Background

Baka Al-Gharbiya (“a bouquet of flowers”) is located on the foothills of the Shomron Mountains, east of the city of Hadera. It is surrounded by agricultural lands to the north, the Separation Barrier to the east and the Trans-Israel Highway and additional agricultural lands to the west. Road No. 574 runs through Baka Al-Gharbia, connecting it to Wadi Ara and the center of the country. In 2003 Baka and the village of Jat, situated to its south, were united into one municipality, Baka-Jat. The city has a population of approximately 33,000 Muslim-Arabs, and a total area of 15,000 dunams. Most of the residents of Baka-Jat earn their living from agriculture, trade, via the education system or work outside the city.

Baka-Jat is located on the northwestern section of the Mountain Aquifer, an area considered extremely vulnerable to ground water pollution. The Mountain Aquifer is a major water source for much of Israel and for the entire Palestinian Authority. However, the area suffers from serious pollution caused mainly by illegal dumpsites throughout the city, coupled with the lack of a proper waste water treatment system. The Hadera Stream (Wadi Abu Nar) that runs through the city from east to west is a shared source of water for Baka-Jat and its Palestinian neighbor, Baka Al Sharkia.

The goals of the trails are to:
• Raise public awareness of shared water and environment concerns of the communities
• Promote cross border cooperation for solving environmental problems
• Develop the potential for local eco-tourism

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Baka Jat

THE RICHARD & RHODA GOLDMAN FUND

Friends of the Earth Middle East

Neighbors Path

Baka Jat

This trail is one of 17 paths or trails that deal with the issue of water and peace building between Israeli, Jordanian and Palestinian communities that share a common water source. The routes were planned during 2007 in the framework of the “Good Water Neighbors” project in cooperation with community representatives as well as the municipalities.
The Path’s Stations

1. **The View from Beit Ra’ad (House of Ra’ad)**  
   Beit Ra’ad is located at 150 meters above sea level on the northern slopes of Jat. From the roof of the house, one can view this unique rural area, with a panoramic view of the northern Shomron Mountains, the Menashe Hills, all the way to the Mediterranean Sea. This view also demonstrates the new geographic reality of the area that was caused by the Separation Barrier in the east and the Trans Israel Highway in the west.

2. **Wadi Abu-Nar - The Hadera Stream**  
   Nahal Hadera, or Wadi Abu Nar, is a seasonal stream that flows for 51 kilometers, from the Shomron Mountains in the East to the Mediterranean Sea, near the Hadera power station. The section of the stream that flows between the agricultural fields of Baka and Jat is extremely polluted; raw sewage, agricultural waste and building debris are all dumped into the stream. The sources of pollution come from the Palestinian town of Baka Al Sharkia from the east as well as from Baka-Jat itself. Each winter, large floods wash through the Wadi, bringing with them even more trash and causing agricultural damage on its way to the Sea. The stream, once a source of life for its surroundings is today an environmental hazard for the people of Baka and Jat.

3. **The Separation Barrier**  
   In 2002, the Separation Barrier was erected east of Baka, on the Green Line. The barrier runs parallel to the city for 5 kilometers, a third of which is a concrete wall, separating the houses of Baka from the adjacent Palestinian village of Nizlat Isa.
   The social and economic effects of the Barrier on the people of Baka-Jat have been severe. It separated family members and affected daily familial routines; a drive that used to take 2 minutes, turned into an expensive and time consuming trip. Economic ties in the area were damaged as well; the large market that stood for years between Baka Al-Gharbia and Baka Al-Sharkia was demolished. The market once included 350 shops, a major source of income for 100’s of local residents and small businesses. In addition, 5 private houses were demolished and an apartment building is being used to house the army to this day.

4. **The Baka Well**  
   The Baka Well, 37 meters deep and 2 meters wide, is located at the centre of the city, at the intersection of Route 574 and Abu Hasin Street. The well dates to the Canaanite period but was used mostly during the Byzantine and Ottoman times. Together with a number of regional springs, the well provided the main drinking water needs of Baka until the village was connected to the Israeli water system in 1952. The Baka Well was since deserted and neglected, and turned into a neighborhood dumpsite. In 2006, “The Water Society of Baka” initiated a rehabilitation and restoration project. Today the well serves as an historical and educational site, aiming to teach environmental values to the next generation.

5. **The Burin Well**  
   This well is located approximately a kilometer from the city center, in the western part of the Bir Burin neighborhood, appropriately named after the well. It is 7 meters deep and 5 meters wide and, similar to the Baka well, dates back to the Canaanite period. The Burin Well was used from the beginning of the Ottoman period but never as a drinking source; rather, its water was used for watering Baka’s herds, for cleaning and swimming. Since the connection of Baka to the water system the well was greatly neglected, littered and polluted, until in 2003, Baka’s Community Centre, together with “Friends of the Middle East” and residents of the city, initiated its restoration. The well was cleaned, a small plaza made of local stone was built around it and olive trees were planted. As an example of the local water heritage in the area, the restored well is now a source of pride for its residents and an important educational project for promoting environmental education and “green” activities throughout the city.

6. **Abu-Haldoun Elementary School**  
   With approximately 1,100 students, this is the largest school in Baka. The school has been recognized as a “green school” because of its ecological garden and environmentally friendly creative compound. A number of solar energy stations were built in the school that supply solar energy for lighting, as well as a system for collecting rain and excess water from drinking fountains, re-using them in the school’s gardens and toilets. In addition, an ecological garden was built including a sitting area made out of recycled materials. The school serves as an example of the transition in recent years in the educational system of Baka regarding environmental awareness and the sense of personal empowerment among the students. These projects are also effective in cutting down the school’s expenses.
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Jordan Valley

Background
The Jordan Valley is part of the Syrian-African Rift and serves as a rich habitat for plants and animals, some of which are unique to the region. The Valley is a major migration path for over 500 million birds each year as they make their way from Europe to Africa.

For centuries, the Jordan Valley has also been a migration path for individuals belonging to various cultures, religions and nationalities. Today, the Jordan Valley Regional Council is made up of 11,000 residents who live in 21 kibbutzim, moshavim and communities.

Within the Council’s district, south of the Sea of Galilee, the Lower Jordan River meets its largest tributary, the Yarmouk River. Unfortunately, due to intense water diversion by Israel, Jordan and Syria, only 5% of the River Jordan’s natural flow is left today. Even the water that does flow consists of sewage at various stages of treatment, leading to severe demise of the streams’ natural ecosystems. Additionally, being that this is a border area and a closed military zone, access to the Lower Jordan River is off limits to the public.

FoEME sees this area as having cultural value of universal importance.

This path was prepared for you by Jordan Valley residents with the help of “Friends of the Earth – Middle East,” in order to showcase the local natural wonders and to raise awareness of the continuous ecological deterioration, quickly approaching a point of no return. During the tour we will review water agreements between Israel and Jordan, both past and present, and we will view the neighboring Jordanian community, Muaz bin Jabal. Our goal is to rehabilitate the Jordan River and we see you as partners in the quest to save this unique corner of the world.
Degania Dam

Parking is at the Yardenit Baptism site parking lot.

The Degania Dam was built by Pinhas Rutenberg (“The Old Man of Naharayim”) in the early 1930’s, in order to reroute water flowing from the Sea of Galilee to the hydroelectric power plant in Naharayim. After the power plant ceased operations in 1948, the dam was used to regulate the amount of water flowing from the Sea into the Lower Jordan River, thus turning the Sea of Galilee into the largest surface reservoir in Israel. From 1960’s and onward, a substantial amount of water from the Lower Jordan was diverted to the National Water Carrier. Unfortunately the remaining water is not enough to sustain the river’s natural ecosystems.

A Trip Along the Lower Jordan from “Yardenit” to the Alumot Dam

From the baptism site “Yardenit”, we will walk south on the path along the part of the stream where water still flows and the natural environment has been preserved. After a few hundred meters we will arrive at “Rob Roy”, a site that offers delightful outings on authentic American Indian canoes in the Lower Jordan’s rich flora. From “Rob Roy” we will continue on foot or in a canoe along the River to the Alumot Dam. This is the most southern point where the Jordan still flows. From here the River turns into a conduit solely for sewage and occasional flood waters. On the northern side of the dam one can see large pipes and a pumping station, while to the south, a pipe brings water from “The Salt Carrier”, as well as sewage from Tiberias and the surrounding communities.

Overlook at an abandoned Syrian fort along the Golan Heights’ southern slopes

We will turn north at the Hamat Gader Junction towards the Golan Heights’ slopes. Take special care where the road is very windy at the top (4 km). Make a left onto a dirt road that reaches the fort. The Yarmouk River below us flows from east to west and creates a natural border between the Gilad Mountains to the south and the Golan Heights to the north. It originates in Horan in Syria and acts as an international border between Syria and Jordan, as well as between Jordan and Israel. In Naharayim, the Yarmouk spills into the Jordan River. In the past the Yarmouk was one of the Lower Jordan’s main tributaries, but due to the fact that Syrian dams capture water to the north and Jordan diverts water to the King Abdullah Canal, only a small portion of the Yarmouk flows into the Jordan River today (as specified in the water agreements between Jordan and Israel.)

The 1994 Israeli-Jordanian Peace Agreement resolved that the water in the Yarmouk River belongs to the Jordanians, except for 25 million cubic meters that Israel receives annually. Israel has taken the responsibility to store 20 million cubic meters of water for Jordan throughout the year and return them during the summer via a pipe from the Degania Dam into the Yarmouk and Abdallah Carriers. In another agreement a decision was reached regarding the “temporary” transfer of an additional 25 million cubic meters of water annually. In total, Israel transfers 45 million cubic meters of water to Jordan each year.

The Avner Alter Viewpoint

Return to the Tiemach Junction, continue south on Road 90 until the entrance to Kibbutz Ashdot Yaakov Ichud. Exit the Kibbutz from the eastern gate (the green gate) and continue straight to the east. Park at the old concrete water channel. Across the road (near the cemetery) is the viewpoint.

The Avner Alter Viewpoint overlooks a scene that is unfamiliar to the Israeli audience – the Yarmouk River’s (the ‘Jur’ in Arabic) extensive riverbed, and the Gilad Mountains. This viewpoint was established a few years ago by members of the Ashdot Yaakov Ichud Kibbutz in memory of Avner Alter, a member of the Kibbutz who died in the Helicopter Tragedy on February 4, 1997. This strategic location was also used as an observation and shooting post as early as 1936. A short path inside the young grove with endemic trees leads to the viewpoint. Picnic tables made of old machinery, designed by kibbutz member and artist Avrahamik Chazan, await visitors at the end of the path.

Overlook from Kochava Hill (Givat Kochava) to Naharayim

Continue south on Road 90. Across from Manachemiya turn left (to the east) towards Naharayim (Tel O). Pass the parking lot and enter a paved path that passes through the sculpture garden towards the overlook.

From the Givat Kochava Overlook, it is possible to view the Sirin Heights to the west, the Gilad Mountains to the east and the convergence point between the Yarmouk and Lower Jordan Rivers between the two. It is also possible to see the remnants of Rotenberg’s hydro-electric power plant. The memorial site “Giv’at HaBanot” (The Girls’ Hill), which was created in memory of seven schoolgirls from Beit She’an who were murdered by a Jordanian soldier in a shooting attack in March of 1997, is also visible from this point.

Naharayim (meaning “two rivers”) is the convergence point between the Yarmouk and Lower Jordan Rivers. The first hydro-electric power station that provided electricity for all of northern Israel was established here in the 1930’s. The plant’s construction was possible as a result of cooperation between the Jewish engineer Pinhas Rotenberg and King Abdullah I. The plant was active until the start of the War of Independence. The region received the name “Peace Island” when Israel and Jordan signed their peace treaty in 1994 in Naharayim. “Peace Island” refers to land under Jordanian sovereignty, and owned by Kibbutz Ashdot Yaakov, who cultivate the land and promote tourism and local development of the region. Today, Friends of the Earth Middle East is promoting converting the area into an ecotourism site and a regional bird watching center. The intended project will be a transboundary Peace Park that will be a joint Jordanian-Israeli venture.

It is highly recommended to visit the “Peace Island”, “Givat HaBanot” and the ’Dam Trail’ along the Yarmouk. Begin at the Visitor’s Center at the foot of the hill.

The Path’s Stations

1. Degania Dam
2. A Trip Along the Lower Jordan from “Yardenit” to the Alumot Dam
3. Overlook at an abandoned Syrian fort along the Golan Heights’ southern slopes
4. The Avner Alter Viewpoint
5. Overlook from Kochava Hill (Givat Kochava) to Naharayim

The map shows the sites mentioned above, including the Degania Dam, the Yardenit Baptism site, the Alumot Dam, the Yarmouk River, and the Kochava Hill Overlook.
**Background**

Several streams flow into the Besor River, from both north and the south, among them the Boker, Hebron, Be’er-Sheva, Grarr, Patish streams and others. The Besor River (“Wadi Gaza”) flows from the Be’er-Sheva Valley in the north, crosses the Gaza strip and exits into the Mediterranean Sea. The Besor basin is an area rich in springs, pools and wells as well as impressive archeological findings. Human history evolved in the basin from the beginning of the Prehistoric period. In this area one finds remains of underground buildings from the Chalcolithic period as well as remains of peoples and other empires; Phoenicians, Persians, Nabati and Egyptians. Here, on the banks of the stream, Middle Eastern cultures evolved. Here, Abraham our father and his sons shepherded their flocks; from here Ishmael was expelled and here, King David fought. In the past this area was a part of the central commercial axis through which commodities were transported from the east to the port of Gaza (“the Perfume Route” recognized today by UNESCO as a World Heritage site). Furthermore, significant agricultural settlements existed in this area. Huge fields of wheat served as a regional granary and the waters of the stream supplied the service needs of those passing on their way to the port of Gaza or to the Sea.

The shallow groundwater in the stream’s channel appears alternately above the ground as a flow or in pools and creates special environments for flora and fauna. In the thickets of the Tamarisks and reeds, one finds pools of fish, crabs, water turtles and many species of birds. Wild pigs, hyenas, wolves, crocodiles and caracals can be found as well. The huge expanses, agricultural areas, water, the magnificent seasonal spring bloom and the archeological remains are all a source of attraction and huge potential for the development of ecological tourism and a source of income for the local inhabitants. Unfortunately, this unique nature preserve suffers today from neglect and serious damage caused to the stream and its basin from waste pollution, agricultural, industrial and urban. This path is designed to expose its visitors to the natural beauty that is hardly recognized today and to raise questions as regards the management of water resources in the area.

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The Path’s Stations

1. Observation Point, Tel Gamma
An ancient Tel (hill) containing Prehistoric archeological remains, continuing through the Ottoman period to the time of the First World War. In the vicinity of this Tel there was an urban community settlement in the middle Bronze Age and in the Iron Age. This Tel has been identified as the ancient city of “Yarza”, according to Egyptian text. It is possible to see in-situ remains of ancient ovens used for gold and other metals and lime structures that served as barns for agricultural produce in the Persian period. Let us climb on foot to the top of the Tel to look out onto the magnificent view of the span of the Besor stream, the Be’er Sheva Valley and the whole of the Gaza Strip.

2. The Bustan (small orchard) at Nitzra Stream
From Tel Gamma, drive south on Road 232 until the Gamma intersection. Turn right on Road 242 and drive 3 km. in the direction of Kissufim. Opposite the entrance to Ein Hashlosha, turn right towards the fields onto an asphalt road marked in red. Drive 4 km. (After 2.8 km. along this road, turn right at the “T” intersection with the marked road)
A lovely bustan (small orchard) in the Nitzra Stream, with huge Sycamore trees, interlaced with vines, Muscat, strawberry trees and figs. A suggested area to stop and rest, especially during full bloom. The next stop is a water cistern from the Byzantine period and an Antillic and designed to store aerial bombs. With the fear of the approaching front of the Second World War, an air field was constructed for Israel in Gaza. In the Grarr stream, an attractive bicycle trail is marked, especially attractive during the winter months.

3. View from the Dam
Continue along the route marked in red. Before descending into the Besor streambed turn right along the bank of the stream for 500 meters. After rain, do not travel on this section of the route alongside the stream.
In the 1960’s a concrete dam was erected to create a reservoir to store the rivers floodwaters. The stream did not “understand” the meaning of the dam, and the runoff waters cut into the banks of the stream causing it to widen, bringing about the collapse of the ruins of a Byzantine church exposing a well nearby. The building of the dam is an example of myopic development causing damage to assets of public domain (in this case, the natural stream and the archeological remains).

4. the Grarit Ruins
Returning to the route marked in red, cross the Besor on the open “Irish” bridge. Do not cross the stream on days when the stream is flowing!! Immediately after ascending from the streambed turn right on the asphalt route marked in green. After 1 km turn right on the blue marked path to the Grarit ruins.
A Byzantine church discovered in 1917. Magnificent sections of mosaic were uncovered but removed; only a simple mosaic remains on-site. One section can be seen in the archeological collection in nearby Kibbutz Be’eri. The banks of the stream were washed away, as previously stated, as a result of the building of the dam that caused the remains of the church to collapse into the stream. From the north, close to the church, one can see the remains of an ancient well, also swept away due to ground erosion from the building of the dam. Close to the well, black dust and pottery shards are found; evidence of an oven that functioned in-situ, exposed as a result of the collapse of the river bank. The village we see before us, southeast of the Gaza Strip is the village of Abasan, numbering today approximately 21,000 inhabitants. Until the outbreak of the second intifada, the inhabitants of Abasan earned their living working in Israel. However, with the closing of the border, many of them have returned to working in agriculture. The population explosion in the area has brought about a decrease in open spaces and severe environmental problems, among which are desertification, salination, pollution of groundwater and infectious diseases associated with water.

5. British Ammunition Repository
Continuing along the asphalt road marked in green, after approximately 700 meters the marking changes to black, and after an additional 1.2 km., the marking changes to green and the trail turns into an old concrete road. After 1 km on the concrete road we reach a road marked in red and turn right. Travel 1.2 km until you see the signpost designating the entrance to the water works. The trail here is clearly marked. This is a trail designed for hikers.
From this route one can see more than 170 piles of rubble in the shape of a horseshoe, built by the British and designed to store aerial bombs. With the fear of the approaching front of the Second World War, an air field was constructed for Israel in Gaza. In the Grarr stream, an attractive bicycle trail is marked, especially attractive during the winter months.

6. Water Works of the Grarr Stream
Continue along the water works road to the Reim picnic and parking area.
Human efforts to store water in arid areas are illustrated in the variety of facilities found here from different periods; a water cistern from the Byzantine period and an Antillic well, recently restored. Sign posts have been erected explaining their functions. Leave the picnic and parking area and turn right (south) onto Road 232, pass the entrance to Re’im and cross the Besor Stream. Immediately after the stream, turn right (north) and return to Tel Gamma.
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Ein Shokek (Shokek Spring) – Ein al-Jousk
From Nahal Hakkibbutzim, drive west on the dirt road for 2 km, passable with any car, until you reach a building. Underneath it lies Ein Shokek.
Ein Shokek is the third largest spring of the 40 springs in the Beit-She’an Valley. The total discharge of the springs amounts to an annual 130 million MCM, but due to their difference in quality and their salinity, the water is not utilized for agricultural purposes, but only for the area’s fish ponds.
In the past the Ein Shokek spring was used for shepherds and their thirsty herds, evidenced by the wall that surrounds the spring and an old shepherds’ hut. The spring’s waters are clean and clear, with nearby trees supplying shade during the day’s hot hours. Next to the spring lies the ancient aqueduct that carried water to the adjacent flour mills.

The Dilution Facility
Return to Road 669, turn right and drive 4 km. to Kibbutz Shaiachat. Immediately on your left is the dilution facility.
The facility, established in 1955, was used to mix and distribute the waters of the springs. Three tunnels enter the facility, each one transporting waters from different springs. In the past, the facility diluted waters of varying salinities and qualities; today, it is used for water transport only. Four channels leave the facility, carrying the spring water for various uses throughout the area.

Harod Stream, Aqueduct of Arches & Qantra (Arches) Bridge
Return to the direction of Nahal Hakkibbutzim, to the intersections of routes 669 and 6667. Turn right to Beit She’an and after 100 meters, turn left onto a dirt road that says “Ancient Nahal Amat”. Drive along the scenic road 2 km. until the Qantra Bridge (marked). It is possible to stop by the roadside and view the many birds and water fowl.
An impressive water aqueduct dating back to the Roman period passes over the Harod Stream. In the 13th century, during the Mamluk reign in the area, the aqueduct was used for carrying water to the areas north of the Harod stream, and maybe even to the Al-Ahmar Han, located adjacent to the entrance of Beit She’an. Originally, 3 arches supported the aqueduct, one of which collapsed and was restored during the British Mandate. After 1948, a new aqueduct was built from concrete, bringing water from the springs to the agricultural fields of Kibbutz Sdot Nahum. However, today, the aqueduct is neglected, and unfortunately, is not safe enough to cross.
The Harod Stream flows through the valley between the Lower Galilee’s basalt heights in the north and the Gilboa cliffs in the south. The stream originates east of Afula, at the edge of the watershed in the Jezreel Valley, 70 meters above sea level, and empties 32 km. later into the Jordan River, 280 meters below sea level.
Many historical events are associated with the Harod stream, including the battle between Saul and the Philistines (Samuel I:31), the battle between Gideon and the Midianites (Judges 7:1) and the famous clash between the Monguls and the Mamluks.
Today, the stream runs through the heart of the Beit She’an agricultural valley as well as the city of Beit-She’an. The accelerated urban and agricultural development in the area has severely damaged the natural flow of the stream. Fish pond effluents, agricultural run-off and wastewater are dumped into the stream from nearby villages, severely reducing its quality as well.

The Mills Trail
Drive to Beit She’an via the dirt road until Road 6667. At the entrance to Beit She’an, go north on Road 7078 in the direction of Afula. Exiting the City, turn right to the parking lot of the Harod Stream. Park and continue on foot along the Harod Stream.
The trail passes near the entrance to Beit She’an, along the northern bank of the Harod Stream, and continues to the Western Bridge, used in the past throughout the Roman and Ottoman periods. Inhabitants of this region once exploited the relatively steep incline of water flow in order to operate the many gristmills. The mills on this site are evidence of the use of hydro-powered energy that resulted only in minor disturbances to the natural environment, returning the water to the river after use. At the beginning of the trail, one finds the “Atnam Mill” - the “Twins Mill” - which is unique in its two chimneys that enabled it to grind flour at two stations simultaneously. If interested, one can continue along the trail (approx. 500 meters) that has been recently restored by the JNF, together with students from Beit She’an.

View from the Cemetery to Kfar Ruppin
Continue east on Road 90, turn right onto Road 71 at the Maoz Haim junction, and drive to Kibbutz Kfar Ruppin. Approximately 1 km. before the kibbutz gate, turn left (east) and drive on a narrow road taking you through a Eucalyptus forest until the kibbutz cemetery.
Opposite you are the Gil’ad Mountains, agricultural fields of Jordan, the River Jordan and the Zhor. It is peaceful and tranquil. After the 1967 war, the Jordanians transferred their agricultural fields from the West Bank to the Jordan Valley. In order to irrigate these fields, the King Abdullah Canal was built, diverting waters from the Yarmouk River to the whole of the Jordan Valley.
Diversification of the Yarmouk waters to the King Abdullah Canal by the Jordanians, coupled with diversions of the Lower Jordan’s waters to the Israeli National Water Carrier, has severely compromised the flow of water in the Lower Jordan River, to the point where sections of the River run dry in the summer months. This is the main reason for the rapid decline of the Dead Sea as well. Today, diverted saline springs and untreated sewage are dumped into the River, leaving it little more than an open sewage canal. The damage imposed on the quality and quantity of the water has destroyed most of the flora and fauna that once thrived here, from time immortal until the second half of the 20th century.

The Path’s Stations
Background

The Emek Hefer Regional Council extends over 140,000 dunams, from the coastline in the west to the Shomron Mountains in the east. The Council is comprised of 44 small communities (moshavim, kibbutzim and villages), with a total population of 35,000 people. 90% of Emek Hefer’s land is presently in use. The Council is only 16 km wide and national infrastructure lines including major roads, train tracks, water ways, gas, sewage and electric lines pass through the district.

The rehabilitated Alexander Stream flows through the center of the Council creating a scenic tributary that attracts visitors and animals. However, current pollution sources on both sides of the Green Line still threaten the stream’s waters and the ecological system that it supports.

Tour Path and Sites:
The Emek Hefer Neighborhood Path provides a glimpse into the community’s local water sources and its efforts to deal with waste management and sewage. In addition, the tour highlights the mutual dependency of the area’s transboundary water sources.

The path brings us to several “green” initiatives, as well as areas of unresolved conflicts, and seeks to underline the connection between a healthy environment and neighborly relations.

The tour focuses on eastern Emek Hefer, starting with an overlook near the Green Line and passing through two different kinds of wastewater treatment facilities; one conventional, the other a “constructed wetland.” From there the tour takes us to the “Emek Hefer Ecological Center,” where we will learn about treatment projects for water, agricultural sludge and cattle mire that turn these waste products into useful materials. The tour ends at an open green area that used to be a swamp, but today, is a protected natural and scenic area.

Most of the sites along the path are closed to visitors and require prior arrangements.

Neighborhoods Path

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The Path’s Stations

Yad Hannah Wastewater Treatment Plant
From here it is possible to look out onto Bat Hefer, the youngest community in the valley (11 years) adjacent to Road 6, a view of the Shomron Mountains, the neighboring Palestinian city of Tulkarem and the Separation Barrier.

Beyond the Green Line, over 250,000 residents live on the slopes of the Shomron Mountains in the area of the Alexander Stream’s basin. The Nablus Stream (Wadi Zomer in Arabic) is the Alexander Stream’s main tributary, originating between the Grizim and Eival mountains. The Nablus Stream drains the Western Shomron area, crosses the Green Line into Emek Hefer, near the city of Tulkarem, Kibbutz Yad Hannah and Bat Hefer, and continues its flow into the Alexander Stream.

The Tulkarem area, once well known for its rich agriculture and comfortable natural conditions, suffers today from acute environmental problems. This is mainly due to partially treated wastewater, together with waste from olive mills (seasonal) and stone dust from nearby quarries that are all dumped directly into the Nablus Stream. This situation not only creates an immediate health risk, but seriously damages the ecosystem of the stream and pollutes the ground water - the only source of drinking water for West Bank inhabitants!

Water Purification Facilities
The Yad Hannah Purification Institute was established in 2000 to treat sewage from Tulkarem and waste that flows in the Nablus Stream, entering Emek Hefer. After partial purification, the treated wastewater is pumped back into the stream (during the summer months when natural water flow is low), while in the winter it is pumped into Emek Hefer’s reservoirs (to be used for irrigation). The facility was developed as an emergency solution and its purification capacity does not meet the standards needed to thoroughly rehabilitate the stream.

As an act of support for the ongoing cooperation between the Head of Emek Hefer’s City Council and the Mayor of Tulkarem, the German government funded the rehabilitation of three sewage treatment pools in Tulkarem. Although this initiative only partially meets Tulkarem’s sewage needs, it is hoped that future cooperation will lead to a comprehensive solution.

In the spring of 2007, three experimental constructed wetlands were built in Yad Hannah to improve the quality of the treated wastewater that leaves the purification facility. “Constructed Wetlands” is a method for water purification that utilizes a natural filtration processes, aerobic and anaerobic, using plants, pebbles, soil and sun. In the future, the purification facility will be upgraded with an emphasis on constructed wetlands.

The Emek Hefer Ecological Center: Agricultural Sludge Treatment Center and Reservoir
Everyday the Agricultural Sludge Treatment Center treats 750 tons of cattle mire derived from 150 dairy barns in the area. The Center creates 13.5 cubic meters of biogas a day, providing 1.9 megawatts of electricity a year. This is the largest plant in the Middle East and the first of its kind in Israel.

The northern reservoir is one of 8 water reservoirs established in Emek Hefer to provide affordable treated waste water for agriculture. This enterprise supplies 20 million cubic meters of water for agricultural purposes and is one of the largest in Israel.

Einot Hogla (Partridge Springs)
In the beginning of the 19th century this entire area was covered by swamps. Over the years, many were drained; however, a few springs of potable water still exist in the area today. Einot Hogla, “the Partridge Spring” is one such area, combining shallow and deep pools, streams and an abundance of green flora. Water fowl and migratory birds find refuge here, as do unique animals and plants.

We will stroll between the water ponds and the foliage, observe and listen to the birds and enjoy a view of the hills to the west, the valley and the surrounding farmlands. (It is highly recommended to bring binoculars!).

“The Love Tree”
“The Love Tree” is a nickname for a large Eucalyptus tree found along the bank of the Alexander Stream. This particular spot, with its benches, shade and flowing stream, is located in one of the rehabilitated sections of the stream. This lovely area illustrates the potential beauty and enjoyment that nature can provide.

An abundance of rural and agricultural tourist attractions, as well as galleries and restaurants, await you all throughout Emek Hefer. Local residents will be happy to host you!
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Background

The Neighbors Path of Tsur Hadassah winds around this growing urban community (4,200 residents to date) and includes two walking trails in the natural environment of the Western Judean Mountains: “Mount Kitron-Geras Ruins” and the “Sansan Ridge with a view towards Wadi Fukin”. The 2 trails can be hiked separately or can be combined for a full experience of hiking and education. The trails follow the development of local water sources by the area’s inhabitants over the years: “Mount Kitron-Geres Ruins” takes us to ancient water cisterns and cultural heritage sites while the “Sansan Ridge” trail illustrates the recent damage caused to local natural areas, due to insensitive and unbalanced development.

The Neighbors path was developed in cooperation with “Residents for Tsur Hadassah”, students and parents from the Hadasim School and a group of environmentally active residents. The “Mt. Kitron-Geres Ruins” trail was supported by the JNF, SPNI and the Antiquities Authority.

Many residents from both Tsur Hadassah and Wadi Fukin are working together to preserve the wadi’s shared natural landscape. FoEME conducts joint activities with residents of both communities in order to protect the area, with the aim to prevent additional damage. The Neighbors Path you are now walking tells the story of the good neighborly relations between the residents of the communities, dissimilar in religion and nationality, but joining efforts to protect the natural landscape in which they live, for the benefit of all.
Mount Kitron – Geres (Jurish) Ruins
The Limekiln: For thousands of years, lime was the most popular material for plastering houses and sealing water cisterns. It was produced in limekilns such as this one. Manufacturing lime is one of the oldest man-made chemical processes and paved the way for early settlement in the region. As important as it was, lime created an environmental problem, caused through the burning process.

The Water Pit (Bell Shape Pit): Collecting rainwater for use during dry summer months and droughts was imperative for early human settlement in the Judean Mountains. These pits were hewn in the shape of a bell and sealed with lime. Water supply collected in these pits was used for drinking purposes, as well as for irrigation and animals, allowing survival during all seasons.

The Olive Press: We see here the ‘Yam’ – a flat round stone onto which olives were placed, and the ‘Mamal’ – another round stone that was rolled on top of the ‘Yam’, crushing the olives. The crushed olives were then pressed between slabs of wood, and the oil poured into collection pits. Olive trees were irrigated by winter rains that were collected in terraces for supplying water in the dry season.

The Burial Caves: Burial caves such as this one were used for burying several generations of one family. The dead were set on shelves inside the cave for one year, until the flesh decomposed, after which the remaining bones were gathered and buried together with his ancestors. A stone with an appropriate inscription then sealed the cave. A stone fence surrounding the burial area as well as a trough found nearby, lends evidence of later use as a goat’s pen.

The Roman Path: A remaining symbol of the Roman rule that dominated the area 1600 years ago, this transportation network was used for trade, army movement and law enforcement. The main road led from the Ella Valley to Jerusalem, while the smaller path connected Mt. Kitron to the main road. During those times roads were considered a symbol of power- an efficient means for tax collecting.

“Sansan Ridge with a view towards Wadi Fukin”
In the valley below, east of Tsur Hadassa and the Sansan Ridge, is the Palestinian village of Wadi Fukin. The Wadi contains 11 natural springs, used for irrigating the agriculture crops grown here. The Village of Wadi Fukin (population 1200) relies on these springs for its extensive agricultural system that has been used for more than 800 years.

View of Agricultural Fields: Here you see a splendid view of Wadi Fukin in all its glory – its fields and irrigation pools, in this ever-green wadi. Here we can also witness the present day threats to the future of Wadi Fukin. Two new communities have developed on either side of the valley - Tsur Hadassa and Betar-illit. Massive urban development, especially in Beitar Illit, has disrupted the feeding system of the springs, already drying up two of them. Soil and earth from the building process have been dumped over the slopes, covering much of the area, and occasionally, wastewater from Beitar Illit flows into the fields, rendering them unusable. Continued development is expected to worsen the damage. This unique landscape is being eaten away slowly.

for more information, please see:
http://ganim.org/FOEME/index-foeme.htm

View of the village: The contrast between Beitar Illit and the wadi is very clear. Reduction of the village’s area – due to massive development in Beitar - has forced the residents of Wadi Fukin to build in the valley itself, as opposed to its slopes. The environmental damage that we are witnessing will continue to degrade the wadi and its springs: there are plans to build a highway through the village from the east, and the Separation Barrier from the west, encircling and virtually imprisoning the residents in their homes. These developments all threaten to destroy the wadi and its water sources – delivering a final death blow to the ancient agricultural methods and the cultural heritage on which it is based.

With a view back towards Tsur Hadassah: Future development plans for Tsur Hadassah also threaten to damage the wadi’s drainage basin. Many residents from Tsur Hadassah are active in environmental projects, and together with Friends of the Earth Middle East, are promoting an environmentally sensitive approach for its continued development. The Neighbors Path was created in order to raise awareness, and importance, of the natural environment so close to home.
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Background

The Tamar Regional Council includes the communities of Kibbutz Ein Gedi, Neve Zohar, Neot Hakikar and Ein Tamar - approximately 1,200 residents altogether who earn their living mainly through agriculture and tourism. Across the border on the southern end of the Dead Sea lies the South Ghors Municipality of Jordan, consisting of several smaller agricultural communities: Ghor Safi, Ghor Mazraa, Ghor Haditheh and Ghor Fifa. The total population of the South Ghors Municipality is approximately 40,000.

The desert landscapes of the Dead Sea have undergone tremendous changes over the last few decades, threatening the area’s unique characteristics. Communities from both sides of the Sea are directly affected by the mismanagement of the Jordan River – Dead Sea ecosystem, resulting in the rapidly receding Dead Sea waters and the proliferation of sinkholes. These changes have severely damaged the environment and contributed to the economic problems in this region.

This route, prepared for you by residents of the area with the support of “Friends of the Earth Middle East”, exhibits the unique natural features and heritage of the region. Our Jordanian neighbors are operating a neighbor’s path as well and we will observe their communities as we proceed with this tour. We hope that after participating in this tour, all of you will fully realize the importance and urgency to start and /or join our efforts in saving this remarkable spot on the globe.
Since 1900 the Dead Sea has receded by 30 meters; today it measures 420 m below sea level. The construction of the National Water Carrier in Israel and the King Abdullah Canal in Jordan has contributed to the rate of decline that today stands at 1-1.2 meters per year. The Ein Gedî Spa, built on the shores of the Dead Sea in the early 80’s, must now transport its visitors by train for more than 1 km to reach the beach. The rapidly declining water level rates have created huge holes in the ground – called sinkholes. Sinkholes started appearing in the south of the Dead Sea and spread quickly to the north while simultaneously deepening and enlarging existing holes. Today approximately 1,700 sinkholes are registered at 30 different sites, from Neve Zohar in the north to Einot Zikim in the south. A similar phenomenon exists in Jordan, mainly in the southern area.

Massada
The lower palm tree parking lot at the foot of the mountain.

On the southeastern side of the Dead Sea one can see the “Lisan”, a peninsula that once divided the Dead Sea into the deeper northern basin and the shallower southern basin. Today the Lisan is the southern border of the sea, as the waters in the southern basin have completely dried out and hence water needs to be artificially pumped into the evaporation pools of the Dead Sea factories - on the Israeli as well as on the Jordanian side. Opposite us, on the Jordanian side of the sea, is the village of Mazra’a. Most of the inhabitants depend on agriculture for a living; however, due to the increasing presence of sinkholes, many farmers have already had to abandon their land.

Evaporation Pool 5 – Rising of the pool floor
North of the Sheraton Hotel at the southern tip of the Ein Bokek Hotels. Sign to pumping station Moriah.

The Israeli and Jordanian industries that exploit the evaporation of water to harvest its salt and minerals, are responsible for 30% of the decline of the Dead Sea. From the pool walls, one can see that the water level in the pool is higher than the ground floor of the hotel! Every year 20 cm of salt and mineral deposits accumulate at the bottom of the pool, constantly raising the water level. The nearby pumping station we see constantly pumps out water that threatens to flood the foundations of the hotels. This is an example that shows how the lack of an integrated management plan for the Dead Sea has led to conflicting interests between the tourist and industrial sectors in the region.

Sinkholes and the Receding Dead Sea Level
Observation Point south of the Ein Gedî Sulphur Springs parking lot. Enter through dirt road, suitable for any type of car.

Mt. Sedom
Continue, passing the shed, stop at the roadside near “Lot’s Wife” pillar near the entrance to Sedum Cave.

Mt. Sedom resulted from the rising of an underground salt block. The peak of the mountain is 165 m below sea level and 230 m above the Dead Sea. Mt. Sedom continues to rise at an annual rate of 5 mm. On the other side of the sea we can see the Jordanian village of El Saff and Wadi Zered (Wadi Hasa in Arabic) - the boundary between the Moab Mountains to the north and the Edom Mountains to the south. Further along on Road no. 80, one can see the structures and former living quarters of the potash company’s first workers who came to the region in 1934. Further on are the modern Dead Sea Works.

Lookout from Amir Philosoph observation point
To the right of the road to Moshav Nect Hakikar and Moshav Ein Tamar, right after the bridge crossing Nahal Zin a trail leads to the top of a marl hill. South of the last evaporation pool to the east of the road one can see what’s left of the Zin salt marshes, the “Sabacha”. This fertile area is evidence of shallow groundwater and many small springs on the outskirts of the marsh. The salt marsh is an oasis of life for unique and sensitive species. During migration season, the area serves as an important resting place and breeding ground for migratory birds, some of them quite rare. Most of the salt marsh area has been converted into agricultural land or has been flooded for use as evaporation ponds by the Dead Sea Works. As a result, this very special eco-system faces severe irreversible damage. Two endemic fish species live in the waters of the salt marsh. Due to unsustainable development practices in the area, these species are already extinct on the Israeli side, and are threatened of extinction on the Jordanian side. Inhabitants of the area, with the help of FoEEME, are trying to find the appropriate and most effective way to preserve the remaining natural salt marshes.

The Arava Dam
One enters Moshav Nect Hakikar, driving all the way up to the greenhouses adjacent to Nachal Arava. Continue up with the road - and turn right to the dam.

The dam was built to protect the agricultural fields from excess flood water. As the border between Israel and Jordan in this area is defined as the middle of the Arava valley, the dam pushed the border further west and enlarged the agricultural areas in Israel. In the peace treaty between Jordan and Israel in 1994, the 2 countries agreed to exchange land for water. From the dam, we can see the markers of the new international border between Israel and Jordan in the riveted. Despite the proximity of the border, an official border crossing doesn’t exist. People in the area are promoting the need for an international border crossing in the area to increase social and commercial connections on both sides of the border and to support local tourist enterprises around the Dead Sea.

Neot Hakikar and Ein Tamar have plenty of tourist attractions to offer: rural and agricultural enterprises, galleries, restaurants and guest rooms. Local residents will be happy to guide you to all the hidden jewels of the area!