applied in other seas. The Regional Plan covers quite a number of issues, amongst them: Integration of marine litter measures into the LBS National Action Plans (LBS NAPs); Legal and institutional aspects; Prevention of marine litter; Removing existing marine litter and its environmentally sound disposal; Assessment of marine litter in the Mediterranean; Mediterranean Marine Litter Monitoring Programme; Research topics and scientific cooperation; Specific guidelines; Technical assistance; Enhancement of public awareness and education; Major groups and stakeholder participation; Regional and international cooperation. The Regional Plan presents the Work Plan with timetable and cost for the implementation of relevant Articles of the Marine Litter Regional Plan. This Work Plan contains 44 tasks presenting for each task timetable, lead authority, verification indicator, estimated cost and financial source. Also in annexes are presented Potential research topics and Elements for national biennial reports.

OSPAR Commission (2014): Marine Litter Regional Action Plan, 18 pp.

https://www.ospar.org/documents?v=34422

(Last accessed 13 June 2019)

The OSPAR member countries (Belgium, Denmark, Finland, France, Germany, Iceland, Ireland, Luxembourg, The Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and United Kingdom) adopted in 2014 the Marine Litter Regional Action Plan. This Regional Action Plan (RAP) sets out the policy context for OSPAR's work on ML, describes the various types of actions that OSPAR will work on over the coming years and provides a timetable to guide the achievement of these actions. The RAP is organised in four sections: 1. Follows the brief introduction and sets the objectives, the geographical scope, principles and approaches that should frame implementation; 2. Presents the actions to be implemented. The actions have been grouped in four themes as follows: A. The reduction of litter from sea-based sources; B. The reduction of litter from land-based sources; C. The removal of existing litter from the marine environment; and D. Education and outreach on the topic of ML; 3. Describes the necessary monitoring and assessment; and 4. Outlines how the plan will be implemented and followed up by OSPAR. The sources of ML are diverse and ocean dynamics turn it into a transboundary issue requiring collective action. The RAP is designed as a flexible tool providing a set of actions to address ML. It contains actions requiring collective activity within the framework of the OSPAR Commission through, where applicable, OSPAR measures and/or other agreements such as guidelines. Other actions listed are those that Contracting Parties should consider in their national programmes of measures, including under the MSFD. In order to obtain reliable and comparable monitoring data within the OSPAR area to assess the state of ML in the marine environment and the effectiveness of the actions taken, it is important to coordinate monitoring programmes trans-nationally and, whenever possible, to adopt consistent methodologies to collect, record and report data.

HELCOM (2015): Regional Action Plan for Marine Litter in the Baltic Sea, 20 pp.

http://www.helcom.fi/Lists/Publications/Regional%20Action%20Plan%20for%20Marine%20Litter.pdf

(Last accessed 13 June 2019)

The HELCOM member countries (Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Russia, and Sweden) adopted in 2015 the Regional Action Plan for Marine Litter in the Baltic Sea). ML may seriously damage the environment as well as human health. The majority of litter are non-degradable items – mainly plastics. Small organisms living in the sea often mistake the tiny, possibly toxic particles of plastic litter for food and eat them. These microplastic pieces may then transfer along the food chain to other marine animals. The sources of litter in the Baltic Sea are many. Household waste – through sewage but also dumping – plays a prominent part, while shipping, fisheries and industries also have a considerable share in creation of the problem. HELCOM Regional Action Plan for Marine Litter now sets the standard for each HELCOM member country – all nine coastal states – to put the agreed commitments into action. Importantly, the action plan will make a difference only if many actors contribute to its implementation. While the major responsibility stays with the regional and upstream governments, all are invited–and needed –to cooperate with HELCOM for minimizing the effects of ML. The Structure of the Action Plan is: 1. HELCOM Recommendation 36/1: Regional Action Plan for Marine Litter; 2. Annex to the Action Plan: List of actions: a. Types of actions; b. Regional actions – HELCOM Collective Actions: i. Land-based sources of marine litter; ii. Sea-based sources of marine litter; and c. Education and outreach on marine litter; c. Voluntary national actions; i. Land-based sources of marine litter; ii. Sea-based sources of marine litter; iii. Education and outreach on marine litter. Appendix I. Reporting format in implementation of actions, Appendix II. Reporting format on the effectiveness of the implemented actions; and Appendix III. Definition of terms.

TEHRAN CONVENTION AND ITS PROTOCOLS

This chapter contains five references, links and summaries for the Tehran Convention and its Protocols.

Framework Convention for the Protection of the Marine Environment of the Caspian Sea (Tehran Convention) (2003), 12 pp.

http://www.tehranconvention.org/IMG/pdf/Tehran_Convention_text_final_pdf.pdf

(Last accessed 13 June 2019)

The Framework Convention for the Protection of the Marine Environment of the Caspian Sea (Tehran Convention) was adopted in November 2003 and came into force on 12th August 2006. It is the first legally binding agreement signed by all five nations surrounding the Caspian Sea, laying down the general requirements and the institutional mechanism for environmental protection in the Caspian region. The objective of the Tehran Convention is the protection of the Caspian environment from all sources of pollution including the protection, preservation, restoration and sustainable and rational use of the biological resources of the Caspian Sea. The Tehran Convention covers, amongst others: Pollution from land-based sources; Pollution from seabed activities; Pollution from vessels; Pollution from dumping; Pollution from other human activities; Prevention from introduction, control and combating of invasive alien species; Environmental emergencies; Protection, preservation, restoration and rational use of marine living resources; Coastal zone management; Caspian Sea level fluctuation; Environmental impact assessment; Co-operation between the contracting parties; Monitoring; Research and development; Exchange of and access to information; Conference of the parties; Secretariat of the convention; Adoption of protocols; and adoption of annexes and amendments.

Protocol for the Protection of the Caspian Sea against Pollution from Land-Based Sources and Activities to the Framework Convention for the Protection of the Marine Environment of the Caspian Sea (Moscow Protocol), (2012), 23 pp.

http://www.tehranconvention.org/IMG/pdf/Protocol_on_Pollution_from_Land_Based_Sources_and_Activities.pdf

(Last accessed 13 June 2019)

This Protocol was adopted and signed at the fourth Meeting of the Conference of the Parties (COP4) in Moscow on December 12, 2012. The purpose of this Protocol is to prevent, control, reduce and to the maximum extent possible eliminate pollution of the marine environment from land-based sources and activities in order to achieve and maintain an environmentally sound marine environment of the Caspian Sea. The Contracting Parties shall individually or jointly take all appropriate measures in accordance with the provisions of the Convention to prevent, control, reduce and to the maximum extent possible eliminate pollution of and other adverse effects on the marine environment and coastal areas of the Caspian Sea from land-based sources and activities. In accordance with Article 3 of the Convention and pursuant to Article 1 of the present Protocol this Protocol shall apply to: (a) Emissions of polluting substances originating from land-based point and diffuse sources that have or may have an adverse effect on the marine environment and/or coastal areas of the Caspian Sea. These emissions shall include, those which reach the marine environment including brackish waters, marshes and coastal lagoons, inter alia through mouths of rivers, canals or other watercourses, groundwater flows, coastal disposals and outfalls, disposal under the seabed with access from land, or through run-off; (b) Inputs of polluting substances transported through the atmosphere into the marine environment of the Caspian Sea from land-based sources under the conditions defined in Annex III; (c) Pollution resulting from activities that affect the marine environment and/or coastal areas of the Caspian Sea, including physical alteration of the natural state of the coastline and alteration or destruction of the landscape or habitats. The Annex I of this Protocol covers the Activities and categories of substances of concern (In categories of substances, Section B, point 6 is „Marine litter (Any persistent, manufactured or processed, solid material which is discarded, disposed of, or abandoned).

Protocol Concerning Regional Preparedness, Response and Co-operation in Combating Oil Pollution Incidents (Aktau Protocol), (2011), 9 pp.

http://www.tehranconvention.org/IMG/pdf/Aktau_Protocol.pdf

(Last accessed 13 June 2019)

The Protocol Concerning Regional Preparedness, Response and Co-operation in Combating Oil Pollution Incidents (Aktau Protocol) was adopted and signed at the third Meeting of the Conference of the Parties (COP3) in Aktau, Kazakhstan on August 12, 2011 and entered into force on 25 July 2016. The objective of this Protocol is to provide regional measures for preparedness, response and co-operation for protection of the Caspian Sea from oil pollution caused by activities referred to under Articles 8 and 9 of the Convention and marine oil pollution originating from land-based sources. The area to which this Protocol shall be applied is the marine environment of the Caspian Sea, taking into account its water level fluctuations, the land affected by proximity to the sea, and marine oil pollution originating from land-based sources. This Protocol covers, amongst others: National systems and contingency plans for combating oil pollution incidents; Dissemination and exchange of information; Pollution reporting procedures; Operational measures; Oil pollution emergency plans on board ships, Offshore units, in sea ports and at oil handling facilities; Institutional provisions; Functions of the regional mechanism.

Protocol for the Conservation of Biological Diversity (Ashgabat Protocol) (2014), 19 pp.

http://www.tehranconvention.org/IMG/pdf/Protocol_on_the_Conservation_of_Biological_Diversity_en.pdf

(Last accessed 13 June 2019)

This Protocol was adopted and signed at the fifth Meeting of the Conference of the Parties (COP5) in Ashgabat, Turkmenistan, on 30 May 2014. The objectives of this Protocol are to protect, preserve, and restore the health and integrity of the biological diversity and the ecosystem of the Caspian Sea as well as to ensure the sustainable use of biological resources and in that context: (a) To safeguard threatened species, and vulnerable ecosystems, to ensure their long–term viability and diversity; (b) To prevent decline, degradation and damage to species, habitats and ecological systems, directed by the precautionary principle; and (c) To protect and conserve those areas that best represent the high range of species, special habitats, ecological systems and natural and related cultural heritage. In accordance with Articles 3 and 15 of the Convention this Protocol shall be applied to the marine environment of the Caspian Sea taking into account its water level fluctuations and pollution from land-based sources as well as the land affected by proximity to the sea including wetlands of international significance as identified by national legislation or otherwise by the Contracting Parties. This Protocol covers, amongst others: Measures for the protection and conservation of species; Alien species; Genetically modified species; Designation of protected areas; Management of protected areas; Procedures for the establishment and listing of protected areas; Conservation of biological diversity in the framework of coastal zone management; Environmental impact assessment in the framework of conservation of biological diversity; Access to genetic resources; Access to and transfer of technology; Scientific and technical cooperation and assistance; and Institutional provisions. Annex I covers: Categories for the identification of threatened species and Annex II covers: Common criteria for inclusion in the PACS list.

Protocol on Environmental Impact Assessment in a Transboundary Context (2018), 15 pp.

http://www.tehranconvention.org/IMG/pdf/PROTOCOL_ON_ENVIRONMENTAL_IMPACT_ASSESSMENT_IN_A_TRANSBOUNDARY_CONTEXT_EN-2.pdf

(Last accessed 13 June 2019)

The Protocol on Environmental Impact Assessment in a Transboundary Context was adopted and signed at the Extraordinary Meeting of the Conference of the Parties in Moscow, on July 20, 2018. The objective of this Protocol is to implement effective and transparent EIA procedures in a transboundary context to any proposed activity which is likely to cause significant transboundary impact on the marine environment and land affected by proximity to the sea in order to prevent, reduce and control pollution of the marine environment and land affected by proximity to the sea, promote conservation of its biodiversity, and rational use of its natural

resources, and protect human health. In accordance with Article 3 of the Convention this Protocol shall be applied to the marine environment of the Caspian Sea taking into account its water level fluctuations and pollution from land-based sources. Protocol covers, amongst others: Scope of application; General Provisions; Notification; Communication between concerned parties; Preparation and transmittal of draft EIA documentation; Review of EIA documentation and public consultations; Consultations between concerned parties; Final decision on implementation of a proposed activity; Post project analysis; and Institutional provisions. Annex I covers: List of activities; Annex II covers: List of criteria to assist in determining significant transboundary impact; and Annex III covers: Minimum content of the EIA documentation.

CASPIAN REGIONAL

This chapter contains references, links (when available) and summaries of 22 documents of high relevance to the Caspian region.

GRID Arendal (2011): Caspian Sea State of the Environment, 102 pp.

http://www.tehranconvention.org/IMG/pdf/Caspian_SoE_Eng_fin.pdf

(Last accessed 13 June 2019)

The basic purpose of the Caspian State of the Environment Report (SoE) is to allow for regular reporting on an agreed set of regional indicators that show changes and trends in environmental conditions. It provides necessary information for developing, monitoring programs and policies implemented at local, national and regional levels. Furthermore, it increases the number of stakeholders involved in order to benefit from their significant feedback and valuable contributions. The SoE summarizes the findings of the different assessments and includes existing updated figures. It is based on the latest information on policy and legislative measures, institutional setup, stakeholder engagement, future challenges and barriers to the improvement of the state of the environment in the region, provided by the governments through a questionnaire. The SoE is an effort to highlight the main trends in the marine and coastal environment of the Caspian Sea. It provides a gap analysis, showing the needs and requirements of the countries, individually and collectively, in the areas of monitoring, information collection and management related to policy, decision-making and implementation of the Tehran Convention and its Protocols.

Transboundary Diagnostic Analysis for the Caspian Sea, Volume Two (2002), 132 pp.

http://wedocs.unep.org/xmlui/bitstream/handle/20.500.11822/9726/-Transboundary_Diagnostic_Analysis_for_the_Caspian_Sea-2002Caspian_TDAVolumeTwo_2002.pdf.pdf?sequence=3&isAllowed=y

(Last accessed 13 June 2019)

This TDA is not merely a State of the Environment report, but also a look into the future based on the current political situation, socio-economic conditions, and legal/regulatory framework. This TDA is a scientific and technical assessment, through which the water-related environmental issues and problems of the Caspian Sea region have been identified and quantified, their causes analyzed and their impacts, both environmental and economic, assessed. The analysis involves an identification of causes and impacts at national, regional, and global levels and the socio-economic, legal, political and institutional context within which they occur. The identification of the root causes specifies sources, locations, and sectors. This TDA provides the technical basis for development of the National Caspian Action Plans (NCAPs) and the Strategic Action Programme (SAP). In this TDA, the specific combination of activities contained in an NCAP or SAP is also determined by

both national and regional policy considerations that may affect programme direction, sustainability, and cost effectiveness. The TDA is based on extensive previous work. First, the Ramsar Steering Committee approved a Framework TDA in May 1998. Next, in May 2000, the Tacis Project prepared a Preliminary Draft TDA, which focused primarily on the significant advances made under Tacis support to the CEP during the previous two years. The TDA is also based on four regional TDA meetings held in Baku, Azerbaijan, to obtain regional input. Finally, the TDA is based on the many basis documents available from the CEP and other sources, gathered during the four years since the Programme's initiation. Much of the work developed in this section therefore is extracted or summarized from vast resource materials available to the CEP. The existing extent of data and depth of analysis far exceeds the capabilities of this short TDA and therefore it represents a succinct synthesis of this information.

The Caspian Environment Program (CEP)

http://web.worldbank.org/archive/website00983A/WEB/OTHER/THE_CASP.HTM?OpenDocument

(Last accessed 13 June 2019)

The Caspian states together with several international organizations (World Bank, UNDP, UNEP, EU/EuropeAid, GEF, bilateral donors, multinational companies, NGOs) have been working together for over 10 years to address some of the most urgent environmental and bioresources management problems confronting the region. The Caspian Environment Program (CEP) has been a prime vehicle for intra-regional and international cooperation. The CEP has produced a Framework Convention for the Caspian Marine Environment, signed by the five states in November 2003, a Transboundary Diagnostic Analysis (TDA) to identify and rank environmental problems, and a Strategic Action Programme (SAP) endorsed by all five littoral states. Each country has also prepared a National Caspian Action Plan (NCAP) to identify the national level investments and interventions needed to address national and regional priorities for the Caspian. The SAP identifies the national and regional interventions needed to address four priority regional environmental concern areas**:** Sustainable fisheries management (particularly sturgeon recovery); Biodiversity protection and invasive species; Sustainable coastal zone management; and Persistent organic pollutants (POPs) and other land-based sources of pollution. The Caspian states updated international organizations, the private sector and NGOs on their progress in implementing the NCAPs and the SAP during the Caspian Environment Program Investment and Donors' Forum held in Baku in November 2004. While notable progress has been made in some cases much remains to be done. Key obstacles to tackling the region's environment problems include competing public policy priorities, the relatively weak voice of environmental agencies, difficulties with cross-sector, inter-agency coordination, lack of an agreed regional fisheries management plan, and continued sturgeon poaching.

Caspian Environment Programme (2007): Caspian Strategic Action Programme Implementation: A Regional Review and Assessment, 44 pp.

http://www.ais.unwater.org/ais/aiscm/getprojectdoc.php?docid=1060

(Last accessed 13 June 2019)

The Caspian Environment Programme is a regional partnership between the five littoral states of the Caspian Sea and international organisations (the EU, UNDP, UNEP and the World Bank). The goal of the CEP is the environmentally sustainable development and management of the Caspian Environment. Part of the process in achieving this goal is identifying the priority environmental issues and developing a regional Strategic Action Programme and five National Caspian Action Plans, one for each of the littoral countries. This report reviews and assesses the implementation of the SAP and the NCAPs in the Caspian littoral countries. The study has been commissioned by the GEF supported CEPSAP project under the umbrella of CEP. It has been carried out by an international consultant and is based on the National SAP Implementation Assessment Reports, these being national studies carried out in each littoral country to assess the implementation of the SAP/NCAPs. The study has also benefited from information collected through SAP/NCAP Implementation Assessment Questionnaires developed by the CEP Coordination Unit and completed by the SAP Implementation Coordinators in all the countries except Russia. It is important to note that the scope and detail of the National

SAP Implementation Assessment Reports varied hugely. This varying quality has meant this report could not be precise and comprehensive. In addition, it hindered the ability to make robust comparisons between the different states' SAP/NCAPs implementation.

European Commission (2009): Caspian Water Quality Monitoring and Action Plan for Areas of Pollution Concern, Regional Pollution Action Plan, TACIS/2005/109244, 277 pp.

https://ceic-portal.net/system/files/kmp/public/CEP%20%282009%29%20regional%20pollution%20action%20plan%20ENG.pdf

(Last accessed 13 June 2019)

This study, which is the Regional Pollution Action Plan for the Caspian Sea (RPAP), has been prepared within the project "Caspian Water Quality Monitoring and Action Plan for Areas of Pollution Concern's (CaspianMAP)".The overall objective of the current project is to achieve improved quality of the marine and coastal environment of the Caspian Sea. In particular, the RPAP (current Report) provides recommendations to regional strategies for pollution reduction, with a focus on the identified Areas of Pollution Concern while the other particular aim of the project was to support the development of a regionally coordinated water quality monitoring program. As a first phase of the RPAP works, the earlier studies were analyzed for purpose inter alia to reveal the trends in environmental state vs. pollution loads in the Caspian Sea. The main regional studies were Rapid Assessment of Pollution Sources (RAPS) and Trans-boundary Diagnostic Analysis (TDA) along with some other studies. The Transboundary Diagnostic Analysis (TDA) provided the technical basis for the development of the National Caspian Action Plans (NCAPs) and the Strategic Action Programme (SAP). There were two TDA studies made (2002 and 2007). The marine litter project was developed with UNEP assistance towards the creation of a regional marine litter strategy. During CEP II implementation an assessment of regional marine litter in all 5 Caspian countries was conducted. This was to lead the preparation of a draft regional strategy and its integration of the strategy into the CEP SAP. However the lack of data prevented progression. It was recognized that marine litter is an emerging issue and that it is not yet addressed in a transboundary context. It is anticipated that this will impact coastal habitats, tourism and the fishing industries especially. It is recommended that a full assessment of the scale and scope of marine litter is conducted for the Caspian.

Pogrebov V.B., Dmitriyev N.V., Kiyko O.A., Filippov A.A., Usenkov S.M., Suleymanov M., Sedighi O., Vinogradova M., Babayev A. Environmental status of the coastal zone of littoral states in the Caspian Sea region under the impact of oil production and transportation // Paper: CD «RAO / CIS Offshore 2007»; No. 102. 10 p.

https://www.researchgate.net/figure/Sensitive-sites-studied-in-the-Caspian-Sea-Coastal-Sites-Inventory-CCSI-in-the-course_fig8_275348325

(Last accessed 13 June 2019)

Development of Caspian Sea Coastal Sites Inventory (CCSI) and identification of areas of special importance and/or sensitivity within an ecosystem approach and framework. The main objective of the CCSI was to develop a coastal sites inventory in the Caspian region with the aim to identify sensitive areas in need of future protection. The core of the CCSI was two-fold and included the following: (i) The ground-truthing (GT) phase of the project had to be carried out at five selected coastal sites of each country, participating in the CCSI project, with the aim to verify and document key characteristics of those sites. This had to be done through description of key habitats and species communities basing on existing publications and own field data; (ii) The biodiversity monitoring programme (BMP) had to be initiated with the aim to obtain key biodiversity data from five selected sites of each country over one full seasonal cycle. The detailed protocol for the programme (e.g., identification of key parameters and indicators for monitoring, frequency and methods of monitoring) had to be developed as a part of the project. All aims of the project were achieved and all reports produced by Consortium were adopted by both UNOPS and the Caspian Environment Programme (CEP). 76

environmentalists from all five littoral states of the Caspian Sea region had participated in this UN project during 2005-2007. After a year of work, majority of experts had assessed oil production and transportation as one of the most dangerous impacts for the Caspian Sea ecosystem if not for today, then – for future. Therefore, the results obtained in the course of the CCSI implementation are considered to be useful as a basis for planning of oil development in the Caspian Sea region in future, for environmental monitoring and assessment of consequences of possible oil spills.

UNEP (2009): Marine Litter: A Global Challenge, L. Jeftic, S. Sheavly, and E. Adler, 232 pp.

https://wedocs.unep.org/bitstream/handle/20.500.11822/10744/MarineLitterAglobalChallenge.pdf?sequence=1&isAllowed=y

(Last accessed 13 June 2019)

The UNEP Global Initiative on marine litter (ML) has provided an effective framework for conducting regional activities addressing ML around the world, including those of the 12 participating Regional Seas programmes (Baltic Sea, Black Sea, Caspian, East African Seas, Eastern Africa, Mediterranean, Northeast Atlantic, Northwest Pacific, Red Sea and Gulf of Aden, South Asian Seas, South Pacific, and Wider Caribbean). These activities and the collection of relevant information were carried out by regional and national consultants. This review document is based on national reports compiled by national experts/consultants and where possible based on standard questionnaires and other available documents and information such as relevant scientific literature. All twelve participating regions prepared review documents by October 2008 and seven regions prepared Regional Action Plan (RAP) documents, with the other five proposing actions necessary for the management of marine litter. Nine regions organized regional meetings of national authorities and experts on marine litter. All twelve regions participated in the International Coastal Cleanup campaign as part of this initiative. Seven of the 12 participating regions (Black Sea, East Asian Seas, Northwest Pacific, Red Sea and Gulf of Aden, South Asian Seas, Southeast Pacific and the Wider Caribbean) prepared RAPs on the management of ML as part of their regional efforts. The remaining five Regional Seas did not prepare formal plans, but have reported on actions relevant to the management of ML within their regions. The section of this document on Caspian Sea (pages 54-66) includes: Introduction; Assessment of the status of ML (ML ”hot spots” in the Caspian region); Institutional arrangements (Governmental structures; ML research and monitoring; NGOs and ML activities); Legal and regulatory settings (Legal instruments; Administrative instruments; ML mitigating activities in the Caspian region (1997-2006); Local experts’ perception of ML in the Caspian region); Conclusions (What we know; What we do not know); Proposals for action (Goals; Actions; Stakeholder involvement; Compliance and enforcement measures, including awareness raising; Research and development; Services and facilities).

Convention on the Legal Status of the Caspian Sea (August 12, 2018)

http://en.kremlin.ru/supplement/5328

(Last accessed 13 June 2019)

The Parties to this Convention are the Caspian littoral States – the Republic of Azerbaijan, the Islamic Republic of Iran, the Republic of Kazakhstan, the Russian Federation and Turkmenistan, Parties are convinced that this Convention will facilitate the development and strengthening of cooperation among the Parties, and promote the use of the Caspian Sea for peaceful purposes and rational management of its resources, as well as exploration, protection and conservation of its environment. Convention defines: Internal waters; Territorial waters; Fishery zone; Common maritime space; Sector; Aquatic biological resources; Shared aquatic biological resources; Harvesting; and Pollution. This Convention shall define and regulate the rights and obligations of the Parties in respect of the use of the Caspian Sea, including its waters, seabed, subsoil, natural resources and the airspace over the Sea. The Parties shall conduct their activities in the Caspian Sea for the purposes of navigation, harvesting, use and protection of aquatic biological resources, exploration and exploitation of the seabed and subsoil resources, as well as other activities in accordance with this Convention, other agreements between the Parties consistent with this Convention, and their national legislation. The water area

of the Caspian Sea shall be divided into internal waters, territorial waters, fishery zones and the common maritime space. The geographical coordinates of areas along routes of submarine cables and pipelines where anchoring, fishing with near-bottom gear, submarine and dredging operations, and navigation with dredging anchor are not allowed, shall be communicated by the coastal State whose sector they cross to

all the Parties. The Parties shall take, jointly or individually, all necessary measures and

cooperate in order to preserve the biological diversity, to protect, restore and manage in a

sustainable and rational manner the biological resources of the Caspian Sea, and to prevent, reduce and control pollution of the Caspian Sea from any source. Any activity damaging the

biological diversity of the Caspian Sea shall be prohibited.

Framework Convention for the Protection of the Marine Environment of the Caspian Sea: Strategic Convention Action Programme (SCAP), TC/COP2/SCAP, 29 pp.

http://www.tehranconvention.org/cop2/Annex%202%20SCAP%20eng.pdf

(Last accessed 13 June 2019)

The assessment of the ecological condition of the Caspian Sea, survey of direct and indirect negative impacts on the ecosystem, examination of the ecosystem response to these impacts, and the study of the ecosystem's capacity of adaptation to contamination are the necessary activities for the sustainable and rational usage of its resources. Such actions need to be harmonised on a regional scale, reinforcing the importance of cooperation among the littoral states and with relevant international organizations, with the aim to protect and conserve the marine environment of the Caspian Sea. The basic framework of the SCAP mirrors the layout of the Tehran Convention. The actions are based largely on the CEP Strategic Action Programme. The SCAP is a comprehensive, long-term agenda and framework for the implementation of the Tehran Convention and its Protocols over a period of 10 years to be translated and implemented through National Action Programmes supported by the biennial Programmes of Work of the Convention Secretariat. Intermediate revisions of the Action Programme may be decided upon by the meetings of the Contracting Parties in order to take into account new Protocols or other emerging developments related to the implementation of the Tehran Convention. The objective of the SCAP is to implement provisions of the Tehran Convention and its protocols upon their entry into force for the mid-term perspective in the area of the protection of the Caspian Sea from all sources of pollution as well as the protection, preservation, restoration and sustainable and rational use of the biological resources of the Caspian Sea by means of defining the main directions for the activities of the Contracting Parties under the Tehran Convention and future protocols upon their entry into force.

Caspian Environment Programme (2007): Caspian Strategic Action Programme Implementation: A Regional Review and Assessment, 44 pp.

http://www.ais.unwater.org/ais/aiscm/getprojectdoc.php?docid=1060

(Last accessed 13 June 2019)

The Caspian Environment Programme (CEP) is a regional partnership between the five littoral states of the Caspian Sea and international organisations (the EU, UNDP, UNEP and the World Bank). The goal of the CEP is the environmentally sustainable development and management of the Caspian Environment. Part of the process in achieving this goal is identifying the priority environmental issues and developing a regional Strategic Action Programme (SAP) and five National Caspian Action Plans (NCAPs), one for each of the littoral countries. This report reviews and assesses the implementation of the SAP and the NCAPs in the Caspian littoral countries. Study has been carried out by an international consultant and is based on the National SAP Implementation Assessment Reports. The study has also benefited from information collected through SAP/NCAP Implementation Assessment Questionnaires developed by the CEP Coordination Unit and completed by the SAP Implementation Coordinators in all the countries except Russia.

New e-portal for the protection of the Caspian marine environment, 2018

https://www.cleanseas.org/impact/new-e-portal-protection-caspian-marine-environment

(Last accessed 13 June 2019)

A new, upgraded, online platform was launched on 8 November 2018 to support joint action under the Tehran Convention. The objective of the completely revamped Caspian Environment Information Center is to provide the Parties to the Tehran Convention with an online collaborative information-sharing tool, making it easier for different stakeholders from the Caspian littoral states to collaborate on environmental issues. The platform has been developed by GRID-Arendal with the support of British Petroleum Exploration (Caspian Sea) Limited in Baku, Republic of Azerbaijan. The expanding work under the UN Environment-hosted Convention identified the need for a reliable and easy way to exchange information. An initial portal was set up in 2012. The Caspian Environmental Information Center is a portal that is a kind of library where you can find information related to the Caspian environment, biodiversity, monitoring, the economic potential of the region, etc. The portal also contains information on activities carried out in the Caspian littoral countries. The online portal contains a series of functions that enable easy access to Caspian Sea environmental data. The portal aims at contributing to the achievement of several Sustainable Development Goals (SDGs), particularly number 17 “Partnerships for the goals” and 16 “Peace, justice and strong institutions”.

CEIC (2019): Caspian Environmental Information Center, Caspian Sea

https://ceic-portal.net/en/caspian

(Last accessed 13 June 2019)

The Caspian Sea is the largest enclosed body of water on earth. Ecological system: The isolation of the Caspian basin for over two million years and its climatic and salinity gradients has created a unique ecological system with more than 400 species endemic to the Caspian Sea. There are 115 species of fish. The Caspian sturgeon and the rare fresh water seal are among the most famous species indigenous to the Caspian. In fact, more than 90 % of the world resources of sturgeon originate from the Caspian Sea. **Natural Resources and main threats:** The Caspian basin is rich in commercially developable hydrocarbon deposits. But the increasing number of oil and gas producing industries as well as hydrocarbon productions and exports constitute serious environmental threats. Years of intensive oil production and refining at industrial sites has polluted ground water, led to widespread oil-mingled soil and the discharge of toxic drilling mud into the Caspian Sea. The mass mortality of more than 3 000 Caspian seals and various species of fish in 2000 was caused by a high amount of toxic substances discovered in the carcass. Today, Caspian biota is threatened by over-exploitation, habitat destruction and pollution. The traditional Caspian sturgeon fishery is well-known for its caviar production. In recent years, however, the Caspian region has witnessed a serious decline in fish stocks. Facts: Surface area - 436 000 km². While the North Caspian Sea with an average depth of only 6.2 m is rather shallow, the middle part has an average depth of 190 m and the South Caspian Sea reaches a maximum depth of 1 025 m and the level of the Caspian Sea is 27 meters below MS. Tributaries – around 130 rivers, The main rivers are Volga (241 km³), Kura (13 km³), Terek (8.5 km³), Ural (8.1 km³) and Sulak (4 km³) contributing to over 90% of the Caspian’s freshwater inflow.

CEIC (2018): Marine litter in the Caspian Sea

https://ceic-portal.net/en/news-events/news/marine-litter-caspian-sea

(Last accessed 13 June 2019)

Marine litter is getting a lot of attention globally these days, and this increased focus on the subject is spreading to the Caspian Sea region. The most widespread marine litter is plastics, which have negative effects not only on marine and coastal ecosystems but also create social and economic costs. This problem has been increasing globally due to unsustainable production and consumption patterns, an issue worthy of its own Sustainable Development Goal (SDG). Increases in production and consumption create a vast amount of waste, from metals to plastics, which all contribute to pollution of the environment. Looking at trends related to marine litter reveal severe challenges which must be tackled in order to create a sustainable future. The 12th of August, 2018 was the Caspian Sea Day. In this short Public Service Announcement (PSA), young children urge all of us to 'stop' marine litter and join efforts to combat marine litter in the Caspian Sea. Hopefully the future generations will avoid creating the same problems as past generations have.

Chevron (2016): Wild files: marine debris removal in the Caspian Sea

https://www.chevron.com/stories/wild-files-marine-debris-removal

(Last accessed 13 June 2019)

Kazakhstan, 2016. Tengizchevroil (TCO), a joint venture partnership formed in 1993 between the Republic of Kazakhstan and Chevron, began development of its Future Growth Project-Wellhead Pressure Management Project (FGP-WPMP), the next phase of expansion of the Tengiz Field – the world's deepest producing super-giant oil field. Supporting and enhancing habitats for endangered species was at the forefront of their environmental planning and management strategies as TCO began development of FGP-WPMP. The project required a cargo transportation route to be constructed 71 kilometres from the Northern Caspian basin to the Provra port, the location of a cargo offloading and storage facility. Actions taken: TCO identified removal of floating debris from the Caspian Sea as one of the key initiatives for its biodiversity action plan associated with FGP-WPMP. TCO conducted a pilot debris removal project in October 2017 with support from: **Kazakhstan's Mangystau Oblast Territorial Inspectorate of Forestry and Wildlife; Ghost Fishing Foundation**, an international non-governmental organization (NGO). The pilot mission enabled the team of Kazakhstani inspectors and NGO workers to: practice marine debris removal techniques; test equipment; assess the viability of the initiative. Marine debris removal activities conducted at sea and along the shoreline retrieved over 3,000 kilograms of marine debris. Suitable marine debris was recycled and used to create concrete for road and pavement repair. Debris not suitable for recycling was disposed of properly. Future activities will include removal of ghost nets and other debris found in the northeast Caspian Sea and its shoreline. Endangered sturgeons: 53 live sturgeons were released from ghost nets. Endangered Caspian seals: **Caspian seals are only found in the Caspian Sea. Their diet includes sculpins, gobies, herring, carp, smelt, and crustaceans.**

Zahra Jani Pour Eskolaki (2014): Marine litter policy network in the Caspian Sea; Enabling and constraining conditions to improve the policy network to deal with marine litter in the Caspian Sea, Master Thesis Environmental Policy, University and Research Centre, The Netherlands, 83 pp.

http://edepot.wur.nl/328448

(Last accessed 13 June 2019)

ML is a growing environmental problem all over the world. This problem originates from various sources and is composed by different materials which can lead to negative environmental, health and economic consequences. ML is a new and growing problem in the Caspian region which has been neglected. There are different possible actors involved in this problem from local NGOs in the littoral countries to international organizations such as UNEP. In this thesis the policy network of ML in the Caspian Sea is studied. The results show that the policy network of ML in the Caspian Sea is not currently an active network. A limited number of actors who are mostly governmental organizations have been involved in the policy network while NGOs and the private sector are absent in the power equation of the policy network. There is no sense of urgency to take the required actions to deal with the ML problem among the dominant actors. The existing rules of the network give limited access of non-governmental actors to influence decision making. There is a high level of

interdependency among most of the actors involved in the policy network in case of dealing with the ML problem in the Caspian Sea. A few resources have been allocated to cope with the ML problem within the policy network so far but if ML problem of the Caspian Sea gets priority in the actors' list of environmental concerns, provision of the required resources does not seem difficult. While the policy network is passively dealing with the ML problem, the results of needs analysis of the Tehran Convention show that there is an appropriate legal setting for taking the required measures to deal with ML in the Caspian Sea. While the main constraining and enabling conditions of the policy network of ML in the Caspian Sea are identified in this research, in order to activate and improve the current passive policy network to deal with the ML problem some strategies according the network management approach are provided.

Renewable and Sustainable Energy Reviews (2016): Marine Debris Occurrence and Treatment: A Review, Iniguez, M. E., Conesa, J. A., Fullana, A., 394-402 pp.

https://rua.ua.es/dspace/bitstream/10045/56736/2/2016_Iniguez_etal_RSER_preprint.pdf

(Last accessed 13 June 2019)

Marine debris produces a wide variety of negative environmental, economic, safety, health and cultural impacts. Most marine litter has a very low decomposition rate (as plastics, which are the most abundant type of marine debris), leading to a gradual, but significant accumulation in the coastal and marine environment. Along that time, marine debris is a significant source of chemical contaminants to the marine environment. Once extracted from the water, incineration is the method most widely used to treat marine debris. Other treatment methods have been tested, but they still need some improvement and so far have only been used in some countries. Several extraction and collection programs have been carried out. However, as marine debris keep entering the sea, these programs result insufficient and the problem of marine debris will continue its increase. The present work addresses the environmental impact and social aspects of the marine debris, with a review of the state of the art in the treatments of this kind of waste, together with an estimation of the worldwide occurrence and characteristics. Percentage of debris items represented by plastic in Caspian Sea is over 60%.

UNEP (2015): Terminal Evaluation of the UNEP Project (Interim) Secretariat services to the Framework Convention for the Protection of the Marine Environment of the Caspian Sea

https://wedocs.unep.org/bitstream/handle/20.500.11822/231/Terminal_Evaluation_of_the_UNEP_Project_(Interim)_Secretariat_services_to_the_Framework_Convention_for_the_Protection_of_the_Marine_Environment_of_the_Caspian_Sea.pdf?sequence=1&isAllowed=y

(Last accessed 13 June 2019)

There are a number of important conclusions about the TCIS's overall impact in the implementation of the Tehran Convention and its Protocols and amongst them are: The TCIS succeeded in developing the institutional framework of the Tehran Convention. This effort is evidenced by the fact that despite multiple challenges and faced with minimal resources, the TCIS managed to successfully organise live COPs, three of which adopted Protocols; The TACIS's efforts in supporting national implementation structures were highly appreciated by the Caspian littoral States. The countries confirmed that the TCIS provided them with the support that they needed to adapt the NCAPs; The Tehran Convention's financial situation continues to be problematic. Parties have agreed to country contributions of 72,000 USD/per year. There has been a retreat of external donors due to political and economic factors and combined with the difficulties in mobilizing private sector financing, it is clear that Parties' contributions alone will unable only the most basic of services to the provided; As regards the TCIS's efforts to promote public awareness, it should be emphasized that civil society engagement is in an early phase in the region; The TCIS efforts in monitoring and information-sharing were very successful. The Caspian Environment Information Centre, the State of Environment reports and the Biodiversity Atlas, in combination with the training of information officers, have created the enabling environment

necessary for the systematic monitoring of the Caspian Sea region; As reflected throughout this evaluation report, interviewees were unanimous with their praise for the project management team.

Tehran Convention, Conference of the Parties, Fifth Meeting (2014): Framework for the implementation of the Caspian Environmental Monitoring Programme (EMP), Note by the interim Secretariat, TC/COP5/5, 9 pp.

COP4 welcomed the Caspian Environmental Monitoring Programme (EMP) contained in document TC/COP4/7 as “the basis for continuation of this activity and capacity-building and regional cooperation for monitoring the parameters which determine the quality of the marine environment of the Caspian Sea”; and requested the (interim) Secretariat “to coordinate and promote its implementation with the involvement and/or support of CaspCom, the GEF, the EU, and other stakeholders”. The Tehran Convention and the Coordinating Committee on Hydrometeorology and Pollution Monitoring of the Caspian Sea (CaspCom) signed the Memorandum of Understanding (MoU) recognizing the uniqueness and integrity of the Caspian Sea, its significant natural resource and economic potential, whose rational use is of paramount importance for the sustainable development of Caspian littoral states. The Parties will: Provide effective contributions to implementation of the objectives under the Tehran Convention, as well as the objectives under the Integrated Programme on Hydrometeorology and Pollution Monitoring of the Caspian Sea (CasPas); and Cooperate in the field of hydrometeorology and pollution monitoring of the Caspian Sea. It was agreed that the Regional framework and network for the Tehran Convention and Protocol Compliance Monitoring and Assessment will have following two Outputs: 1. Operational Environmental Monitoring Programme (EMP) integrated with current national and private sector monitoring. Monitoring and reporting capacity upgraded in the Caspian countries and harmonized methodologies applied; and 2. The next Caspian State of Environment Report based on agreed procedures. Operational Caspian Environment Information Centre (CEIC) as the central hub and database for national reporting, SoE-Reporting, policy making and public information exchange.

Tehran Convention, Conference of the Parties (2012): Unified, integrated and affordable Caspian environment monitoring programme among the contracting parties to the Framework Convention for the Protection of the Marine Environment of the Caspian Sea, Note by the interim Secretariat, TC/COP4/7/ed., 33 pp.

The Strategic Convention Action Programme, adopted as a comprehensive ten year agenda and framework for the implementation of the Convention and its future Protocols at COP2, reaffirms the Caspian littoral States’ commitment “to ensure regional cooperation in the elaboration and implementation of harmonized regional monitoring programmes of pollutants, of rules and standards, and recommended practices and procedures consistent with the Tehran Convention”. The Working Group on Caspian Environment Monitoring Program (EMP) further reviewed the First State of the Environment (SOE) report prepared by UNEP/Grid-Arendal on the basis of the replies received on a questionnaire and already available publications, and acknowledged that a full and comprehensive SOE report can only be prepared once the proposed EMP is operational and the legal framework, in particular the protocols, with specific commitments related to monitoring, is in force. The Caspian EMP proposal was presented at the Final Steering Committee Meeting of the GEF/UNDP Caspeco Project in March 2012. Final comments were received by mid April 2012 and incorporated in the final version of the Caspian EMP proposal. The objectives of the Caspian EMP among the Contracting Parties to the Tehran Convention is to develop a framework providing the necessary data and information on the Caspian environment in order to: initially provide data on the state of the Caspian environment, highlight pollution problems, provide biological related data which will support the broad objective of tracking changes of the health and diversity of ecosystems in, and adjacent to, the Caspian Sea. Proposed Caspian EMP contains, amongst others: Time table of Caspian EMP development plan; Sampling media, parameters and frequencies in Phase-I of proposed Caspian EMP; Common guidelines for survey/observation, sampling, sample handling and analyses for Caspian EMP; QA/QC procedures and reference laboratory for Caspian EMP; Proposed institutional framework for Caspian EMP; Research needs; and Evaluate and refocus monitoring programme.

Caspian Water Quality Monitoring and Action Plan for Areas of Pollution Concern

Regional Water Quality Monitoring Plan (2009), TACIS/2005/109244, 78 pp.

This Regional Water Quality Monitoring Plan has been developed as part of the project "Caspian Water Quality Monitoring and Action Plan for Areas of Pollution Concern's (CaspianMAP)" with one of the main objectives to support the Caspian Environment Programme (CEP) and International Partners like EU, UNDP, UNEP, and the World Bank. One of the most important project activities has been the inter-calibration exercise between the laboratories that are expected to play a role in a future regional monitoring program. This activity was carried out under the methodological supervision of the IAEA Marine Environment Lab, Monaco. The outcome shows that the analysis of a wide range of the proposed pollutants is not attainable yet for most of the analytical laboratories in the area. In the Project experts from twelve labs, consulting companies, independent experts, and specialists from various ministries, departments and agencies, along with international experts, were involved in achieving the objectives of the project. The main bottleneck remains the inadequate management structure. The further development of the Regional Water Quality Monitoring Program (RWQMP) will enhance the efficiency of the national programs in water quality monitoring. The program will also not be implemented effectively, if arrangements for coordination and data exchange are not properly elaborated between the partners in regional water monitoring. The program can also not be effective if no further development takes place of related monitoring programmes. Such a broad basis is needed for effective environmental management of the Caspian. Enhancing regulation and establishing such requirements is a task for regional cooperation in the next stages of development.

GRID – Arendal, Support on the Tehran Convention

http://www.grida.no/activities/286

(Last accessed 13 June 2019)

GRID-Arendal has been working on two specific aspects to support the Tehran Convention. First, we focus on assisting the Secretariat and Parties to the Tehran Convention in the implementation of its Convention Program of Work, in particular in areas where the expertise and capacity of GRID-Arendal is solicited and can make a difference. These areas include monitoring, assessment, reporting, information exchange, back-up networking and research, and environmental management and administration related work. The Convention Secretariat, according to the decisions of the previous Conference of the Parties (COP5), is planned to move to Baku, Republic of Azerbaijan. Consequently, it is to be expected that the present ad-hoc engagement of GRID-Arendal with the Convention process will be turned into a more permanent support structure captured in an Memorandum of Understanding (MoU) negotiated and concluded between GRID-Arendal and the UN Environment administered Secretariat. However, this arrangement has not been confirmed and will be debated at sixth Conference of the Parties to the Tehran Convention (COP6). Second, quantifiable data on the state of the marine environment of the Caspian Sea – essential for sound collective decision-making - are scarce. National monitoring programmes do exist, but are conventional and focus on compliance monitoring; they are not consistent and the data are often not available. As a response to this issue, in 2017 and 2018 GRID-Arendal implemented a project funded by BP Exploration (Caspian Sea) Limited in Baku, Republic of Azerbaijan. This project aimed to establish an upgraded and improved Caspian Environment Information Center, support the creation of a draft Protocol on Monitoring, Assessment and Information Exchange to the Tehran Convention and draft the second State of the Environment (SoE) of the Caspian Sea report. The portal was launched at a consultative meeting on the Caspian Region and the Tehran Convention in the Europe Office of UN Environment in Geneva on November 8, 2018. The process of the protocol and the SoE report continues towards COP6 expected to happen in the first half of 2019. GRID-Arendal is continuing to support the establishment of the protocol and the final acceptance of the second SoE of the Caspian Sea report with the financial support of UN Environment.

N. Jafari (2010): Review of pollution sources and controls in Caspian Sea region, Journal of Ecology and the Natural Environment Vol. 2(2), pp.25-29, Department of Biology, Faculty of Basic Sciences, University of Mazandaran, Babosar, Iran.

https://ceic-portal.net/system/files/kmp/public/review-of-pollution-sources-and-controls-in-caspian-sea-regionpdf.pdf

Experts believe that the release of over one billion cubic meters of industrial, chemical and household wastewater into the Caspian Sea per annum has polluted the water, and reduced the level of oxygen jeopardizing over 400 aquatic species including sturgeons. Extraction and transportation of oil in the Sea are one of the pollution sources in the seawater. Caspian Sea contains about 100,000 million barrels of oil. It also contains over 35,000 million cubic meters of flue gas. Daily extractions of crude oil and gas and transportation of them are the main pollution sources of the Caspian Sea. Many trucks for charring oil from ports along the Caspian Sea are considered as point and nonpoint sources along the seaboard. In addition, many ships, which are navigating in the Sea, are emitting pollution to the Sea. Many cities and industries surround the Caspian Sea. Pollution from these cities and industries enter the Caspian Sea either directly or through rivers. The purpose of this paper is to look at the benefits of environmental management strategies in pollution prevention such as waste minimization and clean technologies. This minimizes the environmental problems due to waste generation and eliminates the cost of treatment and disposal of the waste. The benefits of the environmental management program along the Caspian Sea will ensure the clean water and the better environment of the Sea.

CASPIAN COUNTRIES

This chapter contains references, links (when available) and summaries of 25 documents of high relevance to the Caspian region.

REPUBLIC OF AZERBAIJAN

Framework Convention for the Protection of the Marine Environment of the Caspian Sea (2018): The Second State of the Environment Report of the Caspian Sea, The Republic of Azerbaijan, DRAFT, 56 pp.

This document covers in the Table of Contents quite a number of issues, among them Marine litter and microplastics, but unfortunately there is no text on this two subchapters. Document contains a lot of very useful information on quite a number of issues. Among issues covered are Socio-economic situation; Direct drivers (sectors); Indirect drivers; Fishing; Non-living resources extraction; Transportation and infrastructure; External inputs: Discharges and run off; Air emissions; Solid waste; Changes in bioresurces; State of marine water quality and incoming freshwater; State of air quality; State of sediment quality; Status of biodiversity; Climate change; Consequences for the social and economic sectors; Impact on environmental services and bioresources; Regional governance; National governance; Policy and legislation; Monitoring and compliance; Participation and outreach (private sector, and information sharing); and Recommendations (Should be regional).

UN (2011): UNECE, Environmental Performance Review Azerbaijan, Second Review Synopsis, 59 pp.

http://www.unece.org/fileadmin/DAM/env/epr/epr_studies/Synopsis/Azerbaijan%20ECE.CEP.158.synopsis%20english.pdf

(Last accessed 13 June 2019)

The second Environmental Performance Review (EPR) of Azerbaijan began in November 2009 with a preparatory mission. During this mission, the final structure of the report was discussed and established. The

first Environmental Performance Review (EPR) of Azerbaijan was carried out in 2003. This second review intends to measure the progress made by Azerbaijan in managing its environment since the first EPR, and in addressing upcoming environmental challenges. With its strategically important pipeline infrastructure, Azerbaijan is becoming an increasingly important transit corridor for oil and gas. Environmental authorities have been considerably strengthened since the first EPR, both institutionally and in terms of funding. Significant progress has been made in developing a national legislative framework. Integrating environmental concerns into economic and social sectors remains a key objective. Progress has taken place in the use of economic instruments for environmental protection in the period since the first EPR. The legislative framework for waste management has been significantly improved. The system of municipal solid waste management is receiving much more attention than previously. The changes in waste management in Azerbaijan, especially on the Absheron peninsula, are impressive and have the potential to considerably decrease the environmental impact from waste generation and disposal. Due to accumulation of problems in the past, current activities are focused on the most severe and visible cases and the results are positive. Conclusions and recommendations are main section of this document and it contains 12 Chapters and 63 recommendations.

European External Action Service (2018): EU Delegation initiates beach clean-up campaign in Azerbaijan

https://eeas.europa.eu/delegations/azerbaijan_en/50582/EU%20Delegation%20initiates%20beach%20clean-up%20campaign%20in%20Azerbaijan

(Last accessed 13 June 2019)

On 15 September, the International Coastal Clean-up day, the European Union Delegation with the support of the Ministry of Ecology and Natural Resources of the Republic of Azerbaijan, EkoSfera Social and Ecological Centre mobilized the staff of the Embassies of the European Union Member-States and the European Bank of Reconstruction and Development for beach cleaning campaign. Over 200 representatives of the diplomatic community and their family members joined the campaign by cleaning up one of the beaches in Novkhani settlement of Baku. Students of the French-Azerbaijan University, participants of the “Young European Neighbours” network run by the Open Neighbourhood, former alumni of the EuroSchools organized by the EU Delegation also joined the initiative. It should be noted that the EU Delegation is one of 40 Delegations that joined the EUBeachCleanup Campaign globally.

CEIC (2019): Caspian Environmental Information Center, Azerbaijan

https://ceic-portal.net/en/caspian/countries/azerbaijan

(Last accessed 13 June 2019)

Azerbaijan. **The total area of Azerbaijan lies within the basin of the Caspian Sea. This means that all activities and initiatives influencing the Azerbaijani natural environmental will also have an influence on the environment of the Caspian Sea. The eastern part of the country leads out to the Caspian Sea with a shoreline of 825km.** Environment – Current Issues: The country is currently experiencing economic growth, urbanization and population growth. These trends are mainly expected to take place in the most densely populated area, the Absheron Peninsula leading out to the Caspian Sea. The coastal areas, including the Absheron Peninsula, have during the last decades experienced dramatic flooding, and it is expected that a rise in the Caspian Sea level will lead to even more areas being flooded in the future. The Azerbaijani territory of the sea entails significant oil and gas reserves, which is highly important for the national economy. The exploitation of these reserves entails however a need for environmental protection. Such needs are increasingly being met by the implementation of national initiatives for environmental protection. National concerns related to the Caspian Sea not only involve the risk of, and damages from, flooding or the impacts from the oil and gas production but also the decline of biodiversity, the pollution from municipal and industrial wastes and wastewater as well as emission of harmful gases. Environment – International Agreements: Party to: Air Pollution (UNECE-CLRTAP), Biodiversity (CBD), Climate Change (UNFCCC), Climate Change-Kyoto Protocol (KP), Desertification (CCD), Endangered Species (CITES), Hazardous Wastes (Basel Convention), Marine Dumping (MARPOL), Ozone Layer

Protection (Montreal Protocol), Ship Pollution, Wetlands (Ramsar Convention). *Signed but not ratified: none of the selected agreements*. Sources: National Caspian Action Plan of the Republic of Azerbaijan (2007-2017), 2007 and the Second National Communication to the United Nations Framework Convention on Climate Change, 2010, Ministry of Ecology and Natural Resources.

CEIC (2018): The sewage of the coastal cities of the Azerbaijan Republic threatens the Caspian Sea

https://ceic-portal.net/en/news-events/news/sewage-coastal-cities-azerbaijan-republic-threatens-caspian-sea

(Last accessed 13 June 2019)

Rasmath Sattarzadeh, Director of the Strategic Office of the Ministry of Environment and Natural Resources of the Republic of Azerbaijan, added: "During the inspections carried out by the ministry in the coastal areas of the Republic of Azerbaijan, 224 sewage sources have been sinking into the sea. To be identified. He added that daily 1850,000 cubic meters of wastewater is poured into the Caspian Sea, and given that there are no purification equipment in most coastal cities, sewage enters the Caspian Sea, which has a negative impact on the environmental conditions of the sea and the regions. The official said the wastewater from the Caspian Sea coastal cities such as Baku and Sumiqayt in Azerbaijan, the castle and Astrakhan mosque in Russia, Turkmenbashi in Turkmenistan, Rasht and Anzali are being siphoned into the Caspian Sea.

Neft Daslari (Oil Rocks)

https://en.wikipedia.org/wiki/Neft_Da%C5%9Flar%C4%B1

(Last accessed 13 June 2019)

Neft Daşları (Oil Rocks) is an industrial settlement in Azerbaijan. It lies 100 km away from Baku, and 55 km from the nearest shore in the Caspian Sea. A full town on the sea, it was the first oil platform in Azerbaijan and the first operating offshore oil platform in the world, incorporating numerous drilling platforms. It is featured in Guinness World Records as the world's first offshore oil platform. The settlement began with a single path out over the water and grew into a system of paths and platforms built on the back of ships sunk to serve as the Neft Daşları's foundation. The most distinctive feature of Neft Daşları is that it is actually a functional city with a population of about 2,000 and over 300 km of streets built on piles of dirt and landfill.

ISLAMIC REPUBLIC OF IRAN

Waste Management Law, Iran, 5 pp.

http://www.vertic.org/media/National%20Legislation/Iran/IR_Law_Waste_Management.pdf

(Last accessed 13 June 2019)

The Law consists of twenty three articles and nine notes. The Law was approved by Parliament on May 9, 2004, confirmed by the Guardian Council on May 29, 2004, and was finally signed on June 6, 2004 by the leader of the Islamic Parliament. The main issues covered with the Law are: 1. Executive managers for wastes should adopt arrangements based on the standards and regulations of the Ministry of Health; 2. Involvement of the Iran Broadcasting Organisation; 3. Responsibility of municipalities and rural government bodies; 4. Received relevant costs from waste generation shall be spent for wastes management affairs; 5. Schedule for planning and strategies for separating ordinary waste should be made; 6. Instructions for organizing wastes executive management in municipalities, countries, rural governing and rural district governing bodies should be provided; 7. The Environmental Protection Organisation, in cooperation with relevant Ministries should compile

standards and methods for wastes executive management; 8. Landfill sites for wastes should be determined; 9. Mixing of medical wastes with other wastes is prohibited; 10. Extraterritorial transportation of special wastes should be subject to the regulations of Basel Convention; 11. Generators of special industrial wastes should minimize their wastes; 12. Storage, mixing, transportation, selling and purchasing, disposal, exportation and discharging of wastes in environment should be according of the regulations of Act; 13. Offenders of the ordinance in Article 14 should return wastes, enlisted in Base1 Convention, to the country of origin.

Khayamabshi, E. (2016): Current Status of Waste Management in Iran and Business Opportunities, Municipality waste management in Iran, 50 pp.

http://www.unido.or.jp/files/Iran-updated.pdf

(Last accessed 13 June 2019)

This presentation covers very well the issue of waste management in Iran. In this summary will be presented three section of the presentation: Waste management in Iran: (i) In Iran most of the waste generation is through commercial activities rather than household consumption; (ii) Provincial Government & Municipalities are responsible for the management and disposal of waste; (iii) Waste Management began about 100 years ago; (iv) With the growth of urban population (70% of total population), particularly in big cities like Tehran, municipalities have started mechanical collection of waste which is then transported outside the city for disposal; (v) Since 35 years ago, municipalities of big cities established Waste Management Organization; Plans and objectives for waste management in Iran in next 5 years: (i) Reduce non-organic waste from 60% to 45%; (ii) Increase source separation from 7% to 30%.; (iii) Increase recycling from 13% to 30%; (iv) Increase Formal Landfills from 2% to 20%; (v) Promote new technologies for waste disposal such as incinerators, digester, biogas, recycling, etc.; (vi) Optimize waste collection, increase awareness of people; and Opportunities: (i) Cooperating with Iranian consulting companies for technical training and awareness in waste management; (ii) Cooperating with Iranian consulting companies and municipalities to find the best solution for various cities in modern methods of waste disposal; (iii) On site assessment and negotiation with municipalities; (iv) Cooperating with Iranian companies in supplying waste management equipment such as machinery, tanks and....to Japanese companies for waste management projects being executed in Iran and neighbouring countries; (v) Use Iran as a hub for the export of services to neighbouring countries such as Afghanistan, Pakistan, Iraq, Turkmenistan, Azerbaijan, etc.; (vi) Investment on waste management services such as incinerators, digesters, formal landfill, etc.

Ports and Maritime Organization Ports and Special Economic Zones Affairs Deputy MANUAL OF Tariffs applicable to vessels and cargo In Ports of the Islamic Republic of Iran March 21, 2010 to March 21, 2011, 71 pp.

https://shahidrajaeeport.pmo.ir/pso_content/media/image/2011/08/11879_orig.pdf

(Last accessed 13 June 2019)

Ports and Maritime Organization (PMO) is the port-and-maritime authority of the I.R. Iran with the responsibility to administer all Iranian ports and enforce the maritime conventions to which PMO is a party. All Port Authorities are regarded as subsidiaries of the PMO. Ports and Maritime Organization (PMO) is affiliated to the Ministry of Roads and Transportation. PMO Managing Director is Deputy Minister of Roads and Transportation. PMO's Board of Directors on behalf of the Supreme Council (comprising of: Minister of Roads & Transportation, Minister of Defence, Minister of Economy, Navy Commander of I.R. Iran and the Management & Planning Deputy of President) formulates and ratifies rules, regulations, orders and ordinances to be applied in Iranian ports. Tariff setting PMO: Supreme Council has the authority to set the tariffs which can be delegated to the PMO Board of Directors. This Tariff includes two Sections: Marine-related Tarrif and Operation Related Tariff which include port dues, duties and charges. Dues: means tariff levied on the ships calling and cargos transported into the ports within Jurisdiction of the I.R. Iran for which no services are provided. Duties: means tariffs levied on the incoming ships and in-bound cargo to cover the associated costs of construction and

maintenance of port infrastructures. Charges: means tariffs levied on the services provided to ships and cargos charged charges against the provisions of the services. Note: as the present Tariff Book has been developed to contain the tariffs items on the basis of the orders of the PMO Board of Directors as well as PMO Supreme Council, all directives not dealing with tariff related issues remains in force as before.

Masoudnik, M., Riyahi Bakhtiari, R. and Abdollah, M. (2017), Journal of Oceanography of Iran, Vol. 8, 29 (2017), pp. 43-53: Investigating Abundance, Distribution and Accumulation of Plastic Resin Pellets and Fragments in the Caspian Sea: A Case Study of Noor Shores

http://joc.inio.ac.ir/article-1-1103-en.pdf

(Last accessed 13 June 2019)

This study was an attempt to investigate abundance, distribution and accumulation of plastic resin pellets and fragments in the Caspian Sea on the basis of color, size and shape. Therefore, using National Oceanographic and Atmospheric Association (NOAA) method, the plastic debris samples were collected from two separate stations with eighteen quadrants and in a range of two kilometres. The results of study showed that microplastics (whose size is less than 5 millimetre) were more abundant than meso and macro plastics. Also, it was found that plastic resin pellets (N=4263) were the most frequent microplastics. In addition, color analysis of the samples showed that white resin pellets and fragments have the highest frequency. In sum, it was found that plastic debris and fragment are widely and unevenly distributed along shore lines of the Caspian Sea. It seems that this phenomenon is the result of some factors such as characteristics of the Caspian Sea, climate change, vicinity to land mass and land sources, marine activities, geomorphology of the region and physical factors such as shape, size and density of debris rather than human activities.

Slowly Cracking the Chains – Iran's Waste Management is Going to Awake

https://global-recycling.info/archives/378

(Last accessed 13 June 2019)

This document is providing lots of useful information about waste management in Iran. According to the information from the Tehran Waste Management Organization, the annual waste production rates in Iran are 7,200,000 tons, of which 70-75 % are organic material convertible to compost, 20-25 % recyclable dry materials and 5-10 % other wastes. In Tehran, 68 percent of total household waste analyzed 2013 was organic. Excluding PET treatment, most of (municipal) waste was and is brought to landfills. According to the Islamic Republic News Agency, 50.000 tons of Tehran construction waste – six times more than the household waste – are to be treated daily. The 18 sites near south Tehran have merely capacity to handle 20 % of the waste; the rest has to be transported to landfills. About 62 % of industrial solid waste is buried, ten percent burned, and eleven percent disposed in an unknown manner. Following an analysis on the "Status of Waste Governance System in Iran" in 2013, Iran has initiated significant progress in the legal and institutional framework during the last few years. A waste law was ratified targeting necessary structures, responsible organizations, committees for inter-agency communication and the role for an increasing private sector in service provision. But the governance still is hierarchic, leaving the MSW management system top-down organized. Although the generation of municipal solid waste in Tehran increased by ten percent during the five-year period, the amount of waste directly disposed of to landfill halved and resource recovery almost doubled. An increase in the capacity of a waste-processing facility contributed significantly to these changes. The estimated result of biodegradable fraction going to landfill in 2012 decreased to 49 percent of its value in 2008.

CEIC (2019): Caspian Environmental Information Center, Iran

https://ceic-portal.net/en/caspian/countries/iran

(Last accessed 13 June 2019)

Iran. Iran borders the Southern shore of the Caspian Sea with a coastline of about 1000 km, and 11% of the terrestrial territory holds the southern Caspian watershed. Environment – Current Issues: The Iranian area of the Caspian Sea is the most biologically productive area of the sea and the focal point of economic activities in North Iran. Tourism and fisheries are primary economic activities and the health of the Caspian Sea environment is therefore of high importance to the country. The Iranian area of the sea also offers hydrocarbon reserves. Exploitation of these reserves has however in some cases been halted in order to protect the environment. National concerns regarding the Caspian Sea involve the potential changes in sea level and sea currents. This could potentially result in more frequent occurrences of diseases and the extinction of plankton and benthos species, which influence the rest of the food chain. A rise in sea level will as well have severe consequences for the coastal inhabitants of 2 mill people as well as important infrastructure and maritime industry structures. Environment – International Agreements: Party to: Biodiversity (CBD), Climate Change (UNFCCC), Climate Change-Kyoto Protocol (KP), Desertification (CCD), Endangered Species (CITES), Hazardous Wastes (Basel), Marine Dumping (MARPOL), Ozone Layer Protection (Montreal), Ship Pollution, Wetlands (Ramsar). *Signed but not ratified: Environmental Modification, Law of the Sea, Marine Life Conservation.* Source: Iran's Second National Communication to UNFCCC, 2010, Department of Environment and National Caspian Action Plan, 2002, Islamic Republic of Iran.

REPULIC OF KAZAHSTAN

UN (2000): UNECE, Environmental Performance Review Kazakhstan, 242 pp.

https://www.unece.org/fileadmin/DAM/env/epr/epr_studies/kazakhstan.pdf

(Last accessed 13 June 2019)

The EPR project in Kazakhstan had originally started in September 1997, but had to be interrupted for organizational reasons. A second preparatory mission therefore had to be organized and took place in October 2000. It resulted in a new structure for the report, which was adapted to the many changes in the country that had occurred in the meantime. The review of Kazakhstan's environmental performance in many ways concentrated on the difficulties of national environmental management in a country of a considerable surface but low population density. The intensity of many problems of environmental degradation adds to the problems. The adopted recommendations therefore often focus on questions of how to cope with strong regional differences in environmental conditions as well as with the most complex threats to human health and nature. In general, the report conveys the need for well-coordinated and decisive action in many areas, if the requirements for an improved and sustainable socio-economic development are to be met. The document covers fourteen issues of importance to Kazakhstan concerning: 1. Legal instruments and institutional arrangements for environmental protection; 2. Regulatory and economic instruments; 3. International cooperation; 4. Air management; 5. Municipal and industrial waste management in the Eastern *oblasts;* 6. Management of radioactively contaminated territories; 7. Management of water resources and quality; 8. Management of selected problems in the Aral and Caspian Sea regions; 9. Management of mineral resources; 10. Nature and forest management; 11. Introduction of cleaner technologies in industry; 12. Agriculture and desertification; 13. Environmental concerns in energy; and 14. Health and the environment.

CEIC (2019): Caspian Environmental Information Center, Kazakhstan

https://ceic-portal.net/en/caspian/countries/kazakhstan

(Last accessed 13 June 2019)

Kazakhstan: Kazakhstan borders the Northeastern part of the Caspian Sea with a coastline of 2320 km, which is approximately one third of the total Caspian coastline. The most Northern part of the territory is shallow and accommodates a wide range of biological species. Environment – Current Issues: National concerns regarding the Caspian Sea involve a potential fluctuation of sea level, environmental pollution, degradation of ecosystems and loss of biodiversity. Hydrocarbons are increasingly being exploited and a concern for the potential risks that follows rise with it. It is evident that the major threat for the Caspian environment is impacts from human activities, and the degraded environment again impacts on the population of Kazakhstan with regard to living conditions as well as medical and demographic situations. Environment – International Agreements: Party to: Air Pollution (UNECE-CLRTAP), Biodiversity (CBD), Climate Change (UNFCCC), Desertification (CCD), Endangered Species (CITES), Environmental Modification (ENMOD), Hazardous Wastes (Basel), Ozone Layer Protection (Montreal), Ship Pollution, Wetlands (Ramsar). *Signed but not ratified: Climate Change-Kyoto Protocol (KP).* Source: National Action Programme on Enhancement of the Environment of the Caspian Sea 2003-2012, 2003, Ministry of Environmental Protection.

RUSSIAN FEDERATION

(International Project “Caspian Environment Programme” (2007), UNDP/GEF Project “Implementation of Convention and Action Plan on Caspian Sea Environment Protection – Phase II”, UN Office for Project Services (UNOPS), State Oceanographic Institute (SOI) of Federal Service on Hydrometeorology and Monitoring of Environment (Roshydromet), Report, Project Ref. 00034997/2006/004, A Desk Study Project to determine the fluxes of major contaminants from the Terek River into Caspian Sea

In the frame of the current Project the estimation on contents of nutrients, petroleum hydrocarbons, phenols and heavy metals in water and bottom sediments in the basins of rivers Terek, Sulak and Samur over the last years was carried out. Research was conducted within a framework of the State Monitoring Programme on Roshydromet in the central and lower parts of the Terek delta. The data of Roshydromet standard investigations was used to assess the concentration of pollutants, namely petroleum hydrocarbons, heavy metals, phenols, detergents, nutrients (nitrites, nitrates, ammonium and total nitrogen) and silicates, and also expenditure of river water during the estimation of their flows at hydrological Karagalinsky hydro system and Alikazgan stations in the Terek delta. The Roshydromet data cover the period 2002-2005. Additionally archive data of scientific expeditions of State Oceanographic Institute of Roshydromet during period 2002-2004 were used. The expedition data covered both water and bottom sediment.

CEIC (2019): Caspian Environmental Information Center, Russian Federation

https://ceic-portal.net/en/caspian/countries/russia

(Last accessed 13 June 2019)

Russian Federation. **The Russian Federation covers the Northeastern coastline of the Caspian Sea. The territory of the country holds the river basin of the Volga River, which accounts for 80% of the inflow to the Caspian Sea and therefore also the major part of pollutants such as oil and nitrogen.** Environment – Current Issues: National concerns related to the Caspian Sea involve pollution and changes in fish stocks. Changes in fish stocks of the Caspian Sea but especially to the stocks of sturgeon have had adverse consequences for employment and the economy of the fishing industry. The oil and gas reserves also play an important role in the Russian economy, and are increasingly being developed, which brings further risks of pollution. Environment – International Agreements: Party to: Air Pollution (UNECE-CLRTAP), Biodiversity (CBD), Climate Change (UNFCCC), Climate Change-Kyoto Protocol (KP), Desertification (CCD), Endangered Species(CITES), Environmental Modification (ENMOD) , Hazardous Wastes (Basel), Law of the Sea, Marine Dumping (MARPOL), Ozone Layer Protection (Montreal), Ship Pollution, Wetlands (Ramsar). Source: Caspian Sea State of Environment, 2011, GRID-Arendal, CEP

TURKMENISTAN

UN (2008): UNECE, Environmental Performance Review Turkmenistan, Second Review, 217 pp.

http://www.greengrowthknowledge.org/sites/default/files/downloads/resource/UNECE%20Environmental%20Performance%20Reviews_Kazakhstan%202008%20%282nd%20cycle%29.pdf

(Last accessed 13 June 2019)

Studies are carried out by international teams of experts from the region working closely with national experts from the reviewed country. The teams also benefit from close cooperation with other organizations in the United Nations system, including the United Nations Development Programme, and with the Organisation for Economic Co-operation and Development. This is the second EPR of Kazakhstan published by UNECE. The report takes stock of the progress made by Kazakhstan in the management of its environment since the country was first reviewed in 2000. It assesses the implementation of the recommendations in the first review. It also covers nine issues of importance to Kazakhstan concerning: 1. Policymaking framework for environment protection and sustainable development; 2. Compliance and enforcement; 3. Information, public participation and education; 4. Implementation of international agreements and commitments; 5. Economic instruments for environmental protection; 6. Expenditures for environmental protection; 7. Energy and the environment; 8. Management of mineral resources and the environment; and 9. Sustainable management of water resources. The report places particular emphasis on the promotion of sustainable development, as the country gives a high priority to this issue.

Executive Board of the United Nations Development Programme, the United Nations Population Fund and the United Nations Office for Project Services (2015): Country programme document for Turkmenistan (2016-2020), DP/DCP/TKM/2, 12 pp.

https://open.undp.org/download/CPD/Turkmenistan_2016_2020.pdf

(Last accessed 13 June 2019)

This Country programme document states that for Turkmenistan three key development challenges are: (i) Balancing economic development with managing natural resources; (ii) Strengthening the State's capacity to implement participatory governance; and (iii) The availability of verifiable data for government decision-making and public consumption. UNDP conducted extensive consultations with government, unions, universities and non-governmental organizations (NGOs) during the design of this country programme document and shared drafts for comments. UNDP undertook an in-depth analysis to identify the key development issues and theories of change. Based on past UNDP cooperation and its current positioning, partnerships and capacity, four key priorities were selected. Priority 1 contributes to the United Nations Partnership Framework for Development (PFD) outcome, “The national policy, legislative and institutional frameworks are aligned to reduce greenhouse gas emissions through promoting sustainable practices on energy efficiency, the use of renewables, urban development and waste management" and is aligned with Strategic Plan outcome 1.

UNECE (2012): Environmental Performance Review Turkmenistan, First Review Synopsis, 35 pp.

https://wedocs.unep.org/bitstream/handle/20.500.11822/9627/-Turkmenistan_Environmental_Performance_Reviews-2012Turkmenistan_EPR_2012.pdf.pdf?sequence=3&isAllowed=y

(Last accessed 13 June 2019)

The report covers major issues for Turkmenistan, divided into three sections, including the framework for environmental policy and management, management of natural resources and pollution, and economic and sectoral integration. Among the issues receiving special attention during the reviews were the policy, legal and institutional framework; public participation in decision-making and access to information; air pollution; water resources management and Caspian Sea issues; land management; forestry; biodiversity; management of waste; climate change and environmental concerns in the energy sector. The Environmental Performance Review (EPR) of Turkmenistan analyses the progress made in Turkmenistan from 2000 on environmental protection, and proposes recommendations on how the country can improve its environmental management and address upcoming environmental challenges. Conclusions and recommendations are main section of this document and it contains 13 Chapters and 67 recommendations.

CEIC (2019): Caspian Environmental Information Center, Turkmenistan

https://ceic-portal.net/en/caspian/countries/turkmenistan

(Last accessed 13 June 2019)

Turkmenistan: Turkmenistan spans across the Southeastern coast of the Caspian Sea. The Turkmen territory of the sea offers many hydrocarbon reserves as well as recreational areas. The oil and gas reserves have been estimated to a total of 18.2 billion tons, which pose as an important export for the country. Environment – Current Issues: National concerns regarding the Caspian Sea involve different impacts related to the rising sea level. Flooding can exacerbate the current level of environmental pollution from oil products, pesticides and other toxics. The chancing sea level can as well impact plankton and benthic invertebrates and thereby also the rest of the food chain. The majority of Western Turkmenistan, including the coastal zone, is covered by deserts and as a result not much development of settlements and infrastructure has taken place here, which makes the impacts of a rising sea level minimal compared to the other Caspian countries. Environment – International Agreements: Party to: Biodiversity (CBD), Climate Change (UNFCCC), Climate Change-Kyoto Protocol (KP), Desertification (CCD), Hazardous Wastes (Basel), Ozone Layer Protection (Montreal). Source: *Second National Communication of Turkmenistan under the United Nations Framework Convention on Climate Change,* 2010, Ministry of Nature Protection of Turkmenistan, UNEP, GEF.

Ministry of Natural Resources Use and the Environment Protection of Turkmenistan and UNDP (1998): Caspian Ecological Programme National Report, 34 pp.

This document has significant amount of useful information. Document contains following chapters: 1. Integrated management of the littoral zone; 2. Environment pollution; 3. Health care and rest; 4. Fishery and aquacultures; 5. Characteristics of emergency situation; 6. Legal norms and instructions; 7. Information, date banks and communication; 8. The network of institutes; 9. Basic transborder effects; and 10. Priority actions. In Chapter 2. Environmental pollution are contained following sections: (i) List of the surface resources of pollution, including river, industrial and sewage wastes; (ii) Ships and littoral resources; (iii) Pollution of the air; (iv) The rate of water and precipitation pollution; (v) Review of ongoing national programmes and monitoring networks; and (vi) List of national laboratories for monitoring of levels, pollution effects and laboratories needs in the modern equipment. In the section (i) is written: The quality of the Caspian Sea water has been altering, owing to the wide spectrum of pollutants, directly or indirectly flowing into the sea. On the Turkmen seashore the prospecting and operation of sea and littoral oil and gas fields, enterprises of oil and oil processing industry, municipal sewerages of cities, located along the seashore, as well as wastes of the sea transport are the major resources of the Caspian sea pollution. In the section (iii) is written: The littoral Caspian beaches zone from Turkmenbashi city to Bekdash settlement stretches for 140 km and practically suitable for the rest. Reasons are as follows: the natural conditions of the seashore are on the high level, favourable bottom relief and the quality of the coastal sand, asphalt roads, pure water along the whole littoral spit. As a whole it creates favourable conditions for development of the tourist industry infrastructure in this zone.

Ministry of Nature Protection of Turkmenistan (2002): Biodiversity Strategy and Action Plan for Turkmenistan, 105 pp.

http://extwprlegs1.fao.org/docs/pdf/tuk163422.pdf

(Last accessed 13 June 2019)

The overall aim of this Biodiversity Strategy and Action Plan is "To conserve, restore and sustainably use the biological diversity of Turkmenistan for present and future generations". Though desert ecosystems occupy the majority of the country, Turkmenistan possesses a rich and unique biological diversity. More than 20,000 species have been identified, of which 7,064 are higher and lower plants and about 13,000 are vertebrates and invertebrates. The biological diversity of Turkmenistan plays an important role in the country's economy, its culture and traditions. Reduction of biodiversity can negatively influence the well being and living standards of the human population. The most general reasons for biodiversity reduction are habitat loss and excessive exploitation. Convention on Biological Diversity (CBD) was ratified in 1996. Preparation of a "Country Study on the status of Biological Diversity in Turkmenistan" and a "Biodiversity Strategy and Action Plan (BSAP)" is one of a signatory's responsibilities under the Convention on Biological Diversity. The document has been prepared as an integrated Action Plan in which a timescale of implementation, sources of financing and targets are defined. The Action Plan is a system of definite measures and actions aimed at biodiversity conservation. Management, implementation, monitoring, financing and approximate costs are also covered in the Action Plan. The Action Plan provides a mechanism to solve the problems of biodiversity conservation in Turkmenistan. The Action Plan inspires confidence that biological resources will be restored and will be a foundation of the well being of the human population of Turkmenistan.

Turkmenistan Environmental Challenges and Opportunities (2013), Harry Liiv, 35 pp.

https://www.unece.org/fileadmin/DAM/SPECA/documents/kdb/2013/Seminar_Turkmenistan/Liiv.1.pdf

(Last accessed 13 June 2019)

This presentation covers State of environment, challenges in different sectors of economy: Energy; Water management; Agriculture and Land; Waste management; Forestry and biodiversity; Tourism; Industry; and Transport. In this summary will be presented only Waste management sector. Waste management State: The oil and gas sector is the main generator of industrial waste, generating about 90 percent of all registered industrial wastes; Municipal solid waste management in Turkmenistan - solid waste generation on the territory of Turkmenistan of 470,500 tons/year (ca.1,300 tons/day) – year 2000? Today- Should be 3x more?; Municipal solid waste is treated also by a mechanical biological factor. Waste management. Challenges: Industrial toxic waste, there is need to develop relevant waste incineration facilities together with suitable industry; For municipal waste the waste sorting and disposal systems, appropriate information should be developed further; Important is to organize awareness rising activities among the Turkmen population, introduction of municipal and industrial waste utilization/recycling technologies; Waste composting may be important as well, especially for planting activities.

Law of Turkmenistan: About Waste (2015)

http://cis-legislation.com/document.fwx?rgn=77191

(Last accessed 13 June 2019)

This Law governs the relations in the sphere of the address with waste, is directed to reducing formation of waste and ensuring their rational use in economic and other activity for the purpose of prevention of their negative impact on health of the population and the environment. Chapter I. General provisions. Article 1. In this

Law the following basic concepts are used: 1. Waste; 2. The address with waste; 3. Production wastes; 4. Type of waste; 5. Household waste; 6. Dangerous wastes; 7. Producer of waste; 8. Collection of waste;

9. Transportation of waste; 10. Cross-border transportation of waste; 11. Placement of waste;

12. Storage of waste; 13. Waste disposal; 14. Subject to placement of waste; 15. Conversion of waste; 16: Use of waste; 17. Waste recycling; 18. Neutralization of waste; 19. Limit of placement of waste; and 20. The standard rate of formation of waste.

Sustainable Development in the Cities of Turkmenistan (2017)

http://www.tm.undp.org/content/turkmenistan/en/home/presscenter/pressreleases/2017/11/03/sustainable-development-in-the-cities-of-turkmenistan.html

(Last accessed 13 June 2019)

The United Nations Development Program (UNDP), the State Committee for Environmental Protection and Land Resources of Turkmenistan and relevant national stakeholders has launched a joint project to develop sustainable cities in Turkmenistan. The project, titled “Sustainable Development of the Cities in Turkmenistan: Integrated Green Urban Development in Ashgabat and Avaza”, is a six year strategy with the aim to develop cities that would meet environmental, social and economic requirements without causing damage or the misuse of valuable resources. The new project promotes efficient use of energy resources through the upgrading of street lighting, developing green and sustainable public transportation system, improving urban development planning, reducing and recycling waste, and introducing new standards for resource conservation. National stakeholders noted the relevance of this project regarding international obligations of Turkmenistan under the Paris Agreement on Climate Change and within the framework of the implementation of the Sustainable Development Goals.

Приложение VI

Каспийский региональный план действий по морскому мусору

Проект

22 мая 2020 года

ЧАСТЬ I

ОБЩИЕ ПОЛОЖЕНИЯ

Каспийский региональный план действий по морскому мусору (КРПДММ) состоит из трех частей, 9 тем, 24 разделов, 86 мероприятий и приложения в табличной форме.

Часть I – Введение содержит: общие положения, обоснование КРПДММ; сферу применения; определение терминов; принципы и цели и задачи КРПДММ.

Часть II – Описание тематических направлений и мероприятий КРПДММ. Часть III

– Описание мероприятий в поддержку реализации КРПДММ.

Приложение – Таблица мероприятий КРПДММ, включающая сроки реализации, ответственных исполнителей, показатели реализации для каждого из 86 мероприятий КРПДММ.

РАЗДЕЛ 1

ОБОСНОВАНИЕ КАСПИЙСКОГО РЕГИОНАЛЬНОГО ПЛАНА ДЕЙСТВИЙ ПО МОРСКОМУ МУСОРУ

Морской мусор происходит от наземных и морских работ. Деятельность на суше включает в себя мусорные свалки, реки и наводнения, промышленные отходы, сброс из ливневых стоков, канализации и загрязнение пляжей. Деятельность на море включает в себя рыбную промышленность, судоходство, незаконный сброс в море и выброшенные рыболовные снасти и т.д. По оценкам, примерно 80% морского мусора вызвано наземной деятельностью, тогда как на морскую деятельность приходится лишь 20% (Marine Litter, Time to Clean up our Act, European Union, 2010). Отдельным важнейшим вопросом, связанным с проблемой морского мусора является загрязнение пластиком, в первую очередь микропластиком.

Проблема морского мусора актуальна и для региона Каспийского моря, но есть особенности, связанные со спецификой Каспийского моря.

Каспийское море является самым крупным в мире водоемом, не соединяющимся с Мировым океаном, и которое относится в силу размера, своеобразия природных условий и сложности гидрологических процессов к классу замкнутых внутриматериковых морей. Уровень моря в настоящее время находится на 27 м ниже уровня Мирового океана, площадь Каспия в этих условиях более 390 000 км^2, обьем вод – около 78 000 км^3, средняя глубина – 208 м, наибольшая глубина 1025 м. С севера на юг море вытянуто на 1030 км, при ширине от 200 до 400 км.

Из-за замкнутости характера водоема, единой системы течений, объединяющих каспийскую акваторию, и сейсмичности этого региона современная хозяйственная деятельность на прибрежных морских территориях Каспия представляет значительный риск единой экосистеме Каспия.

Кумулятивный эффект судоходства, добычи природных ресурсов, развития туристско-рекреационной инфраструктуры, чрезмерной эксплуатации биологических ресурсов и другие аспекты хозяйственной деятельности влияют на прибрежные морские территории Каспия, что ведет к разрушению мест обитания, нагула видов, корридоров для мигрирующих видов рыб и нарушению биогеохимических циклов.

Решение проблемы оценки воздействия морского мусора на современное состояние экосистемы Каспия, является достаточно сложной научной задачей из-за многофакторности этой проблемы, в особенности с учетом неопределенности в отношении порога живучести биоценоза Каспия и снижения способности экосистемы Каспийского моря к восстановлению.

Рамочная конвенция по защите морской среды Каспийского моря (Тегеранская конвенция) отмечает ухудшение состояния морской среды Каспийского моря вследствие ее загрязнения из различных источников в результате деятельности человека, включая сброс, выброс и удаление вредных и опасных веществ, отходов и других загрязняющих веществ, как в море, так и из источников, расположенных на суше.

Тегеранская конвенция подтверждает важность защиты морской среды Каспийского моря.

Положения Тегеранской конвенции гласят, что Договаривающиеся Стороны самостоятельно или совместно принимают все необходимые меры для предотвращения, снижения и контроля загрязнения Каспийского моря и самостоятельно или совместно принимают все необходимые меры для охраны, сохранения и восстановления морской среды Каспийского моря (статья 4).

Также положениями Тегеранской конвенции предусмотрено, что Договаривающиеся Стороны принимают меры для того, чтобы предотвращать, снижать и контролировать загрязнение Каспийского моря из наземных источников и для предотвращения, снижения и контроля загрязнения Каспийского моря в результате деятельности на его дне и для предотвращения, снижения и контроля загрязнения Каспийского моря с судов (статьи 7, 8, 9).

Тегеранская конвенция предусматривает создание и осуществление соответствующих самостоятельных и/или совместных программ мониторинга состояния морской среды Каспийского моря (статья 19).

Протокол по защите Каспийского моря от загрязнения из наземных источников и в результате осуществляемой на суше деятельности (Московский протокол) к Тегеранской конвенции указывает на серьезную опасность, которую представляет для морской среды и прибрежных районов, живых ресурсов и здоровья человека загрязнение из наземных источников и в результате осуществляемой на суше деятельности.

Целью Московского протокола является предотвращение, снижение, контроль и в максимально возможной степени устранение загрязнения морской среды из наземных

источников и в результате осуществляемой на суше деятельности для достижения и поддержания экологически здоровой морской среды Каспийского моря.

Положения Московского протокола предусматривают, что Договаривающиеся Стороны принимают и осуществляют национальные планы действий с графиками достижения существенного сокращения поступлений загрязняющих веществ из точечных источников на основе списка «горячих точек» (пункт 2 статьи 7).

В Приложении I к Московскому протоколу перечислены виды деятельности и категории веществ, которые Договаривающиеся Стороны принимают во внимание при подготовке планов действий, программ и мер по предотвращению, контролю, снижению и максимально возможному устранению загрязнения из наземных источников и в результате осуществляемой на суше деятельности включая морской мусор как любые стойкие промышленные или обработанные сброшенные, утилизированные или оставленные твердые материалы (пункт 6 раздела B Приложения I ~~к М~~Московскому протоколу).

В обосновании подготовки КРПДММ следует отметить необходимость защиты, предотвращения, сокращения и, по возможности, устранения загрязнения морской среды Каспийского моря в целях сохранения экологически здоровой морской среды, сохранения ее экосистемы и целостности биологического разнообразия в соответствии с положениями Тегеранской конвенции и протоколов к ней (ст. 2 Тегеранской конвенции, ст. 1 Московского протокола, ст. 2 Ашхабадского протокола).

Морской мусор стал глобальной и региональной проблемой, влияющей на качество морской и прибрежной среды. Имеются пробелы в знаниях об источниках морского мусора и его воздействии на морскую и прибрежную среду.

При подготовке планов действий, программ и мер Договаривающиеся Стороны Тегеранской конвенции могут учитывать положения соответствующих международных документов.

Реализация КРПДММ поможет Договаривающимся Сторонам в достижении Цели устойчивого развития 14, особенно Задачи 14.1.

Резолюции Генеральной Ассамблеи Организации Объединенных Наций A/RES/72/73 (2017 год), A/RES/70/303 (2015 год) и A/RES/69/245 (2014 год) о Мировом океане и морском праве включают вопросы морского мусора.

Ассамблея ООН по окружающей среде приняла решения и рекомендации или меры по сокращению количества морского пластикового мусора и микропластиков в резолюциях UNEP/EA.1/Res.6 (2014); UNEP/EA.2/Res.11 (2016); и UNEP/EA.3/Res.7 (2017).

Глобальная инициатива ЮНЕП по морскому мусору активно способствовала оказанию помощи двенадцати программам по региональным морям в организации и реализации региональных мероприятий по морскому мусору.

Целью КРПДММ является значительно сократить дальнейшее поступление морского мусора из наземных и морских источников в Каспийское море и сократить объемы

морского мусора, уже присутствующего в морской среде, и таким образом его потенциальное воздействие на морскую биоту среды обитания, здоровье и безопасность населения и также его социально-экономические издержки.

Частный сектор и гражданское общество, включая неправительственные организации и широкую общественность, могут внести существенный вклад в предотвращение и уменьшение морского мусора посредством ряда различных мер.

Все прикаспийские страны подписали и ратифицировали Международную конвенцию по предотвращению загрязнения с судов (МАРПОЛ 73/78) и приложения к ней, а также Конвенцию о контроле за трансграничной перевозкой опасных отходов и их удалением (Базельская конвенция).

Обязательства, одобренные пятой Международной конференцией по морскому мусору и Гонолульской стратегией (2011 год) – глобальной рамочной стратегии по предотвращению, сокращению и регулированию морского мусора, и Программа работы по морскому мусору ЮНЕП/ГПД, принятая в январе 2012 года, соответствующие положения глобальных и региональных международных природоохранных соглашений (выше указанная Международная конвенция по предотвращению загрязнения с судов (МАРПОЛ 73/78) и приложения к ней и Базельская конвенция) имеют важное значение.

Региональные планы действий по морскому мусору такие как План действий НОУПАП (2008 год); Средиземноморский план действий (2013 год); План действий в Северо- Восточной Атлантике (ОСПАР) (2014 год); и Балтийский (ХЕЛКОМ) План действий (2015 год) вносят вклад в решение проблемы морского мусора.

Региональный подход к управлению морским мусором очень важен в силу трансграничного характера проблемы. Благодаря региональному подходу каждая из стран-участниц может внести свой вклад и извлечь выгоду из коллективных усилий, приводящих к синергетическим эффектам. Обмен мнениями, подходами и результатами должен помочь в разработке и реализации скоординированной и согласованной региональной программы. Исследование, мониторинг и отчетность требуют, чтобы регионально согласованные методы и показатели были эффективными.

КРПДММ – это рамочный документ, направленный на принятие соответствующих мер по решению проблемы морского мусора Прикаспийскими странами.

РАЗДЕЛ 2 СФЕРА ПРИМЕНЕНИЯ

Настоящий КРПДММ применяется к морской и прибрежной среде Каспийского моря с учетом колебания его уровня и загрязнения, оказывающего воздействие на морскую среду и/или прибрежные районы моря[1], включая загрязнение разрушающее ландшафт

[1] Полоса прибрежных территорий шириной до100 км.

или местообитания (статья 3 Тегеранской конвенции, пункт с статьи 3 Московского протокола).

РАЗДЕЛ 3

ОПРЕДЕЛЕНИЕ ТЕРМИНОВ

Для целей настоящего КРПДММ следующие термины означают:

Оставленные, утерянные или иным образом выброшенные орудия лова или их части (ЗУВОЛ) или *забытые орудия лова (ЗОЛ)* являются собирательными терминами для промысловых и рекреационных орудий лова, которые были оставлены, утеряны или иным образом выброшены в морскую среду и вызывают негативные биологические последствия посредством, например, непреднамеренного лова рыбы (процесс, который часто называют *призрачным промыслом*), охвата чувствительных мест обитания и/или фрагментации на микрочастицы, которые могут попасть в пищевую цепь;

Прибрежная зона означает сухопутную зону, граничащую с береговой линией и находящуюся под воздействием близости к морю и колебаний его уровня (Московский протокол);

Конференция Сторон означает орган, упомянутый в статье 22 Тегеранской конвенции;

Договаривающиеся Стороны означает прикаспийские государства: Азербайджанскую Республику, Исламскую Республику Иран, Республику Казахстан, Российскую Федерацию и Туркменистан;

КРПДММ означает Каспийский региональный план действий по морскому мусору;

Рассредоточенные источники означают расположенные на суше источники загрязнения, отличные от точечных источников, из которых вещества проникают в окружающую среду с поверхностными стоками, осадками, атмосферными осаждениями, в результате дренирования, просачивания или гидрологических изменений, или разрушения местообитаний;

Сброс означает любое загрязнение моря в результате любого преднамеренного удаления в морскую среду отходов или других веществ с судов, самолетов, платформ или других искусственных сооружений в море или любое преднамеренное удаление судов, самолетов, платформ или других искусственных сооружений в море;

Выбросы означает любые виды сбросов, стоков или выпуска загрязняющих веществ в воду, атмосферу или почву;

Программа мониторинга окружающей среды означает основу для обеспечения возможности измерения и представления отчетности о качестве морской среды Каспийского моря и его тенденциях для целей национальной и региональной политики и процесса принятия решений, связанных с реализацией Тегеранской конвенции и протоколов к ней;

Расширенная ответственность производителя означает стратегию добавления всех экологических издержек, связанных с продуктом на протяжении всего его жизненного цикла, к рыночной стоимости этого продукта;

Вылов мусора означает сбор морского мусора и его последующую выгрузку в портах и надлежащее его удаление рыбаками, будь то пассивный (мусор собирается во время их обычной рыболовной деятельности) или «активный» (мусор собирается рыбаками, дежурящими для этой конкретной цели);

Рыболовные снасти включают все предметы/элементы на борту рыболовных судов, которые используются в рыболовных целях, включая устройства для сбора рыбы (ЗОЛ);

Горячая точка означает ограниченный по площади и поддающийся вычленению участок суши, участок поверхностных вод или конкретный водоносный слой, которые подвержены чрезмерному загрязнению и требуют первоочередного внимания в целях предотвращения или снижения фактического или потенциального неблагоприятного воздействия на здоровье людей, экосистемы или природные ресурсы и удобства, имеющие экономическое значение;

Снасти для ННН-промысла означает любые промысловые снасти, маркированные или не маркированные, используемые для целей незаконного, несообщаемого и нерегулируемого промысла;

Морской мусор означает любой стойкий, изготовленный или обработанный твердый материал, выброшенный, утилизированный или оставленный в морской и прибрежной среде;

Мониторинг морского мусора означает обследование пляжей, поверхностных вод, водной толщи, дна моря и биоты для определения типов и количества мусора репрезентативным образом;

Микро-мусор означает фракцию морского мусора размером менее 5 мм с дальнейшим разделением на *крупные микрочастицы* (1-5 мм) и *мелкие микрочастицы* (<1 мм);

Московский протокол означает Протокол по защите Каспийского моря от загрязнения из наземных источников и в результате осуществляемой на суше деятельности к Тегеранской конвенции;

Точечные источники означает расположенные на суше источники загрязнения, выбросы которых попадают в окружающую среду через те или иные различимые, ограниченные и отдельные средства транспортировки, включая, в частности, трубы, водовыпуски, каналы, канавы, тоннели, трубопроводы или скважины, из которых выбрасываются или могут выбрасываться загрязняющие вещества;

Загрязнение означает прямое или косвенное привнесение человеком веществ или энергии в морскую среду, приводящее или могущее привести к таким пагубным последствиям, как вред биологическим ресурсам и морским организмам, угроза человеческому здоровью и создание помех для правомерных видов использования моря;

Загрязнение из наземных источников означает загрязнение моря из всех видов точечных и рассредоточенных источников на суше, достигающих морскую среду, будь то водные, воздушные или непосредственно с побережья;

Загрязнение из морских источников означает загрязнение от торгового судоходства, паромов и круизных лайнеров; рыболовных судов; военных флотов и научно- исследовательских судов; прогулочных судов; морских нефтяных и газовых платформ; аквакультурных установок; и рекреационной деятельности на водных путях (таких как дайвинг и марины);

Первичный микропластик означают пластмассы, полученные в микроскопическом размере либо для непосредственного использования в продуктах (таких как микрошарики, используемые, например, в косметических пилинговых продуктах или для очистки корпусов судов), либо для косвенного использования (таких как гранулят или гранулы для предварительного производства);

Вторичный микропластик означает фракцию микропластика в морской среде, которая образуется в результате распада более крупных изделий на многочисленные мельчайшие фрагменты вследствие механических сил и/или фотохимических процессов, а также из других источников деградации, таких как волокна в сточных водах от стирки одежды и частицы резины, утраченные из шин вследствие нормального износа;

Секретариат означает орган, упомянутый в статье 23 Тегеранской конвенции;

Тегеранская конвенция означает Рамочную конвенцию по защите морской среды Каспийского моря;

Отходы – это вещества или предметы, которые удаляются или предназначены для удаления или должны быть удалены в соответствии с положениями национального законодательства (Базельская конвенция); и

Судно или корабль означает судно любого типа, которое работает в морской среде, включая суда на воздушной подушке, катера на подводных крыльях, подводные лодки, буксируемые и самоходные лодки, а также платформы и другие искусственные морские сооружения (Тегеранская конвенция).

РАЗДЕЛ 4 ПРИНЦИПЫ

При реализации КРПДММ участвующие страны руководствуются:

принципом принятия мер предосторожности, согласно которому при наличии угрозы серьезного или необратимого ущерба морской среде или здоровью населения отсутствие полной научной определенности не используется в качестве причины для отсрочки принятия экономически эффективных мер по предотвращению такого ущерба (Тегеранская конвенция);

принципом «загрязняющий платит», согласно которому загрязняющий несет расходы по осуществлению мер предотвращения, контроля и снижения (Тегеранская конвенция);

принципом предотвращения, согласно которому любая мера по управлению морским мусором должна быть направлена на предотвращение образования морского мусора в его источнике;

принципом интеграции, согласно которому управление морским мусором должно быть неотъемлемой частью комплексного управления прибрежными зонами, включая управление твердыми отходами, для уменьшения негативного воздействия на морскую и прибрежную среду Каспийского моря (Московский протокол);

принципом участия заинтересованных сторон, включая общественность, согласно которому Договаривающиеся Стороны в соответствии с своим национальным законодательством содействуют участию органов местной власти и общественности в мероприятиях, необходимых для защиты морской среды и прибрежных районов Каспийского моря от загрязнения;

принципом доступности информации о загрязнении морской среды Каспийского моря, согласно которому Договаривающиеся Стороны на регулярной основе обмениваются информацией о состоянии морской среды Каспийского моря, принятых или планируемых мерах по предотвращению, сокращению и контролю загрязнения в соответствии со своим законодательством;

принципом экосистемного подхода, согласно которому следует в полной мере учитывать совокупное воздействие морского мусора с другими загрязнителями и веществами, присутствующими в морской среде, на морские и прибрежные экосистемы, места обитания и виды; и

принципом равенства поколений, согласно которому морская среда Каспийского моря будет сохранена на благо нынешнего и будущих поколений.

РАЗДЕЛ 5

ЦЕЛИ И ЗАДАЧИ

Целью КРПДММ является:

Достижение и поддержание экологически чистой морской среды Каспийского моря путем предотвращения, контроля, сокращения и в максимально возможной степени устранения загрязнения морской среды морским мусором.

Задачами КРПДММ являются:

- Оценка состояния проблемы морского мусора в регионе Каспийского моря;

- Мониторинг количества и распределения морского мусора в регионе Каспийского моря;

- Повышение уровня знаний и осведомленности о морском мусоре и его последствиях среди всех заинтересованных сторон в регионе Каспийского моря;

- Укрепление национальных институциональных механизмов для эффективного предотвращения и сокращения объема морского мусора;

- Распространение опыта управления морским мусором в других регионах и его использование в регионе Каспийского моря с учетом физико-географических особенностей региона;

- Предотвращение и сокращение до минимума загрязнения морским мусором морской и прибрежной среды региона Каспийского моря и его воздействия на экосистемные услуги, места обитания и виды (в частности виды, находящиеся под угрозой исчезновения), экономическое развитие, здоровье и безопасность населения и снижение социально-экономических издержек, вызываемых им;

- Удаление по мере возможности уже существующего морского мусора с использованием экологически приемлемых методов; и

- Содействие в формировании межотраслевого сотрудничества между соответствующими национальными и местными органами власти, которые занимаются вопросами морского мусора.

ЧАСТЬ II

РАЗДЕЛ 6

ТЕМАТИЧЕСКИЕ НАПРАВЛЕНИЯ КАСПИЙСКОГО РЕГИОНАЛЬНОГО ПЛАНА ДЕЙСТВИЙ ПО МОРСКОМУ МУСОРУ

Тематическими направлениями КРПДММ являются:

1. Правовые и экономические инструменты;
2. Комплексное управление отходами, включая морской мусор;
3. Предотвращение и сокращение объема морского мусора из наземных источников;
4. Предотвращение и сокращение объема морского мусора из морских источников;
5. Мониторинг и оценка морского мусора;
6. Научные исследования для минимизации загрязнения морским мусором, включая микропластик;
7. Содействие устойчивому развитию прибрежных территорий;
8. Удаление существующего мусора и его утилизация; и
9. Деятельность в поддержку реализации КРПДММ.

РАЗДЕЛ 7

ТЕМАТИЧЕСКОЕ НАПРАВЛЕНИЕ 1: ПРАВОВЫЕ И ЭКОНОМИЧЕСКИЕ ИНСТРУМЕНТЫ

Предотвращение и сокращение объема морского мусора из наземных и морских источников

Мероприятия

1.1. Содействовать странам в разработке правовых и экономических инструментов для регулирования и предотвращения загрязнения моря из морских и наземных источников, включая минимизацию загрязнения от сточных вод и от отходов производства и потребления.

1.2. Содействовать совершенствованию законодательства прикаспийских государств в области морского мусора, включая регулирование микропластика;

1.3. Содействовать включению правовой нормы о морском мусоре в различные отрасли национального законодательства, такие как законодательство о рыболовстве, ООПТ, отходах производства и потребления и управлении твердыми отходами;

1.4. Разработать возможные превентивные меры, связанные с расширенной ответственностью производителя, путем возложения на производителей, изготовителей и первичных импортеров ответственности за весь жизненный цикл продукта;

1.5. Разработать рекомендации по развитию экономики замкнутого типа на основе совершенствования экономических инструментов и отраслевого законодательства в сфере управления отходами;

1.6. Разработать рекомендации по стимулированию структурных экономических преобразований для обеспечения сокращения производства и потребления пластмасс,

интенсификации производства более экологически чистых материалов, а также для обеспечения расширения масштабов переработки и повторного использования;

1.7. Разработать меры по снижению потребления полиэтиленовых пакетов за счет использования фискальных и экономических инструментов;

1.8. Осуществлять сотрудничество с национальными заинтересованными сторонами в создании и/или дальнейшем развитии подхода расширенной ответственности производителя, включая систему возврата депозитов за бутылки, контейнеры и банки (например, из стекла, пластика и алюминия);

1.9. Развивать сотрудничество в рамках Тегеранской конвенции в области решения проблемы морского мусора с международными конвенциями и соглашениями, касающимися вопросов морского мусора, в соответствующих случаях, такими как Конвенция МАРПОЛ и Приложение V к ней, Лондонская конвенция и Протокол к ней, Базельская конвенция, Глобальная программа действий (ГПД) по защите морской среды от загрязнения в результате осуществляемой на суше деятельности и Кодекс ведения ответственного рыболовства ФАО (Продовольственная и сельскохозяйственная организация Объединенных Наций).

1.10. Разработка рекомендаций для применения экономически эффективных мер для предотвращения поступления любого морского мусора в результате дноуглубительных работ, в частности, дноуглубительных работ по техническому обслуживанию в портовых зонах; и

1.11 Оценка прямых затрат и потерь доходов от туризма и рыболовства в результате загрязнения морским мусором.

РАЗДЕЛ 8

ТЕМАТИЧЕСКОЕ НАПРАВЛЕНИЕ 2: КОМПЛЕКСНОЕ УПРАВЛЕНИЕ ОТХОДАМИ, ВКЛЮЧАЯ МОРСКОЙ МУСОР

Мероприятия

2.1. Обобщить информацию о лучших практиках обращения с отходами и распространить ее среди представителей промышленности и бизнеса прикаспийских государств;

2.2. Налаживание сотрудничества с речными и речными бассейновыми органами в целях учета воздействия мусора из речных источников на морскую среду;

2.3. Содействовать разработке и осуществлению адекватных мер по сокращению отходов, их повторному использованию и рециркуляции с целью уменьшения количества мусора, особенно той части пластиковых отходов, которая поступает на свалки или сжигается без рекуперации энергии;

2.4. Разработать в соответствии с национальным законодательством предложения для лиц, принимающих решения, по борьбе с незаконным сбросом, включая сброс сточных вод, в прибрежной зоне и реках, а также замусориванием пляжей;

2.5. Содействие развитию систем сбора, разделения и безопасного удаления отходов;

2.6. Подготовить предложения по внедрению эффективных методов оценки и учета морского мусора, включая первичный и вторичный микропластик, в национальной политике обращения с твердыми отходами; и

2.7. Предложить введение соответствующих мер для минимизации использования микропластика, которые могут повлиять на морскую среду. Изучить возможность

разработки и принятия добровольного соглашения о поэтапном отказе от использования микропластика и обсудить его с соответствующими секторами.

РАЗДЕЛ 9

ТЕМАТИЧЕСКОЕ НАПРАВЛЕНИЕ 3: ПРЕДОТВРАЩЕНИЕ И СОКРАЩЕНИЕ ОБЪЕМА МОРСКОГО МУСОРА ИЗ НАЗЕМНЫХ ИСТОЧНИКОВ

Мероприятия

3.1. Содействовать разработке региональных отраслевых руководящих принципов по предотвращению и сокращению загрязнения морской среды из наземных источников в контексте поддерживающих национальных мер;

3.2. Выявить и систематизировать основные наземные источники загрязнения морской и прибрежной среды Каспийского моря; и

3.3. Осуществлять соответствующие мероприятия по всем другим разделам.

РАЗДЕЛ 10

ТЕМАТИЧЕСКОЕ НАПРАВЛЕНИЕ 4: ПРЕДОТВРАЩЕНИЕ И СОКРАЩЕНИЕ КОЛИЧЕСТВА МОРСКОГО МУСОРА ИЗ МОРСКИХ ИСТОЧНИКОВ

Мероприятия

4.1. В контексте Тегеранской конвенции оказывать содействие и сотрудничать в реализации требований Приложения V к Конвенции МАРПОЛ, связанных с обеспечением и улучшением доступности приемных сооружений для всех видов судовых отходов в их портах, гаванях, терминалах и пристанях;

4.2. Сотрудничать с заинтересованными сторонами – с администрациями морских портов Каспийского моря – по подготовке обзора состояния портовых приемных сооружений в регионе Каспийского моря и по разработке соответствующих рекомендаций по повышению эффективности их использования, включая экономические механизмы;

4.3. Подготовить обзор по состоянию морского мусора, связанного с нефтегазовой добычей/платформами и провести оценку производства и утилизации этого морского мусора;

4.4. Сотрудничать в рамках Тегеранской конвенции с компетентными международными и региональными организациями, в том числе с Комиссией по сохранению, рациональному использованию водных биологических ресурсов Каспийского моря и управлению их совместными запасами, по изучению и внедрению в максимально возможной степени концепции «маркировки орудий лова для указания принадлежности», для сокращения объема морского мусора, связанного с рыболовством;

4.5. Оказать вклад в мероприятиях Комиссией по сохранению, рациональному использованию водных биологических ресурсов Каспийского моря и управлению их совместными запасами, связанных с разработкой и применением оперативных методов рыболовства, которые сводят к минимуму потерю орудий лова и последствия призрачного промысла от утраченных или брошенных орудий лова в соответствии с

техническими руководящими принципами ФАО по осуществлению Кодекса ведения ответственного рыболовства;

4.6. Совместно с Комиссией по сохранению, рациональному использованию водных биологических ресурсов Каспийского моря и управлению их совместными запасами разработать рекомендации по оценке риска для сохранения биоресурсов и среды их обитания, по потере рыбных запасов из-за забытых/утерянных орудий лова и призрачного промысла;

4.7. Совместно с Комиссией по сохранению, рациональному использованию водных биологических ресурсов Каспийского моря и управлению их совместными запасами определить основные компоненты отходов рыбного хозяйства и аквакультуры, которые могут способствовать образованию морского мусора;

4.8. Совместно с Комиссией по сохранению, рациональному использованию водных биологических ресурсов Каспийского моря и управлению их совместными запасами разработать предложения, по минимизации объема морского мусора, связанного с рыболовством; и

4.9. Сотрудничество с представителями отраслей судоходства, рыболовства и туризма в разработке отраслевых руководящих принципов по предотвращению и сокращению загрязнения моря из морских источников, особенно для отраслей судоходства и рыболовства.

РАЗДЕЛ 11

Тематическое направление 5: Мониторинг и оценка морского мусора Мероприятия

5.1. Осуществить на выбранных пилотных участках в морской зоне Каспия мониторинг морского мусора, основанный на визуальных наблюдениях для оценки объема морского мусора и определить морфологический состав морского мусора, включая пластиковые отходы;

5.2. Подготовить руководство по организации мониторинга и оценке морского мусора для региона Каспийского моря;

5.3. Определить технологии мониторинга морского мусора и микромусора в биоте Каспийского моря и на морском дне на основе имеющихся технологий в регионах других морей;

5.4. Содействовать разработке национальных и региональной программ оценки и мониторинга морского мусора, а также включению этих программ в действующие национальные программы;

5.5. Назначить национальные и региональные референтные лаборатории для анализа микропластика в морской среде;

5.6. Организовать Каспийскую региональную базу данных и информации по морскому мусору для хранения, управления, анализа и интерпретации результатов региональных и национальных программ оценки и мониторинга морского мусора;

РАЗДЕЛ 12
ТЕМАТИЧЕСКОЕ НАПРАВЛЕНИЕ 6: НАУЧНЫЕ ИССЛЕДОВАНИЯ ПО МИНИМИЗАЦИИ ЗАГРЯЗНЕНИЯ МОРСКИМ МУСОРОМ, ВКЛЮЧАЯ МИКРОПЛАСТИК

Мероприятия

6.1. Содействовать изучению морского мусора, включая микропластик, как одного из загрязнителей морской и прибрежной среды Каспийского моря;

6.2. Содействовать проведению научных исследований по темпам деградации или фрагментации морского мусора в различных природных средах;

6.3. Содействовать проведению научных исследований морского мусора как вектора перемещения инвазивных чужеродных видов;

6.4. Содействовать проведению научных исследований по извлечению микропластика из водной среды;

6.5. Содействовать проведению научных исследований на основе практического руководства по предотвращению и смягчению воздействия морского мусора на морское и прибрежное биоразнообразие и на места обитания Конвенции о биологическом разнообразии;

6.6. Содействовать проведению исследований по определению степени вреда, наносимого микропластиком морской биоте;

6.7. Содействовать организации научных исследований по изучению проникновения микропластика через бентоносную и пелагическую пищевые цепи морской биоты;

6.8. Содействовать проведению научных исследований в области разработки экологически безопасных технологий производства для минимизации морскогомусора;

6.9. Содействовать использованию результатов научных исследований по использованию пластика (например, для строительства дорог);

6.10. Содействовать разработке технологий для предотвращения поступления морского мусора из наземных источников;

6.11. Оказать поддержку исследованиям в области технологий для обеспечения сокращения экологического воздействия пластика на морскую среду;

6.12. Содействовать проведению исследований по распределению и объему морского мусора в Каспийском море, способствующего загрязнению морской среды;

6.13. Определить основные источники микро-мусора, провести оценку вреда микрочастиц на морскую и прибрежную среду и разработать меры по снижению его воздействия.

РАЗДЕЛ 13

ТЕМАТИЧЕСКОЕ НАПРАВЛЕНИЕ 7: СОДЕЙСТВИЕ УСТОЙЧИВОМУ РАЗВИТИЮ ПРИБРЕЖНЫХ ТЕРРИТОРИЙ

Мероприятия

7.1. Разработать региональные руководящие принципы по комплексному управлению морскими и прибрежными районами, включая оценку уязвимости прибрежных районов, и, в частности, загрязнения морской среды в контексте колебаний уровня моря;

7.2. Обобщить связанный с морским мусором опыт Прикаспийских стран в области устойчивого развития прибрежных территорий, включая в области устойчивого производства и потребления, с целью минимизации загрязнения;

7.3. Разработать рекомендации по комплексному подходу к производству и использованию отходов пластика для осуществления перехода к ресурсоэффективному регулированию пластмасс на основе системы замкнутого цикла;

7.4. Содействовать разработке и осуществлению мер по сокращению отходов, их повторному использованию и рециркуляции с целью уменьшения объема мусора;

7.5. Разработать предложения для принятия необходимых мер на национальном уровне по борьбе с незаконными свалками, замусориванием пляжей и незаконным захоронением

твердых отходов или сбросом сточных вод в прибрежной зоне;

7.6. Сформулировать предложения для национальных программ социально-экономического развития по сокращению сброса неочищенных или недостаточно очищенных сточных вод в Каспийское море и связанные с ним водные объекты; сокращению промышленных отходов, включая от нефтегазодобывающей отрасли, и других отходов, в т.ч. морской мусор, на основе учета экологической, рекреационной и рыбохозяйственной специфики региона; и

7.7. Разработка и реализация в сотрудничестве с соответствующими заинтересованными сторонами региональной и национальных программ по обнаружению, удалению и утилизации скоплений/горячих точек находящегося в море морского мусора, связанного с морским транспортом, рыболовством, марикультурой, аквакультурой, туризмом и добычей нефти и газа.

РАЗДЕЛ 14

ТЕМАТИЧЕСКОЕ НАПРАВЛЕНИЕ 8: УДАЛЕНИЕ СУЩЕСТВУЮЩЕГО МУСОРА И ЕГО УТИЛИЗАЦИЯ

Мероприятия

8.1. Расширение сотрудничества с заинтересованными сторонами, такими как региональные органы власти, бизнес, отрасли промышленности, общественность и другие группы гражданского общества, заинтересованные в минимизации загрязнения морской и прибрежной среды Каспийского моря, связанного с морским мусором;

8.2. Разработка и пропаганда совместно с Комиссией по сохранению, рациональному использованию водных биологических ресурсов Каспийского моря и управлению их совместными запасами и другими соответствующими заинтересованными сторонами передовой практики в отношении брошенных, утерянных или иным образом выброшенных орудий лова (ЗУВОЛ);

8.3. Сотрудничество с Комиссией по сохранению, рациональному использованию водных биологических ресурсов Каспийского моря и управлению их совместными запасами и оказание содействия в реализации экологически обоснованной практики «вылова мусора» в консультации с компетентными международными и региональными организациями и в партнерстве с рыбаками. Содействие очистке водной поверхности от плавучего мусора и морского дна от морского мусора, выловленного случайно и/или произведенного рыболовными судами в ходе их обычной деятельности, включая брошенные рыболовные снасти;

8.4. Рассмотрение и устранение потенциального морского мусора, возникающего в результате технического обслуживания и демонтажа судов; и

8.5. Установить сотрудничество с индустрией отходов в целях обеспечения надлежащего функционирования объектов по обращению с твердыми отходами на

берегу (прием и удаление отходов из всех источников, включая судоходство, рыболовство, платформы, пристани и портовые отходы).

ЧАСТЬ III

РАЗДЕЛ 15

ТЕМАТИЧЕСКОЕ НАПРАВЛЕНИЕ 9: ДЕЯТЕЛЬНОСТЬ В ПОДДЕРЖКУ РЕАЛИЗАЦИИ КРПДММ

Реализация КРПДММ осуществляется в рамках возможностей тематических направлений статей Тегеранской конвенции и протоколов к ней, связанных с минимизацией загрязнения морской и прибрежной среды Каспия и через:

- **Организационные механизмы реализации КРПДММ**, такие как Региональная координационная группа представителей прикаспийских стран по КРПДММ (как предлагается в проекте Плана);
- **Национальные Каспийские планы действий Тегеранской конвенции (НПДК)**, основанные на национальных планах и программах, в которых по направлению загрязнения морской и прибрежной среды Каспия представляется возможным предусмотреть соответствующие мероприятия по минимизации морского мусора в море и на прибрежных территориях;
- **Национальные доклады по реализации Тегеранской конвенции**, представляемые странами в соответствии с решениями Конференции Сторон Конвенции и с Унифицированным форматом отчетности. В этих отчетах информация о национальных мероприятиях по минимизации морского мусора может быть включена в раздел «Предотвращение, уменьшение и контроль загрязнения».

Ответственность на национальном уровне за реализацию КРПДММ в рамках Тегеранской конвенции возлагается на национальных координаторов. На региональном уровне координацию деятельности Региональной координационной группы КРПДММ и соответствующей деятельности на национальном уровне возлагается на временный Секретариат Тегеранской конвенции.

Механизмы финансирования реализации КРПДММ могут осуществляться через международные проекты, осуществляемые в сотрудничестве с международными организациями, международными конвенциями, частным сектором и программами по проблематике морского мусора.

Направления деятельности

9.1 Региональное и международное сотрудничество и отчетность по КРПДММ;

9.2 Участие заинтересованных сторон, НПО и гражданского общества;

9.3 Информация, просвещение, информационно-пропагандистская деятельность и информирование общественности;

9.4 Подготовка кадров и наращивание потенциала; и

9.5 Оценка эффективности реализации КРПДММ на региональном уровне.

Мероприятия

9.1. Региональное и международное сотрудничество и отчетность по КРПДММ

9.1.1. Создание региональной координационной группы по КРПДММ;

9.1.2. Создать в рамках региональной координационной группы по КРПДММ подгруппу экспертов по оценке и мониторингу морского мусора. Эта подгруппа станет частью Программы мониторинга окружающей среды Тегеранской конвенции;

9.1.3. Установить партнерские отношения с городами, чтобы обеспечить эффективную передачу знаний и инноваций, а также содействовать сотрудничеству между городами/странами;

9.1.4. Адаптировать международные разработки по проблемам морского мусора к региону Каспийскому моря;

9.1.5. Активизировать взаимодействие в рамках Тегеранской конвенции и Московского протокола и использовать существующие платформы сотрудничества и механизмы в области решения проблем морского мусора (таких как Глобальная программа действий по защите морской среды от загрязнения в результате осуществляемой на суше деятельности, Глобальное партнерство по морскому мусору, планы действий по региональным морям);

9.1.6. Поощрение участия заинтересованных сторон в соответствующих международных инициативах, таких как кампаниях Международный день чистоты в прибрежных зонах (ICC), кампаниях «Очисти мир» (CUW), кампаниях «Зеленые плавники» и аналогичных кампаниях или программах, а также в национальных или субнациональных усилиях по просвещению общественности, включая школьников, по вопросам морского мусора, а также стимулирование позитивных изменений в поведении, которые помогут сократить образование мусора;

9.1.7. Осуществить проведение региональных конференций и совещаний заинтересованных сторон;

9.1.8. Подготовка национальных двухгодичных докладов о реализации КРПДММ. Такие доклады должны содержать раздел о национальных программах оценки и мониторинга, который также может быть использован для подготовки докладов по Тегеранской конвенции; и

9.1.9. Подготовка регионального двухгодичного доклада о реализации КРПДММ. Такие доклады должны содержать раздел о национальных программах оценки и мониторинга.

Мероприятия

9.2. Участие заинтересованных сторон, НПО и гражданского общества

9.2.1. Содействие вовлечению различных заинтересованных сторон, включая региональные, национальные и местные органы власти, НПО, гражданское общество и частный сектор, а также другие соответствующие заинтересованные стороны, в реализацию мероприятий КРПДММ;

9.2.2. Поддержка реализации национальных кампаний по очистке морского мусора (пляжи, берега рек, ливневая канализация) на регулярной основе;

9.2.3. Сбор и систематизация информации, а также координация комплексных добровольных уборок пляжей и других подобных мероприятий, являющихся

инструментом просвещения и вовлечения местных сообществ, заинтересованных сторон и средств массовой информации в проблему морского мусора;

9.2.4. Расширение участия общественности в решении проблемы морского мусора путем проведения очистных работ, изучения и реализации концепции «Прими пляж» или аналогичной практики;

9.2.5. Поощрение и содействие субъектам, проявляющим особый интерес к определенным прибрежным районам или несущим ответственность за них, таким как туристические курорты и портовые власти, в проведении регулярной уборки своих районов;

9.2.6. Стимулирование и укрепление национальных альянсов заинтересованных сторон, уделяющих особое внимание морскому мусору;

9.2.7. Коммуникация с региональной, национальной и локальной сетью заинтересованных сторон по проблеме морского мусора;

9.2.8. Проведение региональных и национальных совещаний заинтересованных сторон.

Мероприятия

9.3. Информация, просвещение, информационно-пропагандистская деятельность и информирование общественности

9.3.1. Разработка буклета о КРПДММ и ее перевод на национальные языки Прикаспийских государств; и

9.3.2. Разработка и реализация информационно-просветительских кампаний и мероприятий, включая подготовку материалов (например, буклеты, листовки, флаеры и т.д.) и организация семинаров и форумов для вовлечения заинтересованных сторон, участия широкой общественности, различных отраслей, муниципальных органов власти, местных общин, школьников и молодежи и других групп, в сфере устойчивого производства и потребления, а также сокращения образования отходов и применения экологически обоснованного удаления и повторного использования в целях сокращения объема морского мусора.

Мероприятия

9.1. Подготовка кадров и наращивание потенциала

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9.4.1. Разработка и реализация образовательных и учебных программ для различных целевых групп в целях углубления понимания проблемы морского мусора;

9.4.2. Содействие применению технических отраслевых руководящих принципов для различных целевых групп посредством проведения региональных семинаров и учебных программ; и

9.4.3. Обеспечение технической подготовки и укрепления потенциала сотрудников национальных и муниципальных органов управления, портовых властей и судоходной отрасли по вопросам предотвращения и сокращения загрязнения моря из наземных и морских источников с помощью региональных семинаров и учебных курсов.

Мероприятия

9.2. Оценка эффективности реализации КРПДММ на региональном уровне

9.5.1. Разработка методологии оценки эффективности реализации КРПДММ на национальном и региональном уровнях;
9.5.2. Оценка эффективности реализации КРПДММ на национальном уровне; и
9.5.3. Оценка эффективности реализации КРПДММ на региональном уровне.

ПРИЛОЖЕНИЕ

Каспийский региональный план действий по морскому мусору РАЗДЕЛ 16

ТЕМАТИЧЕСКОЕ НАПРАВЛЕНИЕ 1: ПРАВОВЫЕ И ЭКОНОМИЧЕСКИЕ ИНСТРУМЕНТЫ					
	Мероприятие	**Срок**	**Ведущий орган**	**Контрольный индикатор**	**Источник финансов**
	1.1. Содействовать странам в разработке правовых и экономических инструментов для регулирования и предотвращения загрязнения моря из морских источников, а также из наземных источников, включая минимизацию загрязнения от сточных вод, и от отходов производства и потребления	2024	Секретариат	Разработаны	Секретариат
	1.2. Содействовать совершенствованию законодательства прикаспийских государств в области морского мусора, включая регулирование микропластика	2022	Страны	Усовершенствовано	Страны
	1.3. Содействовать включению правовой нормы о морском мусоре в различные отрасли национального законодательства, такие как законодательство о рыболовстве, ООПТ, отходах производства и потребления и управлении твердыми отходами	2022	Страны	Осуществлено	Страны
	1.4. Разработать возможные превентивные меры, связанные с расширенной ответственностью производителя, путем возложения на производителей, изготовителей и первичных импортеров ответственности за весь жизненный цикл продукта	2023	Страны	Разработано	Страны
	1.5. Разработать рекомендации по развитию экономики замкнутого типа на основе совершенствования экономических инструментов и отраслевого законодательства в сфере управления отходами	2024	Секретариат и страны	Разработано	Секретариат и страны

	1.6. Разработать рекомендации по стимулированию структурных экономических преобразований для обеспечения сокращения производства и потребления пластмасс, интенсификации производства более экологически чистых материалов, а также для обеспечения расширения масштабов переработки и повторного использования				
	1.7. Разработать меры по снижению потребления полиэтиленовых пакетов за счет использования фискальных и экономических инструментов	2021	Страны	Разработаны	Страны
	1.8. Осуществлять сотрудничество с национальными заинтересованными сторонами в создании и/или дальнейшем развитии подхода расширенной ответственности производителя, включая систему возврата депозитов за бутылки, контейнеры и банки (например, из стекла, пластика и алюминия)	2022	Страны	Осуществлено	Страны
	1.9. Развивать сотрудничество в рамках Тегеранской конвенции в области решения проблемы морского мусора с международными конвенциями и соглашениями, касающимися вопросов морского мусора, в соответствующих случаях, такими как Конвенция МАРПОЛ и Приложение V к ней, Лондонская конвенция и Протокол к ней, Базельская конвенция, Глобальная программа действий (ГПД) по защите морской среды от загрязнения в результате осуществляемой на суше деятельности и Кодекс ведения ответственного рыболовства ФАО	2022	Секретариат и страны	Развито	Секретариат и страны
	1.10. Разработка рекомендаций для применения экономически эффективных мер для предотвращения поступления любого морского мусора в результате дноуглубительных работ, в частности, дноуглубительных работ по техническому обслуживанию в портовых зонах	2022	Секретариат и страны	Подготовлены	Секретариат и страны
	1.11 Оценка прямых затрат и потерь доходов от туризма и рыболовства в результате загрязнения морским мусором	2023	Секретариат и страны	Оценено	Секретариат и страны

РАЗДЕЛ 17

ТЕМАТИЧЕСКОЕ НАПРАВЛЕНИЕ 2: КОМПЛЕКСНОЕ УПРАВЛЕНИЕ ОТХОДАМИ, ВКЛЮЧАЯ МОРКОЙ МУСОР					
	Мероприятие	**Срок**	**Ведущий орган**	**Контрольный индикатор**	**Источник финансов**
	2.1. Обобщить информацию о лучших практиках обращения с отходами и распространить ее среди представителей промышленности и бизнеса прикаспийских государств	2022	Секретариат и страны	Распространена	Секретариат и страны
	2.2. Налаживание сотрудничества с речными и речными бассейновыми органами в целях учета воздействия мусора из речных источников на морскую среду	2021	Секретариат и страны	Сотрудничество налажено	Секретариат и страны
	2.3. Содействовать разработке и осуществлению адекватных мер по сокращению отходов, их повторному использованию и рециркуляции с целью уменьшения количества мусора, особенно той части пластиковых отходов, которая поступает на свалки или сжигается без рекуперации энергии	2022	Секретариат и страны	Реализовано	Секретариат и страны
	2.4. Разработать в соответствии с национальным законодательством предложения для лиц, принимающих решения, по борьбе с незаконным сбросом, включая сброс сточных вод, в прибрежной зоне и реках, а также замусориванием пляжей	2022	Секретариат и страны	Предложения подготовлены	Секретариат и страны
	2.5. Содействие развитию систем сбора, разделения и безопасного удаления отходов	2023	Секретариат и страны	Содействие оказано	Секретариат и страны
	2.6. Подготовить предложения по внедрению эффективных методов оценки и учета морского мусора, включая первичный и вторичный мпикропластик, в национальной политике обращения с твердыми отходами;	2023	Страны	Предложения подготовлены	Страны
	2.7. Предложить введение соответствующих мер для минимизации использования микропластиков, которые могут повлиять на морскую среду. Изучить возможность разработки и принятия добровольного соглашения о поэтапном отказе от использования микропластика и обсудить его с соответствующими секторами.	2024	Страны	Предложено и оценено	Страны

РАЗДЕЛ 18

ТЕМАТИЧЕСКОЕ НАПРАВЛЕНИЕ 3: ПРЕДОТВРАЩЕНИЕ И СОКРАЩЕНИЕ ОБЪЕМА МОРСКОГО МУСОРА ИЗ НАЗЕМНЫХ ИСТОЧНИКОВ					
	Мероприятие	**Срок**	**Ведущий орган**	**Контрольный индикатор**	**Источник финансов**
	3.1. Содействовать разработке региональных отраслевых руководящих принципов по предотвращению и сокращению загрязнения морской среды из наземных источников в контексте поддерживающих национальных мер	2024	Секретариат	Содействие оказано	Секретариат
	3.2. Выявить и систематизировать основные наземные источники загрязнения морской и прибрежной среды Каспийского моря	2024	Секретариат	Выявлено и систематизировано	Секретариат и страны
	3.3. Осуществлять соответствующие мероприятия по всем другим разделам	Как показано	Секретариат и страны	Реализовано	

РАЗДЕЛ 19

ТЕМАТИЧЕСКОЕ НАПРАВЛЕНИЕ 4: ПРЕДОТВРАЩЕНИЕ И СОКРАЩЕНИЕ КОЛИЧЕСТВА МОРСКОГО МУСОРА ИЗ МОРСКИХ ИСТОЧНИКОВ					
	Мероприятие	**Срок**	**Ведущий орган**	**Контрольный индикатор**	**Источник финансов**
	4.1. В контексте Тегеранской конвенции оказывать содействие и сотрудничать в реализации требований Приложения V к Конвенции МАРПОЛ, связанных с обеспечением и улучшением доступности приемных сооружений для всех видов судовых отходов в их портах, гаванях, терминалах и пристанях	2021	Секретариат и страны	Реализовано	Секретариат и страны
	4.2. Сотрудничать с заинтересованными сторонами – с администрациями морских портов Каспийского моря – по подготовке обзора состояния портовых приемных сооружений в				

	регионе Каспийского моря и по разработке соответствующих рекомендаций				

	по повышению эффективности их использования, включая экономические механизмы				
	4.3. Подготовить обзор по состоянию морского мусора, связанного с нефтегазовой добычей/платформами и провести оценку производства и утилизации этого морского мусора				
	4.4. Сотрудничать в рамках Тегеранской конвенции с компетентными международными и региональными организациями, в том числе с Комиссией по сохранению, рациональному использованию водных биологических ресурсов Каспийского моря и управлению их совместными запасами, по изучению и внедрению в максимально возможной степени концепции «маркировки орудий лова для указания принадлежности», для сокращения объема морского мусора, связанного с рыболовством				
	4.5. Оказать вклад в мероприятиях Комиссией по сохранению, рациональному использованию водных биологических ресурсов Каспийского моря и управлению их совместными запасами, связанных с разработкой и применением оперативных методов рыболовства, которые сводят к минимуму потерю орудий лова и последствия призрачного промысла от утраченных или брошенных орудий лова в соответствии с техническими руководящими принципами ФАО по осуществлению Кодекса ведения ответственного рыболовства	2022	Страны	Вклад оказан	Страны
	4.6. Совместно с Комиссией по сохранению, рациональному использованию водных биологических ресурсов Каспийского моря и управлению их совместными запасами разработать рекомендации по оценке риска для сохранения биоресурсов и среды их обитания, по потере рыбных запасов из-за забытых/утерянных орудий лова и призрачного промысла	2022	Секретариат и страны	Реализовано	Секретариат и страны
	4.7. Совместно с Комиссией по сохранению, рациональному использованию водных биологических ресурсов Каспийского моря и управлению их совместными запасами определить основные компоненты отходов рыбного хозяйства и аквакультуры, которые могут способствовать образованию морского мусора	2023	Секретариат и страны	Определены	Секретариат и страны

	4.8. Совместно с Комиссией по сохранению, рациональному	2021	Страны	Подготовлено	Страны

	использованию водных биологических ресурсов Каспийского моря и управлению их совместными запасами разработать предложения, по минимизации объема морского мусора, связанного с рыболовством				
	4.9. Сотрудничество с представителями отраслей судоходства, рыболовства и туризма в разработке отраслевых руководящих принципов по предотвращению и сокращению загрязнения моря из морских источников, особенно для отраслей судоходства и рыболовства	2022	Страны	Реализовано	Страны

РАЗДЕЛ 20

ТЕМАТИЧЕСКОЕ НАПРАВЛЕНИЕ 5: МОНИТОРИНГ И ОЦЕНКА МОРСКОГО МУСОРА					
	Мероприятие	**Срок**	**Ведущий орган**	**Контрольный индикатор**	**Источник финансов**
	5.1. Осуществить на выбранных пилотных участках в морской зоне Каспия мониторинг морского мусора, основанный на визуальных наблюдениях для оценки объема морского мусора и определить морфологический состав морского мусора, включая пластиковые отходы	2022	Секретариат	Реализовано	Секретариат
	5.2. Подготовить руководство по организации мониторинга и оценке морского мусора для региона Каспийского моря	2021	Секретариат и страны	Подготовлено и определено	Секретариат и страны
	5.3. Определить технологии мониторинга морского мусора и микромусора в биоте Каспийского моря и на морском дне на основе имеющихся технологий в регионах других морей				
	5.4. Содействовать разработке национальных и региональной программ оценки и мониторинга морского мусора, а также включению этих программ в действующие национальные программы	2022	Секретариат и страны	Подготовлено	Секретариат и страны
	5.5. Назначить национальные и региональные референтные лаборатории для анализа микропластика в морской среде	2022	Секретариат и страны	Назначены	Секретариат и страны
	5.6. Организовать Каспийскую региональную базу данных и	2022	Секретариат и	Создана	Секретариат и

	информации по морскому мусору для хранения, управления, анализа и интерпретации результатов региональных и национальных программ оценки и мониторинга морского мусора		страны		страны

РАЗДЕЛ 21

ТЕМАТИЧЕСКОЕ НАПРАВЛЕНИЕ 6: НАУЧНЫЕ ИССЛЕДОВАНИЯ ДЛЯ МИНИМИЗАЦИИ ЗАГРЯЗНЕНИЯ МОРСКИМ МУСОРОМ, ВКЛЮЧАЯ МИКРОПЛАСТИК

	Мероприятие	**Срок**	**Ведущий орган**	**Контрольный индикатор**	**Источник финансов**
	6.1. Содействовать изучению морского мусора, включая микропластик, как одного из загрязнителей морской и прибрежной среды Каспийского моря	2022	Секретариат и страны	Оказано	Секретариат и страны
	6.2. Содействовать проведению научных исследований по темпам деградации или фрагментации морского мусора в различных природных средах	2022	Секретариат и страны	Оказано	Секретариат и страны
	6.3. Содействовать проведению научных исследований морского мусора как вектора перемещения инвазивных чужеродных видов	2022	Секретариат и страны	Оказано	Секретариат и страны
	6.4. Содействовать проведению научных исследований по извлечению микропластика из водной среды	2022	Секретариат и страны	Оказано	Секретариат и страны
	6.5. Содействовать проведению научных исследований на основе практического руководства по предотвращению и смягчению воздействия морского мусора на морское и прибрежное биоразнообразие и на места обитания Конвенции о биологическом разнообразии	2022	Секретариат и страны	Посодействовано	Секретариат и страны
	6.6. Содействовать проведению исследований по определению степени вреда, наносимого микропластиком морской биоте	2022	Секретариат и страны	Оказано	Секретариат и страны
	6.7. Содействовать организации научных исследований по изучению проникновения микропластика через бентоносную и пелагическую пищевые цепи морской биоты	2022	Секретариат и страны	Оказано	Секретариат и страны

	6.8. Содействовать проведению научных исследований в области разработки экологически безопасных технологий производства для минимизации морского мусора	2022	Секретариат и страны	Оказано	Секретариат и страны
	6.9. Содействовать использованию результатов научных исследований по использованию пластика (например, для строительства дорог)	2022	Секретариат и страны	Оказано	Секретариат и страны
	6.10. Содействовать разработке технологий для предотвращения поступления морского мусора из наземных источников	2022	Секретариат и страны	Оказано	Секретариат и страны
	6.11. Оказать поддержку исследованиям в области технологий для обеспечения сокращения экологического воздействия пластика на морскую среду	2022	Секретариат и страны	Оказана поддержка	Секретариат и страны
	6.12. Содействовать проведению исследований по распределению и объему морского мусора в Каспийском море, способствующего загрязнению морской среды	2022	Секретариат и страны	Посодействовано	Секретариат и страны
	6.13. Определить основные источники микро-мусора, провести оценку вреда микрочастиц на морскую и прибрежную среду и разработать меры по снижению его воздействия	2022	Секретариат и страны	Определно и разработано	Секретариат и страны

РАЗДЕЛ 22

ТЕМАТИЧЕСКОЕ НАПРАВЛЕНИЕ 7: СОДЕЙСТВИЕ УСТОЙЧИВОМУ РАЗВИТИЮ ПРИБРЕЖНЫХ ТЕРРИТОРИЙ					
	Мероприятие	**Срок**	**Ведущий орган**	**Контрольный индикатор**	**Источник финансов**
	7.1. Разработать региональные руководящие принципы по комплексному управлению морскими и прибрежными районами, включая оценку уязвимости прибрежных районов, и, в частности, загрязнения морской среды в контексте колебаний уровня моря	2022	Секретариат	Разработано	Секретариат
	7.2. Обобщить связанный с морским мусором опыт Прикаспийских стран в области устойчивого развития прибрежных территорий,	2022	Секретариат	Обобщено	Секретариат

	включая в области устойчивого производства и потребления, с целью				

	минимизации загрязнения				
	7.3. Разработать рекомендации по комплексному подходу к производству и использованию отходов пластика для осуществления перехода к ресурсоэффективному регулированию пластмасс на основе системы замкнутого цикла	2022	Секретариат	Разработано	Секретариат
	7.4. Содействовать разработке и осуществлению мер по сокращению отходов, их повторному использованию и рециркуляции с целью уменьшения объема мусора	2022	Секретариат	Оказано	Секретариат
	7.5. Разработать предложения для принятия необходимых мер на национальном уровне по борьбе с незаконными свалками, замусориванием пляжей и незаконным захоронением твердых отходов или сбросом сточных вод в прибрежной зоне	2022	Секретариат и страны	Разработано	Секретариат и страны
	7.6. Сформулировать предложения для национальных программ социально-экономического развития по сокращению сброса неочищенных или недостаточно очищенных сточных вод в Каспийское море и связанные с ним водные объекты; сокращению промышленных отходов, включая от нефтегазодобывающей отрасли, и других отходов, в т.ч. морской мусор, на основе учета экологической, рекреационной и рыбохозяйственной специфики региона	2022	Секретариат и страны	Сформулировано	Секретариат и страны
	7.7. Разработка и реализация в сотрудничестве с соответствующими заинтересованными сторонами региональной и национальных программ по обнаружению, удалению и утилизации скоплений/горячих точек находящегося в море морского мусора, связанного с морским транспортом, рыболовством, марикультурой, аквакультурой, туризмом и добычей нефти и газа	2022	Секретариат и страны	Разработано	Секретариат и страны

РАЗДЕЛ 23

ТЕМАТИЧЕСКОЕ НАПРАВЛЕНИЕ 8: УДАЛЕНИЕ СУЩЕСТВУЮЩЕГО МУСОРА И ЕГО УТИЛИЗАЦИЯ

	Мероприятие	Срок	Ведущий орган	Контрольный индикатор	Источник финансов
	8.1. Расширение сотрудничества с заинтересованными сторонами, такими как региональные органы власти, бизнес, отрасли промышленности, общественность и другие группы гражданского общества, заинтересованные в минимизации загрязнения морской и прибрежной среды Каспийского моря, связанного с морским мусором	2021	Секретариат и страны	Расширено	Секретариат и страны
	8.2. Разработка и пропаганда совместно с Комиссией по сохранению, рациональному использованию водных биологических ресурсов Каспийского моря и управлению их совместными запасами и другими соответствующими заинтересованными сторонами передовой практики в отношении брошенных, утерянных или иным образом выброшенных орудий лова (ЗУВОЛ)	2022	Секретариат и страны	Выполнено	Секретариат и страны
	8.3. Сотрудничество с Комиссией по сохранению, рациональному использованию водных биологических ресурсов Каспийского моря и управлению их совместными запасами и оказание содействия в реализации экологически обоснованной практики «вылова мусора» в консультации с компетентными международными и региональными организациями и в партнерстве с рыбаками. Содействие очистке водной поверхности от плавучего мусора и морского дна от морского мусора, выловленного случайно и/или произведенного рыболовными судами в ходе их обычной деятельности, включая брошенные рыболовные снасти	2022	Секретариат	Реализовано	Секретариат
	8.4. Рассмотрение и устранение потенциального морского мусора, возникающего в результате технического обслуживания и демонтажа судов	2022	Секретариат и страны	Устранен	Секретариат и страны

	8.5. Установить сотрудничество с индустрией отходов в целях обеспечения надлежащего функционирования объектов по обращению с твердыми отходами на берегу (прием и удаление отходов из всех источников, включая судоходство, рыболовство, платформы, пристани и портовые отходы)	2022	Страны	Выполнено	Страны

РАЗДЕЛ 24

ТЕМАТИЧЕСКОЕ НАПРАВЛЕНИЕ 9: ДЕЯТЕЛЬНОСТЬ В ПОДДЕРЖКУ РЕАЛИЗАЦИИ КРПДММ					
Раздел	**Мероприятие**	**Срок**	**Ведущий орган**	**Контрольный индикатор**	**Источник финансов**
Раздел 9.1. Региональное и международное сотрудничество и отчетность по КРПДММ	9.1.1. Создание региональной координационной группы по КРПДММ	2022	Секретариат	Создана	Секретариат
	9.1.2. Создать в рамках региональной координационной группы по КРПДММ подгруппу экспертов по оценке и мониторингу морского мусора. Эта подгруппа станет частью Программы мониторинга окружающей среды Тегеранской конвенции	2022	Секретариат	Создана	Секретариат
	9.1.3. Установить партнерские отношения с городами, чтобы обеспечить эффективную передачу знаний и инноваций, а также содействовать сотрудничеству между городами/странами	2021	Секретариат и страны	Установлены	Секретариат и страны
	9.1.4. Адаптировать международные разработки по проблемам морского мусора к региону Каспийскому моря	2021	Секретариат и страны	Адаптировано	Секретариат и страны
	9.1.5. Активизировать взаимодействие в рамках Тегеранской конвенции и Московского протокола и использовать существующие платформы сотрудничества и механизмы в области решения проблем морского мусора (таких как Глобальная программа действий по защите морской среды от загрязнения в результате осуществляемой на суше деятельности, Глобальное партнерство по морскому мусору, планы действий по региональным морям)	2023	Секретариат	Активизировано	Секретариат

	9.1.6. Поощрение участия заинтересованных сторон в соответствующих международных инициативах, таких как кампаниях Международный день чистоты в прибрежных зонах (ICC), кампаниях «Очисти мир» (CUW), кампаниях «Зеленые плавники» и аналогичных кампаниях или программах, а также в национальных или субнациональных усилиях по просвещению общественности, включая школьников, по вопросам морского мусора, а также стимулирование позитивных изменений в	2023	Секретариат	Поощрение оказано	Секретариат

	поведении, которые помогут сократить образование мусора				
	9.1.7. Осуществить проведение региональных конференций и совещаний заинтересованных сторон	2023	Секретариат	Осуществлено	Секретариат
	9.1.8. Подготовка национальных двухгодичных докладов о реализации КРПДММ. Такие доклады должны содержать раздел о национальных программах оценки и мониторинга, который также может быть использован для подготовки докладов по Тегеранской конвенции	2024	Страны	Подготовлены	Страны
	9.1.9. Подготовка регионального двухгодичного доклада о реализации КРПДММ. Такие доклады должны содержать раздел о национальных программах оценки и мониторинга	2024	Секретариат	Подготовлен	Секретариат
Раздел 9.2. Участие заинтересованных сторон, НПО и гражданского общества	9.2.1. Содействие вовлечению различных заинтересованных сторон, включая региональные, национальные и местные органы власти, НПО, гражданское общество и частный сектор, а также другие соответствующие заинтересованные стороны, в реализацию мероприятий КРПДММ	2021	Секретариат	Оказано	Секретариат
	9.2.2. Поддержать осуществление национальных кампаний по очистке морского мусора (пляжи, берега рек, ливневая канализация) на регулярной основе	На регулярной основе	Секретариат и страны	Поддержка оказана	Секретариат и страны
	9.2.3. Сбор и систематизация информации, а также координация комплексных добровольных уборок пляжей и других подобных мероприятий, являющихся инструментом просвещения и вовлечения местных сообществ, заинтересованных сторон и средств массовой информации в проблему морского мусора	На регулярной основе	Секретариат и страны	Выполнено	Секретариат и страны
	9.2.4. Расширение участия общественности в решении проблемы морского мусора путем проведения очистных работ, изучения и реализации концепции «Прими пляж» или аналогичной практики	2022	Секретариат и страны	Расширено	Секретариат и страны

	9.2.5. Поощрение и содействие субъектам, проявляющим особый интерес к определенным прибрежным районам или несущим ответственность за них, таким как туристические курорты и портовые власти, в проведении регулярной уборки своих районов	2022	Секретариат и страны	Поощрение и содействие оказаны	Секретариат и страны
	9.2.6. Стимулирование и укрепление национальных альянсов	2021	Секретариат и	Простимулировано	Секретариат и

	заинтересованных сторон, уделяющих особое внимание морскому мусору		страны	и укреплено	страны
	9.2.7. Коммуникация с региональной, национальной и локальной сетью заинтересованных сторон по проблеме морского мусора	2021	Секретариат и страны	Реализовано	Секретариат и страны
	9.2.8. Проведение региональных и национальных совещаний заинтересованных сторон	2022	Секретариат и страны	Проведены	Секретариат и страны
Раздел 9.3. Информация, просвещение, информационно-пропагандистская деятельность и информирование общественности	9.3.1. Разработка буклета о КРПДММ и ее перевод на национальные языки Прикаспийских государств	2022	Секретариат	Разработан	Секретариат
	9.3.2. Разработка и реализация информационно-просветительских кампаний и мероприятий, включая подготовку материалов (например, буклеты, листовки, флаеры и т.д.) и организация семинаров и форумов для вовлечения заинтересованных сторон, участия широкой общественности, различных отраслей, муниципальных органов власти, местных общин, школьников и молодежи и других групп, в сфере устойчивого производства и потребления, а также сокращения образования отходов и применения экологически обоснованного удаления и повторного использования в целях сокращения объема морского мусора	На регулярной основе	Секретариат	Разработаны	Секретариат
Раздел 9.4. Подготовка кадров и наращивание потенциала	9.4.1. Разработка и реализация образовательных и учебных программ для различных целевых групп с целью углубления понимания проблемы морского мусора	На регулярной основе	Секретариат	Разработано	Секретариат
	9.4.2. Содействие применению технических отраслевых руководящих принципов для различных целевых групп посредством проведения региональных семинаров и учебных программ			Содействие оказано	

	9.4.3. Обеспечение технической подготовки и укрепления потенциала сотрудников национальных и муниципальных органов управления, портовых властей и судоходной отрасли по вопросам предотвращения и сокращения загрязнения моря из наземных и морских источников с помощью региональных семинаров и учебных курсов			Обеспечено	
Раздел 9.5. Оценка	9.5.1. Разработка методологии оценки эффективности реализации	2022	Секретариат	Разработано	Секретариат

эффективности реализации КРПДММ на региональном уровне	КРПДММ на национальном и региональном уровнях				
	9.5.2. Оценка эффективности реализации КРПДММ на национальном уровне	2024	Страны	Оценка проведена	Страны
	9.5.3. Оценка эффективности реализации КРПДММ на региональном уровне	2024	Секретариат	Оценка проведена	Секретариат